

Coordination Team. In some States, transportation or financial management may be separate functions, and donations management may be a subset of mass care logistics. The important thing is to ensure that the entire process of resource management is well coordinated, however it is organized.

(Those jurisdictions opting to treat donations management separately should recognize and structure the links between it and the resource management function. Both functions will rely on the jurisdiction's transportation, distribution, and traffic control systems. Each will need access to the other's information regarding needs and supply: donations management can supplement resource management's efforts to obtain certain items and also should relay useful bids from the contractors and vendors that inevitably call donations hotlines; at the same time, donations management may be unsuccessful in filling some identified needs by a certain time, making procurement through resource management necessary.)

The following types of tasking should be performed for resource management, and could be assigned to individuals and organizations as listed in the left margin below:

*Resource
Manager*

Upon arrival at the EOC:

- Directs and supervises the activities of the Needs, Supply, and Distribution Groups.
- Coordinates with the EOC Manager and key organizations' representatives in the EOC regarding needs and priorities for meeting them.
- During the emergency, monitors potential resource shortages in the jurisdiction and advises the Emergency Manager or "CEO" on the need for action.

- Identifies facilities/sites that may be used to store needed resources and donations.
- Determines the need for and directs activation of facilities necessary for the coordinated reception, storage, and physical distribution of resources.
- Makes arrangements for work space and other support needs for resource management staff.

Needs Group Receives requests and reports on the function's success in meeting needs; under Resource Manager. (Includes Needs Analyst and Needs Liaisons.)

- Needs Analyst*
- When notified of an emergency, reports to the EOC or other location specified by the Resource Manager.
 - During multiple scene emergencies or disasters, monitors resource demands from Incident Command Logistics Officers and maintains list of all staging area resources, itemized by incident location.
 - Tabulates needs assessment and specific requests.
 - Prioritizes needs for Supply Group, with concurrence of Resource Manager.
 - Provides regular reports to Resource Manager on the status of requests (e.g., pending, en route, met).

Needs Liaisons (May be specialists in a certain resource category, the better to elicit essential information from requester.)

- When notified of an emergency, report to the EOC or other location specified by the Resource Manager.
- Receive specific requests, eliciting essential information from requesting

parties.

Supply Group Locates and secures resources. Headed by Supply Coordinator. As needed, includes teams for procurement, personnel, and donations. Should be supported with financial information and legal advice.

Supply Coordinator

- When notified of an emergency, reports to the EOC or other location specified by the Resource Manager.
- Determines appropriate means for satisfying requests (with concurrence of Resource Manager).
- Handles unsolicited bids.
- Keeps Needs Group informed of action taken on requests.
- Keeps Distribution Group informed of expected movement of resources, along with the priority designation for the resources.
- Requests transportation from Distribution Group (with concurrence of Resource Manager).

Donations Coordination Team Headed by a Donations Coordinator.

- When notified of an emergency, reports to the EOC or other location specified by the Resource Manager.
- Receives offers of donated goods and services.
- Matches offers to needs (whether those of its own separate needs assessment or those of the larger jurisdictional needs assessment).
- Through PIO, disseminates information to ensure that offers are not inappropriate to needs.
- Makes special requests as directed by Supply Coordinator.

- Ensures that Resource Manager is apprised of needs/"unmet needs" list and that physical distribution efforts (in those jurisdictions that treat donations logistics separately) are coordinated with the Distribution Group.

*Procurement
Team*

Undertakes *ad hoc* procurement as directed by Supply Coordinator; otherwise, uses database and/or resource listings to fill requests through prearranged supply channels. May consist of specialists in a certain resource category.

- When notified of an emergency, reports to the EOC or other location specified by the Resource Manager.
- When warning is available and as directed by Supply Coordinator, notifies private industry parties to any memorandum of agreement of the jurisdiction's intent to activate the agreement, confirms availability of resources specified by the agreement, and reserves supply.
- Locates needed resources using database and/or resource listings for the jurisdiction and participating suppliers.
- As directed by Supply Coordinator, seeks to procure resources not available through pre-arranged channels.
- In all cases, contacts suppliers, settles terms for transportation, and provides information necessary to pass checkpoints.
- Informs Supply Coordinator when the jurisdiction must provide transportation in order to make use of the resource.

*Personnel
Team*

- When notified of an emergency, reports to the EOC or other location specified by the Resource Manager.
- As directed by Supply Coordinator, recruits and hires personnel to meet emergency staffing needs.

- Financial Officer*
- When notified of an emergency, reports to the EOC or other location specified by the Resource Manager.
 - Oversees the financial aspects of meeting resource requests, including record-keeping, budgeting for procurement and transportation, and facilitating cash donations to the jurisdiction (if necessary and as permitted by the laws of the jurisdiction).
- Legal Advisor*
- When notified of an emergency, reports to the EOC or other location as specified by the Resource Manager.
 - Advises Supply Coordinator and Procurement Team on contracts and questions of administrative law.
- Distribution Group*
- Ensures delivery of resources by overseeing routing, transportation, collection, sorting/aggregating, storage, and inventory.
- When notified of an emergency, reports to the EOC or other location specified by the Resource Manager.
 - Transports resources, as requested.
 - Controls movement of resources.
 - Performs materials-handling work.
- Distribution Coordinator*
- Heads Distribution Group.
 - When notified of an emergency, reports to the EOC or other location specified by the Resource Manager.
 - Oversees transportation and physical distribution of resources.
 - Ensures facilities are activated as directed by Resource Manager.

- When multiple scene emergencies or disasters occur, establishes liaison with all Incident Command Staging Officers to monitor location, passage, and inventory of resources.
- Monitors location, passage, and inventory of resources.

*Emergency
Manager*

Assists the Resource Manager as needed during response operations.

*Department of
General
Services or
equivalent*

Provides knowledgeable staff to serve on Supply Group (Supply Coordinator, Procurement Team), Distribution Group (warehousing, etc.) and in other capacities as appropriate.

*Office of
Personnel
and Job
Service*

Provide knowledgeable staff for Personnel Team to obtain human resources.

*Comptroller's
Office or
equivalent
Legal Counsel
or equivalent*

Provides knowledgeable staff to serve as Financial Officer (and associated support).

Provides expert in contracts and administrative law to assist Supply Group's Procurement Team.

*Office of
Economic
Planning or
equivalent*

Provides knowledgeable staff to serve on Needs Group.

Police

Provides escort and security as appropriate for the delivery, storage, and

<i>Department or equivalent</i>	distribution of resources.
<i>Department of Transportation or equivalent</i>	<ul style="list-style-type: none"> ➤ Provides knowledgeable staff to serve on Distribution Group. ➤ Assists in procuring and providing transportation.
<i>All Agencies</i>	<ul style="list-style-type: none"> ➤ Provide staff knowledgeable in a particular resource category to serve as Needs Liaisons and/or Procurement Team members, as appropriate. ➤ Provide updated emergency resource listings on a regular basis or as requested by Resource Manager. ➤ Make personnel/resources available as needed in an emergency.
Administration and Logistics	This section addresses the administrative and general support requirements for carrying out resource management tasking.
<i>Administration</i>	<p>The following specific areas should be addressed:</p> <p><i>Reports and records.</i> The annex should address what kinds of records must be kept, for how long, in what form (e.g., hard copy or database); what reports should be made, from whom to whom, in what format; and how records vital to operations will be protected. (Note: Hard copy "resource manuals" are useful, but where possible jurisdictions should take advantage of the search and sorting capacities of a computer database in maintaining the resource inventory.)</p> <ul style="list-style-type: none"> ➤ <i>Finance.</i> The annex should address the jurisdiction's financial policies, e.g., regarding use of funds already appropriated and how contingency funds will be made available. ➤ <i>Procurement.</i> The annex should note the jurisdiction's policies on

emergency procurement.

- *Hiring and Other Personnel Issues.* The annex should note waivers of normal procedure for matters of hiring, assigning work that is not in an employee's job description or at an employee's normal duty station, and the like.

Logistics

The following specific areas should be addressed:

- *Staffing.*
 - *Core Cadre.* The annex should identify by position what staff will be required to perform the resource management function, regardless of the nature or scope of the emergency.
 - *Maximum Complement.* The annex also should set forth an estimate, based on the kinds and number of facilities that would be activated, of the maximum number of personnel that would be needed to support the resource management function. A breakdown by facility would be useful.
 - *Augmentation.* The annex should indicate the means the jurisdiction will use to meet a staffing shortfall in the resource management function, be it reassignment of jurisdictional personnel, aid from other jurisdictions, area volunteers, or use of the National Guard.
- *Facilities.*
 - *Minimum.* The annex should spell out where basic resource management activities will be conducted, if locations other than the EOC are involved (e.g., if procurement activity will be conducted from the Department of General Services, with communications links to the EOC).
 - *With significant influx of aid expected.* The Resource Manager may direct that other facilities be activated, such as the

following:

- *Point of Arrival.* The FRP refers to the "point of arrival" as "the designated location (typically an airport) within or near the disaster-affected area where newly-arriving staff, supplies, and equipment are initially directed." While meant for States expecting Federal resources, this FRP concept is a useful planning consideration for any jurisdiction that could expect to receive significant mutual aid: some idea must be had of where to report first.
 - *Mobilization Centers.* A mobilization center is a designated location for receiving and processing resources and personnel prior to their deployment to a staging area or incident site. It may coincide with the point of arrival. For arriving personnel, the mobilization center may have to provide briefings, billeting, and feeding. Local jurisdictions should identify potential mobilization centers.
 - *Staging Areas.* At staging areas, personnel and equipment are assembled for immediate deployment to an operational site in the affected area. Local jurisdictions should identify potential staging areas; options include fairgrounds and academic facilities.
 - *Warehouses and other storage facilities.* Aid from governmental sources should not exceed the capacity of mobilization centers, staging areas, the incident site, and the jurisdiction's agencies to absorb it. However, the jurisdiction may wish to make arrangements with realtors to provide a regular update on warehouse availability. Alternatives include making arrangements with military installations and neighboring jurisdictions to assist with any logistical excess.
- *With extensive donations expected.* At the State level, the

Resource Manager and/or Donations Coordinator may require the following facilities to handle donations, as discussed in the *Donations Management Guidance Manual*. Local jurisdictions should consult the State on how best to support the State donations management framework; however, large jurisdictions may wish to make similar provisions for handling donations within the jurisdiction.

- *Donations Coordination Center/Telephone Bank.* At a Donations Coordination Center, representatives of the jurisdiction's government and volunteer agencies screen unsolicited donations offers and match them with possible recipient organizations. States choosing to activate an 800 telephone number might set up the telephone bank at this facility.
- *Checkpoints.* Checkpoints permit inspection, scheduling, and (re)routing of inbound trucks and other vehicles bearing donations. At the State level, potential locations include weigh stations and rest areas.
- *Donations Receiving Area(s).* A donations receiving area serves as a collection point and sorting area for unsolicited donations of goods. It should be located as close to air, water, and rail transport facilities as is feasible outside the disaster area. Other considerations include parking (for the large number of workers required), covered storage space, and ample room for trucks to maneuver. State fairgrounds have been used as donations receiving areas. Since fairgrounds also have been suggested as prime locations for staging areas, it should be noted again that jurisdictions must coordinate the logistical demands of donations management with those of the entire resource management system. (Note: Some people in donations refer to this facility as a “reception center”; however, that could cause confusion with the use of the same

term in evacuation.)

- *Warehouses.* Where possible, the donations effort should rely on volunteer agencies' warehousing capacity. However, should additional space be necessary--particularly when disposal of donations becomes difficult--the jurisdiction should have on hand information from realtors or a real estate board to locate suitable warehousing space.
- *Distribution Centers.* Goods are distributed directly to victims at distribution centers. Churches and volunteer agencies' facilities are good locations. In Federally declared disasters, distribution centers and Disaster Recovery Centers (DRC) can be collocated or fairly near one another to allow comprehensive service delivery to the affected populace.
- *Lodging.* An influx of volunteers and government workers creates a need for billeting. Provision should be made for this at points of arrival, mobilization centers, and even donations receiving areas; the space can be reclaimed for other purposes if sufficient hotel, church, or school gym space just outside of the affected area is available
- *Communications.* As a potentially far-flung enterprise, resource management depends on communications. The number of telephone lines, fax machines, and other standard equipment required will depend on the anticipated size of the jurisdiction's resource management operation. Special considerations include data modems for a State Donations Coordination Center (to receive information from the national database), a 1-800 trunk line for a State Donations Coordination Center (to receive calls), citizens band radio and dispatching for communicating with trucks, and internal communications systems for warehouses (such as walkie-talkies or a public address system).
- *Computers and software.* Resource management involves large amounts of information best handled with databases (resource listings)

and spreadsheet programs (financial management, inventory control). Reports will require a word processing program.

- *Office equipment and supplies.*
- *Forms.* Where hard copy forms are used, each facility should have a sufficient supply on hand from the start (e.g., in a "go kit"). Including the forms in the EOP also permits reproduction, if photocopiers are available.
- *Transportation.* The annex should discuss what transportation resources are available for resource management.

**Plan
Development
and
Maintenance**

Much ongoing activity is necessary to support the resource management function, including: conducting planning meetings; updating resource listings; monitoring potential resource crises; developing and negotiating standard contracts and leases, memoranda of understanding, and mutual aid agreements; developing ready-to-use public information materials (or at least templates); writing and refining SOPs; training; and exercising the function. Responsibility for this activity should be assigned in this section.

The Emergency Manager should have responsibility for calling planning meetings on advice from the Resource Manager, who should determine how often to hold meetings. Meeting organizers should strive to include representatives from groups such as private industry, professional and labor associations, volunteer groups, and the media (at least when donations are an issue).

The annex may specify what triggers the need to revise the annex, including plan review, exercise results, post-event critiques, changes in the hazard situation, or the incorporation of new players and new technology.

**Authorities
and
References**

Authorities and references that might be included, cited, or consulted include:

- Authorities*
- Robert T. Stafford Disaster Relief and Emergency Assistance Act.
 - State/local emergency legislation, in particular matters of eminent

domain, rationing and price controls, and the like.

- State/local procurement regulations, in particular any provisions for an expedited process (e.g., suspension of "full and open competition" requirements).
- State/local personnel regulations, in particular any special hiring authorities.

References

- FEMA/National Donations Steering Committee, *Donations Management Guidance Manual*, January 1995.
- The Federal Response Plan, April 1992.
- State/local resource listing compilation, if maintained under separate cover.
- State/local compilation of memoranda of agreement.
- Other resource directories (e.g., from real estate board).
- Suggested attachments.
 - Map identifying key facilities and transportation routes (perhaps with overlay of likely hazard areas, if known).
 - Organizational chart.
 - Staffing charts.
 - Resource requirements for the resource management function.
 - Sample forms (e.g., resource inventory, donations intake form, report formats).

Chapter 6

Hazard-Unique Planning Considerations

Introduction

This chapter provides guidance for developing hazard-specific appendices. Hazard-specific appendices offer a means of extending functional annexes to address special and unique response procedures, notifications, protective actions, emergency public information, and other needs generated by a particular hazard. They allow the jurisdiction, in its EOP, to address priorities identified through hazard analysis and to meet detailed regulatory requirements associated with some hazards. A hazard-specific appendix should be prepared for any functional annex that does not, by itself, give enough information to perform the function adequately in the face of a particular high-priority hazard. Some hazards may require that appendices be prepared for various functional annexes; others may affect planning for only one or two functions. Appendices may be long or very brief depending upon need.

Think of hazard-specific appendices as supplements to functional annexes. Planning considerations common to all hazards should be addressed in functional annexes, not repeated in hazard-specific appendices.

Development of a Hazard-Specific Appendix

The decision to develop a hazard-specific appendix should be based on special planning requirements not common to other hazards addressed in the functional annex, and on regulatory considerations that may require extensive, detailed planning that is inappropriate for inclusion in the annex.

As the planning team develops each of the functional annexes, close scrutiny must be given to the "unique" characteristics of those hazards that require special attention. Further, the planning team must know the regulatory requirements associated with the hazards their jurisdiction faces.

This approach promotes consistency and continuity and provides the flexibility to include a hazard-specific appendix or not, based on the need to cover information that is relevant to the hazard, but is not appropriate for inclusion in the functional annex.

Content of a Hazard-Specific Appendix

The content of a hazard-specific appendix focuses on the special planning needs generated by the hazard and should not duplicate the information in the functional annex. The appendix contains unique and regulatory response planning details that apply to a single hazard. It addresses the essential operational actions that must be accomplished to facilitate the successful completion of a particular response function. As appropriate, the appendix should quantify the risk area, geography, and demography considerations that apply to the hazard.

It is recommended that hazard-specific appendices follow the same structure-- i.e., include, as appropriate, the same content sections (Purpose, Situation and Assumptions, Concept of Operations, Organization and Assignment of Responsibilities, Administration and Logistics, Plan Development, and Authorities and References)--as the functional annexes.

Tabs may be used to: identify hazard-specific risk areas and evacuation routes; specify provisions and protocols for warning the public and disseminating emergency public information; and specify the types of protective equipment and detection devices for responders, etc. Tabs serve as work aids, and include such things as maps, charts, tables, checklists, resource inventories, and summaries of critical information.

The responsibility for making the decision on what to include in a hazard-specific appendix is vested with the jurisdiction's planning team. The flexibility of the planning approach described in this Guide should make it possible to accommodate and satisfy:

- The planning requirements associated with unique aspects of hazards and with various regulatory authorities.
- The different constituencies in the jurisdiction's emergency response organizations.
- The members of the planning team.

Table 6-1 identifies the core functional annexes discussed in Chapter 5, and provides a synopsis of the typical hazard-specific planning considerations that are associated with them. The planning team should consider Table 6-1

when making its decision on the kinds of information to be included in the appendices that they deem it is appropriate to prepare.

Description of Unique and Regulatory Planning Considerations

The attachments provide a brief summary of seven significant hazards that threaten many communities in the United States. The information provided on each of these hazards focuses on the specific types of planning considerations that should be examined, analyzed, and applied, as appropriate, in the development of hazard-specific appendices. The format for each attachment has been structured to be consistent with the planning considerations outlined above. Please note that what follows is only summary information. Information on other hazards your jurisdiction faces and additional relevant data on the hazards addressed in this chapter should be readily available to the planning team. Much of the needed information should have been gathered as part of the jurisdiction's hazard analysis. For additional information, the planner should review the applicable hazard-specific planning guides and other relevant technical manuals to gain more insight into the hazards and to obtain detailed information on the emergency response planning considerations associated with each one.

Attachment A

Earthquake

The Hazard

Nature of the Hazard	A sudden, violent shaking or movement of part of the earth's surface caused by the abrupt displacement of rock masses, usually within the upper 10 to 20 miles of the earth's surface. The earthquake hazard may consist of:
<i>Ground Motion</i>	Vibration and shaking of the ground during an earthquake is the most far-reaching effect and causes the most damage to buildings, structures, lifelines, etc.
<i>Ground Surface Fault Rupture</i>	The ground shaking is the result of a rupture of a fault beneath the surface. When the ground shaking results in a rupture of the surface of ground, an opening of up to 20 feet may occur.
<i>Liquefaction</i>	The ground temporarily loses its strength and behaves as a viscous fluid (similar to quicksand) rather than a solid.
<i>Landslides</i>	Sometimes an earthquake causes a landslide to occur. This involves a rock fall and slides of rock fragments on steep slopes.
<i>Tsunamis</i>	Tsunamis are sea waves produced by an undersea earthquake. These sea waves caused by the earthquake can reach 80 feet and can devastate coastal cities and low-lying coastal areas.
<i>Secondary Hazards</i>	Consequences of earthquakes may include fire, HAZMAT release, or dam failure, among others.
Risk Area	Wide areas of the United States have some vulnerability to earthquakes. Thirty-nine States face the threat of a major damaging earthquake and are considered to be earthquake hazard areas. The planning team in each of the jurisdictions in these States should use information from their State's earthquake hazard identification study to quantify the seismic hazard their community faces. This study addresses the magnitude, estimates the amount of ground shaking that

could occur, and delineates the associated geological hazards (landslide, liquefaction, etc.) that may occur as a result of a catastrophic earthquake. Further, a vulnerability assessment should have been prepared as part of the hazard analysis. The assessment provides the planning team information related to probable consequences and damages their jurisdiction may suffer if struck by an earthquake. It focuses on casualties and injuries; potential building losses and identifies the buildings most vulnerable to seismicity (including critical facilities such as hospitals, EOCs, mass care centers, emergency services organizations' work centers, water and waste management plants, power companies, etc.); medical needs versus available medical resources; loss of utilities and replacement/repair time; etc. caused by the earthquake and the collateral hazards it may trigger (e.g. fires, dam or levee failure, tsunamis, HAZMAT spills, etc.). This information will help the team develop the appropriate information for inclusion in the EOP.

Earthquake Unique Planning Considerations

This section contains a listing of the functional annexes that typically would require the preparation of a hazard-specific appendix for earthquakes. It also identifies the unique and/or regulatory planning considerations that should be examined by the planning team and used, as appropriate, when preparing earthquake-specific appendices.

Direction and Control

For this hazard it is essential for emergency response personnel to take immediate action to gather damage assessment information. This information is needed to determine the severity and extent of injuries and damages. Further, this data gathering effort should provide much of the information decision makers will need to implement and prioritize response actions for: US&R activities, access control and re-entry to the impacted area, debris clearance, restoration of utilities and lifeline repairs, and the inspection, condemnation, and or demolition of buildings and other structures.

Therefore, provisions should be made, as appropriate, to address the following planning considerations in one or more appendices to a direction and control annex:

Damage

Conduct of ground and aerial surveys to determine the scope of the damage,

<i>Assessment</i>	casualties, and the status of key facilities.
<i>Search and Rescue</i>	<p>Removal of trapped and injured persons from landslides, buildings collapses, and other structural collapses, administering first aid, and assisting in transporting the seriously injured to medical facilities. This activity involves the use of professional and volunteer search teams including the use of dog teams. Consideration should be given to:</p> <ul style="list-style-type: none">➤ Use of damage assessment information to identify the facilities and areas where US&R operations are to be conducted and to establish a priority for conduct of these operations.➤ Request for Federal assistance to perform US&R operations. <p>Major consequences associated with an earthquake are the collapse of buildings and other structures, and landslides. In a metropolitan area that is struck by a major earthquake many hundreds to thousands of people could be trapped. These trapped people need immediate assistance. In such situations, it is likely that local and State governments would be overwhelmed by the demand for emergency services. Further, most jurisdictions do not have a sufficient quantity of specialized equipment or enough trained teams available to accomplish the large-scale search and rescue operations that would be needed to respond to a catastrophic earthquake. In order to assist State and local governments to accomplish this critical lifesaving activity, the Federal Government has established Federal US&R teams. These teams are available to State and local jurisdictions upon request. The FRP's ESF-9 includes provisions for deploying Federal US&R teams. These teams augment State and local emergency response efforts to locate, extract, and provide for the immediate medical treatment of victims trapped in collapsed structures.</p>
<i>Access Control and Re-Entry</i>	<p>This section deals with the immediate actions to be taken, as soon as conditions permit, in the area that was severely impacted by an earthquake. Relevant considerations include:</p> <ul style="list-style-type: none">➤ Control of access to the area until it is safe. Only those people directly involved in emergency response operations should be allowed to enter.

- Establishing a protocol for determining the appropriate time to allow evacuees and the general public to re-enter the area that was severely impacted.

*Debris
Clearance*

The identification, removal, and disposal of rubble, landslides, wreckage, and other material which block or hamper the performance of emergency response functions should be a high priority action. Activities may include:

- Demolition and other actions to clear obstructed roads.
- Repair or temporary reinforcement of roads and bridges.
- Construction of emergency detours and access roads.

*Inspection,
Condemnation
, Demolition*

Inspection of buildings and other structures to determine whether it is safe to inhabit or use them after an earthquake has occurred. Activities may include:

- Inspection of buildings and structures which are critical to emergency services operations and mass care activities. Designate those that may be occupied and identify/mark those that are unsafe.
- Inspection of buildings and structures that may threaten public safety. Identify/mark those that are unsafe and may not be occupied.
- Inspection of dams and levees.
- Inspection of less critical damaged structures. Designate those that may be occupied and identify/mark those that are unsafe to occupy.
- Arrangements for the demolition of condemned structures.

*Utilities and
Lifeline
Repairs*

Restoration and repair of electrical power, natural gas, water, sewer, and telephone and other communications systems to minimize the impact on critical services and the public.

Warning

Earthquakes usually occur without warning. Although some earthquakes have been successfully predicted, a reliable warning system has not been developed. However, it is appropriate for those jurisdictions located on the West Coast,

Hawaii, and Pacific Insular areas where a large seaquake or undersea volcanic eruption may occur to include an appendix in their plan that will facilitate the issuance of a tsunami warning.

**Emergency
Public
Information**

The flow of accurate and timely emergency information is critical to the protection of lives and property in the wake of a catastrophic earthquake. This section deals with the provisions that should be included in the plan for the preparation and dissemination of notifications, updates, warnings, and instructional messages. The following planning considerations should be examined and addressed, if appropriate, in one or more appendices to an EPI annex:

- Survival tips for people on what to do during and immediately after an earthquake.
- Warnings and advice on the continuing threat of fire, unsafe areas, building collapse, aftershocks, and other hazards.

Evacuation

Immediately following an earthquake people may need to be evacuated. People should be evacuated from structures that have been damaged and are likely to receive more damage when hit by one or more of the aftershocks. An appendix to an evacuation annex should address special provisions for moving the residents of custodial facilities (hospitals, jails, mental health facilities, nursing homes, retirement homes, etc.) following an earthquake.

Mass Care

The information gained from the vulnerability assessment should be used to ensure the following needs are addressed, if appropriate, in one or more appendices to a mass care annex:

*Safe Location
of Facilities*

If possible, identify mass care facilities in low seismic risk areas that are also out of the way of secondary effect threats (e.g., flooding from a damaged dam).

*Structural
Safety*

If the facilities selected for use are located within the earthquake hazard area, ensure that a structural engineer, knowledgeable of the earthquake hazard:

- Identifies facilities for use that are structurally sound, well retrofitted or

built to code.

- Ranks the facilities based on the amount of earthquake resistance/protection each one offers.

Attachment B

Flooding and Dam Failure

The Hazard

Nature of the Hazard

Flooding occurs when normally dry land is inundated with water (or flowing mud). Flooding may result from: bodies of water overflowing their banks, including artificial ones like dams and levees; structural failure of dams and levees; rapid accumulation of runoff or surface water; hurricane-caused storm surges or earthquake-caused tsunamis; or erosion of a shoreline. (Coastal flooding and erosion are not treated in this attachment.) Typically, the two parameters of most concern for flood planning are suddenness of onset--in the case of flash floods and dam failures--and flood elevation in relation to topography and structures. Other factors contributing to damage are the velocity or "energy" of moving water, the debris carried by the water, and extended duration of flood conditions. Flooding can happen at any time of the year, but predominates in the late Winter and early Spring due to melting snow, breakaway ice jams, and rainy weather patterns.

Risk Area

All States and territories are at risk from flooding. Apart from a rainy climate, local risk factors, usually present in combination, include:

Rivers, Streams, and Drainageways

These are bodies of water often subject to overflowing. The size of the stream can be misleading; small streams that receive substantial rain or snowmelt, locally or upstream, can overflow their banks. High-velocity, low elevation flooding can be dangerous and damaging. Six inches of moving water can knock a person off his or her feet; 12 inches of water flowing at 10 miles per hour carries the force of a 100 mile-per-hour wind, although the force would be distributed differently on obstacles.

Dams and Levees

There are 74,053 dams in the United States, according to the 1993-1994 National Inventory of Dams. Approximately one third of these pose a "high" or "significant" hazard to life and property if failure occurs. Structural failure of dams or levees creates additional problems of water velocity and debris.

*Operations
Plan*

Contingency Plan delegates the responsibility for on-scene coordination to the DOD. Therefore, the Federal OSC will be an Army representative. If the release of a chemical agent results in the declaration of Federal emergency or disaster, FEMA also will be involved through its Federal Coordinating Officer (FCO). Each jurisdiction's command and control procedures should include consideration of the relationship between the OSC and the civilian emergency management structure.

In this context, each jurisdiction must identify the organizational structure it will use to respond to a chemical agent release. Key components of the structure include:

- The individual (and alternates) with authority to provide central management of the community's emergency response.
- Other parties that will support the management function by providing advice and information.
- The response forces and other resources available to respond to the emergency (including those under direct control of the jurisdiction as well as those to be obtained from other governments or from private sources).
- The organizational framework that will be used to coordinate the input of all parties to ensure an effective and comprehensive response to the emergency.

*Emergency
Operations
Center*

An EOC developed under the CSEPP should provide a command and control center for potential emergencies related to the storage and disposal of the chemical agent stockpile as well as for other potential emergencies identified in the community's hazard assessment. An effective EOC consists of the combination of physical facilities, equipment, personnel, and procedures that enables the jurisdiction to apply its resources efficiently and effectively to respond to an emergency situation. Detailed guidelines for staffing, organization, and operation of the EOC are presented in the CSEPP Planning Guidance.

*Emergency
Worker
Operations*

CSEPP takes a two-pronged approach to advancing the safety of civilian emergency response personnel. First, no civilian workers will be intentionally placed in positions where they will encounter chemical agent during the performance of their duties. Second, workers who may incidentally encounter chemical agent while performing their duties will be provided with appropriate protective clothing, equipment, and training.

Under these guidelines, civilian responders will not enter any area where chemical agent is known or suspected to be present while the release of agent is ongoing. While the release is in progress, civilian emergency workers may perform duties (such as traffic and access control and emergency medical services) outside the known/suspected hazard area. After the release has stopped and chemical agent monitoring has confirmed that agent concentrations are within the range for which the protective clothing and equipment provide protection, civilian responders may enter the hazard area to perform necessary duties such as search and rescue and accompanying off-site Army monitoring personnel. All personnel whose duties during or after the release may bring them into contact with chemical agent will be required to use protective clothing and equipment specified in these guidelines.

Automation

Automated systems can provide important assistance in performing many of the planning and response functions in CSEPP. The quickness with which a chemical agent release could affect on-post and off-post populations argues strongly in favor of using automated tools to help perform complex analyses during planning and to manage the deployment of personnel and resources during response. State and local jurisdictions are strongly encouraged to make maximum use of automation tools being developed for CSEPP.

Communications

Reliable communication systems ensure the notification and subsequent information sharing can occur without delay. In CSEPP, at least two independent methods of simultaneous communications must be available to protect against the possibility of equipment failure. A communications network, consisting of redundant telephone and radio systems, should be designed and installed to link the Army installation EOC and notification point with the EOCs and notification points of all IRZ counties and the State(s). Regardless of whether the telephone or radio system is designated the primary method of communication, the other system must be provided to serve as a backup.

Warning	<p>The objectives of the public alert and notification system (ANS) are:</p> <ul style="list-style-type: none">➤ To alert essentially every person within the IRZ of an emergency that has the potential of causing harm to those persons.➤ To notify essentially every affected person within the IRZ of appropriate protective actions. <p>The IRZ warning system must provide both an alerting signal and instructional message within 8 minutes from the time a decision has been made that the public is in danger. To achieve rapid notification, CSEPP endorses the concept of a dual indoor-outdoor warning system.</p>
<i>Outdoor Systems</i>	<p>Only omnidirectional electronic sirens with voice message capability are acceptable as the primary outdoor alerting and notification devices for CSEPP. The network of siren/voice units is configured so that the alert signals and notification messages received in each area of the IRZ are of sufficient volume to be heard distinctly above ambient noise levels in the area. Community characteristic descriptions, with their associated sound pressure level requirements, are identified in the CSEPP Planning Guidance.</p>
<i>Indoor Systems</i>	<p>An acceptable indoor alert and notification device must be reliable and not be easily disabled. CSEPP supports several options: tone alert receivers, NOAA Specific Area Message Encoder (SAME) receivers, and EAS-capable receivers. Two supporting technologies to augment the receivers include simultaneous telephone activations and interruption of cable television programming for special announcements.</p>
<i>PAZ</i>	<p>Alert and notification for the population in the PAZ is provided by a system designed for specific applications such as population centers and institutions, coupled with electronic media, EAS broadcasts, and route alerting. Public alert and notification system requirements within the PAZ should be viewed as transitioning between the exacting requirements for the IRZ to basically no requirements for the PZ.</p>
Emergency Public Information	<p>CSEPP encourages an aggressive public education and information campaign as an essential ingredient of an effective emergency preparedness program. The pre-emergency public education program raises public awareness of the hazards associated with the chemical agent stockpile and advises citizens of</p>

actions they can take, both before and during an emergency, to reduce risks to themselves and their property. Public education also informs individuals of the progress of Chemical Stockpile and Chemical Demilitarization activities as they relate to emergency preparedness. The emergency public information program identifies the information that will need to be communicated to the public in the event of a chemical agent release and a strategy for disseminating this information rapidly.

CSEPP endorses the use of a single JIC as the most efficient method for gathering, coordinating and disseminating emergency information. Each jurisdiction will develop agreements and procedures, in cooperation with all affected local jurisdictions, State emergency management officials, and the Army installation, that will be followed to ensure the coordinated release of information during an emergency. A related task for JIC personnel is the control of rumors.

Evacuation and In-Place Sheltering

The basic protective action choices are evacuation and four types of shelter-in-place including normal shelter-in-place, and sheltering improved by expedient measures, permanent enhancements, or pressurization.

Protective Action Decision- Making

The protective action decision process consists of these steps:

- Identifying the situations under which evacuation would not be appropriate.
- Determining what action provides the best protection when evacuation is inappropriate.
- Evaluating the situation at the time of an emergency to determine whether evacuation or the alternative action should be implemented.

To ensure quick and appropriate emergency response, the first two steps are determined during emergency planning along with a process designed for accomplishing the third step.

Protective Action Decision Table

Emergency planners analyze the interaction of accident categories, as defined by the EPG (Emergency Planning Guide), and population characteristics to identify the protective actions that would be appropriate for different segments of the population under different accident categories. The results of this analysis are

classified into a set of protective action strategies. Each strategy lists the protective action recommended for the population of each area and for each special population and institution under a given set of release and meteorological conditions. Each protective action strategy is concisely summarized in table form.

*Evacuation
Planning
Requirements*

CSEPP requires planners to identify the optimum evacuation strategy for each area of the EPZ and all special populations (including any on-post personnel) for which evacuation has been identified as a possible protective action by using a quantitative evacuation time study. This includes an analysis of:

- The number of people and vehicles to be evacuated compared with capacities of the roadways that can be used for the evacuation.
- The number and location of people without access to automobiles compared with the supply of mass transportation vehicles that can be made available.
- The number and location of persons with special evacuation needs (e.g., the disabled) compared with the availability of personnel and vehicles with the capability to meet those needs.

*In-Place
Sheltering
Planning
Requirements*

Communities are required to develop a detailed sheltering-in-place plan for each of the four sheltering strategies. The plan will identify all structures to be used as shelters and will describe the program the jurisdiction will pursue to implement the given strategy in these structures. The plan will determine the resources necessary to implement the protection strategy in all affected structures and present a checklist of actions that inspectors will consider for reducing infiltration in each structure.

The community will develop the capabilities to, assign responsibilities for, and ensure the availability of resources to:

- Notify people in appropriate areas to implement expedient shelter-in-place.

- Determine (in consultation with the Army installation) when the shelters should be abandoned.
- Advise people in selected areas to abandon their shelters without risking the inappropriate abandonment of shelters in other areas.
- Ensure prompt evacuation of all people who have been advised to leave their shelters.

*Access
Control*

Access control points (ACP) will be pre-designated to allow the immediate dispatch of personnel and commitment of resources. Access control for a chemical event affecting off-post areas also will be necessary if the Army creates a National Defense Area (NDA) off the installation. Off-post law enforcement officials may be needed to assist on-post security personnel in this event. The creation of an NDA permits the Army to use military forces to effectively control non-Federal lands or areas when necessary for reasons of national security.

Evacuee Support

The two primary components of an evacuee support system in CSEPP are reception and mass care. Reception is the process of receiving and registering evacuees, determining their needs (i.e., medical, housing, family reunification, etc.) and assigning them to appropriate resources. Mass care includes providing shelter, food, family reunification, limited medical care, and social services for evacuees. Reception and mass care facilities may be collocated when a small number of evacuees are involved. Separate reception and mass-care facilities are appropriate in a larger-scale evacuation.

Health and Medical

Health and medical concerns associated with the hazard and CSEPP include the following:

Decontamination

Decontamination is an integral part of the treatment of people contaminated with chemical agent. This must be done quickly following exposure. Regardless of the type of chemical agent involved, personal decontamination can be performed by flushing undiluted household bleach on all contaminated areas (except the face) and rinsing off with lukewarm, soapy water. This can be done by the individual who is contaminated, another person or by a decontamination team. CSEPP stresses the importance of self- and buddy-decontamination because of the critical time factors in performing this task.

CDC Medical Guidelines

The CDC of the U.S. Department of Health and Human Services have prepared recommendations for medical preparedness for CSEPP civilian communities and have published these recommendations in the Federal Register (60 FR 33308, June 27, 1995).



**Resource
Management**

A chemical agent event is an unusual emergency requiring certain special response and resource allocations not normally associated with more common emergencies such as floods, windstorms, or some hazardous materials accidents. For this reason, planning for resource coordination and allocation becomes especially critical and should be coordinated with respect to planning zones and their related protective actions.

Critical to implementing the resource management components of the EOP in CSEPP are the automation systems. The objectives of the CSEPP automation system are to:

- Store, manage, and access databases to support planning efforts.
- Interface databases with analytical planning tools and models.
- Provide automation support for daily, weekly, monthly, and yearly planning tasks (e.g., reporting, scenario development, training, exercise planning).
- Organize emergency plan concepts and standard operating procedures.
- Provide rapid access to information and pre-authorized implementation procedures to support command and control and protective action decisions.
- Facilitate effective communication and alert/notification.
- Track and log events.
- Provide a means of effectively managing emergency response resources.

Attachment F

Radiological Hazards

Radiological materials have many uses and serve a very important purpose in our country. Some of their most common uses include:

- Use by doctors to detect and treat serious diseases.
- Use by educational institutions and companies for research.
- Use by the military to power large ships and submarines.
- Use by companies in the manufacture of products.
- Use as a critical base material to help produce the commercial electrical power that is generated by a nuclear power plant.
- Use as one of the critical components in nuclear weapons, which are relied upon to help deter the threat of war.

Under extreme circumstances an accident or intentional explosion involving radiological materials can cause very serious problems. Consequences may include death, severe health risks to the public, damage to the environment, and extraordinary loss of, or damage to, property.

This attachment focuses on the unique and regulatory planning requirements associated with the two radiological hazard threats that pose the most significant risks to a community:

- An accident at a nuclear power plant, and
- Nuclear conflict with one or more nations that may be hostile to the United States.

The description of the hazard and both radiological and direct weapons (blast, fire) effects in Tab 2 to this attachment apply also to the threat of nuclear terrorism. That is, the same effects and consequences would be associated with the "intentional" detonation of a nuclear device or weapon by a terrorist group seeking to maximize the blast, fire, and radiological effects.

Planning for response to transportation accidents that involve the accidental spread or release of

radiological waste materials is addressed in the Attachment C, Hazardous Materials. See also FEMA-REP-5, *Guidance for Developing State, Tribal, and Local Response Planning and Preparedness for Transportation Accidents*.

Tab 1 to Attachment F

Nuclear Power Plant Accident

Given the regulatory considerations associated with planning for response to a nuclear power plant accident, it is essential that NUREG-0654/FEMA-REP-1, Rev. 1, its supplements, and FEMA Guidance Memoranda be used as the primary source documents for addressing the planning needs associated with this hazard. The information in this attachment complements the planning guidance cited above and is intended to help facilitate the identification of the necessary planning considerations that should be addressed if the jurisdiction chooses to include this hazard in its all-hazard EOP.

The Hazard

Nature of the Hazard

Radioactive materials are produced in the operation of nuclear reactors. The accidental release of these materials into the atmosphere can harm people and damage the environment.

Risk Area

The risk area associated with accidents at a fixed commercial nuclear power reactor is divided into two specific geographic areas called EPZs. EPZs define the areas for which planning is needed to ensure prompt and effective actions are taken to protect the health and safety of the public if an accident occurs. Although in theory an EPZ is a circle centered on the power plant, the size and actual shape of each EPZ will be determined by the characteristics of a particular site (e.g., topography, identifiable landmarks, etc.).

The plume exposure pathway (10-mile EPZ) includes everything within approximately a 10-mile radius of the power plant. Human health and safety risks associated with it include: whole body injury from exposure to gamma radiation; and thyroid, lung, and possibly other organ injury from inhalation of radioactive materials.

The ingestion exposure pathway (50-mile EPZ) includes everything within approximately a 50-mile radius of the power plant. Human health and safety risks associated with it include whole body and thyroid injury from ingestion of radiologically contaminated water and food.

Environmental concerns associated with both EPZs include contamination of:

- People.
- The water supply.
- The crops and feed that people, domesticated animals, and wildlife consume.
- The livestock and milk or milk products that people consume.
- The areas people occupy (i.e. where they work, live, play, etc.).

Nuclear Power Plant Accident Unique Planning Considerations

This section contains a listing of the functional annexes that typically would require the preparation of a hazard-specific appendix for nuclear power plant accidents. It also identifies many of the unique and regulatory planning considerations that should be examined by the planning team and addressed, as appropriate, when preparing nuclear power plant accident hazard-specific appendices.

Direction and Control

For this hazard, four emergency classification levels (ECL) have been established. These ECLs describe the specific emergency actions that must be accomplished by the licensee and off-site emergency response organizations. As the emergency situation escalates from a small on-site problem to an emergency with off-site implications, each of the emergency classification levels provides for a gradual expansion of response actions as the situation warrants. The four levels are: 1) Notification of Unusual Event, 2) Alert, 3) Site Area Emergency, and 4) General Emergency, this last being the most severe.

Jurisdictions located in the 10- and 50-mile EPZs should include in their EOPs the appropriate tasking for response organizations to accomplish the response actions required by each of the emergency classification and action levels. When more than one jurisdiction is located in the same EPZ it is necessary for the jurisdictions to work together to sort out the response tasking each jurisdiction will perform.

The State is responsible for specifying the protective measures for the public and response personnel for both the plume exposure and ingestion pathway EPZs.

Provisions should be made, as appropriate, to address the following planning considerations in one or more appendices to a direction and control annex:

- Describing the specific responsibilities assigned to the jurisdictional response organizations located in both EPZs. Typical tasks include:
 - Preparation of written agreements that specify the concept of operations and specify the response roles of Federal agencies and of State, local, and private sector response organizations located in the EPZ.
 - Provisions for sending a member from the emergency response organization to the licensee's near-site Emergency Operations Facility to serve as a liaison officer, if needed.
 - Requirement to:
 - Identify radiological laboratories that can be used to provide radiological monitoring and analyses services.
 - Identify nuclear and other facilities, organizations, and individuals that can provide resources or skills that can be relied upon to support the response effort.
 - Provide the personnel and equipment to perform off-site radiological monitoring.
 - Inspect, inventory, and operationally check radiological detection equipment and instruments at least once each calendar quarter and after each use.
 - Make rapid assessments of the actual or potential magnitude and locations of radiological hazards caused by a nuclear power plant accident.

- Quantify the dose rate and the gross radioactivity measurements for the isotopes specified in NUREG-0654/FEMA REP-1, Rev.1, Table 3.
 - Make arrangements with State or Federal agencies to locate and track the airborne radioactive plume.
- *Tasking applicable to jurisdictional response organizations located in the plume exposure pathway EPZ. Address:*
- Provisions to accomplish field monitoring.
 - The means that will be used to detect and measure radioiodine concentrations in the air (down to 10^{-7} microcurie per cubic centimeter).
 - Provisions for determining the best protective options and measures (evacuation, sheltering, etc.) for the people in the risk area during emergency conditions.
 - Provisions for traffic management and control of access to the affected area.
 - Post-event actions to be taken by emergency response personnel, as soon as environmental conditions and safety considerations permit. These include:
 - Provisions for relaxing the protective measures that have been implemented.
 - Means to be used for determining the appropriate time to allow evacuees and the general public to leave mass care facilities (if used) and return to their homes.
- *Tasking applicable to the jurisdictional response organizations located in the ingestion pathway EPZ. Normally, the State*

emergency management organization will be primarily responsible for the response planning required for this EPZ. An appendix to the State or local EOP (as appropriate) must address the provisions that have been made:

- To detect contamination.
 - For implementing procedures that will protect the public and prevent them from consuming contaminated foodstuffs. Protective actions may include impoundment, decontamination, processing, weathering, and product replacement/substitution.
 - To prepare maps that can be used to record survey and monitoring information applicable to farm crops, livestock, soil samples, dairies, food processing plants, water sheds, water supply intake and treatment plants, and reservoirs. The maps must include all of the activities cited above that are located in the 50-mile EPZ.
- *Requests for Federal assistance.* In order to accurately quantify the potential long term health and environmental consequences of an accident, sophisticated monitoring equipment and scientific analytical techniques are needed. Such equipment and technical expertise usually are not maintained by State and local governments. Accordingly, provisions for requesting Federal agency resources (those available through the FRERP) to meet this need should be included in a tab to the hazard-specific appendix.

Communications

Provisions must be made to ensure the State and local EOCs have a communications link with the nuclear facility and the facility's near-site Emergency Operations Facility, if manned.

Warning

The nuclear facility licensee is responsible for notifying off-site local and State government response organizations in those jurisdictions that may be affected when an emergency occurs.

The following jurisdictional responsibilities for planning should be addressed in one or more appendices to a warning annex:

*Public
Warning*

Warning of the public is a critical function related to this hazard. The public must be given timely instructions with regard to the specific protective actions to be taken. These instructions should describe the area(s) affected and address evacuation, sheltering in place, etc., as appropriate to the situation and time available. Further, the means chosen to accomplish the warning must ensure public health and safety.

*Adjacent
Jurisdictions,
State(s), and
the Federal
Government*

Provisions should be made for notifying and coordinating with every jurisdiction and level of government located within the 10- and 50-mile EPZs. Also, local jurisdictions should contact their State EOC to confirm that they have been notified by the licensee. The State EOC should alert the FEMA Regional Office.

**Emergency
Public
Information**

This section deals with the provisions made to prepare and disseminate notifications, updates, and instructional messages to follow up on the initial warning information passed to the public located within the plume exposure pathway.

The following planning considerations should be examined and addressed in one or more appendices to an EPI annex:

- The procedures and means that will be relied upon to notify and warn the public (including residential, custodial, and transient populations).
- Instructions for the immediate protective actions to take (e.g., close windows and doors, stay indoors, shut off the heating and cooling system, etc.).
- Evacuation instructions for evacuees (what to take, what to do about pets and livestock, when to leave, evacuation routes, etc.).
- Locations of mass care facilities (also called "congregate care" facilities) and associated reception centers.

Evacuation

The jurisdictions located in the plume exposure pathway should use the

population information gained from the risk assessment as a starting point to develop the planning that will be relied upon to carry out an evacuation of people at risk. The range of time between the onset of accident conditions and the start of a major release of radiological materials into the atmosphere may range from a few minutes to several hours, and may affect what protective action needs to be taken. Once a release has started, it may continue for several days. Critical to the evacuation decision are the type of radiological hazard that is threatening the public, conditions at the power plant, time available to implement an evacuation, and the protective measures called for in the State's plan. In all cases the protective actions taken must be consistent with the EPA protective action guide regarding human exposure to the passage of a radioactive airborne plume.

The following planning considerations should be addressed, as appropriate, in one or more appendices to an evacuation annex:

- Identifying specific evacuation zones. These zones delineate the natural and manmade geographic features and boundaries of the risk area(s) to be evacuated.
- Preparing maps that show the specific evacuation routes for each zone, identify the preselected radiological sampling and monitoring points, and show the location of mass (or "congregate") care facilities that may be used to shelter evacuees.
- Maps showing the population distribution around the nuclear facility.
- Provisions for protecting the population residing in a health care or police custodial facility, or are otherwise confined and who cannot be evacuated.
- Coordinating with adjacent jurisdictions and facilities located outside of the boundaries of the plume exposure pathway EPZ to facilitate evacuation.
- Provisions for contacting the sight- and hearing-impaired.

Mass Care

The following planning considerations should be addressed, as appropriate, in

one or more appendices to a mass care (or "congregate care," as it is also called in radiological emergency planning) annex:

- Ensure facilities designated for use by the evacuated public are located at least 5 miles, and preferably 10 miles beyond the boundaries of the plume exposure pathway EPZ.
- Operate reception centers to monitor, decontaminate, and register evacuees, and to monitor/decontaminate their vehicles and possessions.
- Ensure a sufficient number of facilities are available to meet the anticipated demand for shelter.
- If facilities are to be located outside of the jurisdiction's boundaries, coordinate with the adjacent jurisdiction(s) to arrange space for evacuees.
- Ensure those responsible for monitoring and decontamination have the necessary equipment and are familiar with procedures for accomplishing these tasks.
- When and as appropriate, identify sites for provision of mass care services to include:
 - Distribution of food, water, ice, clothing, etc.
 - First aid/medical treatment, if needed.
 - Temporary housing, if needed.

**Health and
Medical**

The following planning considerations should be addressed, as appropriate, in one or more appendices to a health and medical annex:

- Provisions for determining the exposure risks and dispersal of radiological contamination.

- Identification of medical facilities capable of receiving injured people who are contaminated.
- Provisions to estimate the amount of exposure the population in the risk area has received.
- Provisions/procedures for determining when it would be appropriate to obtain (from the State Health Department) and administer radioprotective drugs to emergency workers and individuals (e.g. institutionalized people) who were not able to get out of the plume exposure pathway risk area, as well as the general population. These procedures must address the conditions under which these drugs would be administered and identify who will be responsible for making the decision for the use of radioprotective drugs.
- Provisions for emergency personnel:
 - To determine, record, and maintain the daily and accumulated dose they receive.
 - To receive self-reading dosimeters and permanent record devices.
- Guidelines for authorizing workers to incur radiation exposure in excess of limits established by the EPA.
- Provisions to radiologically decontaminate workers, equipment, and supplies.
- Provisions for disposal of contaminated items (clothing, medical supplies, and other waste items).
- Provisions for the medical treatment and ongoing medical evaluation of victims and workers that have been exposed to radiological hazards.

Resource Management

The following planning considerations should be addressed, as appropriate, in one or more appendices to a resource management annex:

- Ensure radiological survey instruments and direct-reading dosimeters that can be used to detect and measure gamma radiation are available and that members of the mass care facility management team can operate them.

- Prepare resource lists that identify the type, quantity, and location of radiological equipment by category (protective equipment, monitoring equipment, and decontamination supplies) maintained by the jurisdiction.

Tab 2 to Attachment F

Nuclear Conflict

The Hazard

Nature of the Hazard

The possibility of a nuclear conflict involving the United States is extremely remote. Our nation's relationships with the foreign governments that possess nuclear weapons remain fluid. The scope of the nuclear conflict threat can vary from a single accidental launch or detonation by terrorists to a large scale strike against the United States.

Nuclear radiation is the major effect that is unique to nuclear weapons. The other effects differ from conventional weapons only in degree. A brief description of the weapons effects that are of concern to the planner follows.

Nuclear Radiation Effects

About half of the energy produced in the detonation of a nuclear weapon results from nuclear fission, a process in which radioactive substances are produced. When detonations occur on or near the earth's surface, the debris produced by the explosion becomes radioactive. Much of this debris is carried high into the atmosphere by the rising fireball. After the debris cools, it subsequently falls back to earth in the form of particles commonly called "fallout." The radiation emitted from these particles is called gamma radiation. The health consequences of exposure to gamma radiation include:

- *Radiation sickness.* The immediate consequence of human exposure to gamma radiation is called radiation sickness. The effects may occur within hours or days following exposure. Depending on the amount and duration of exposure, health problems range from nausea, fatigue, vomiting, diarrhea, loss of hair, hemorrhages, infections, to death.
- *Somatic effects.* Radiation injuries that may occur months to years after exposure are categorized as somatic effects. They include sterility or reduced fertility, leukemia, and other forms of cancer.

Direct Weapons

The energy released by a nuclear detonation alters the environment in several ways. In the immediate area of the detonation, the main effects are due to the

Effects

blast wave, thermal pulse, and electromagnetic pulse.

- *Blast wave.* The force of wind caused by the blast wave destroys or damages structures and other objects. It propels and spreads the debris that is created by the explosion. Deaths and injuries result from people being thrown about or struck by the things that were turned into projectiles or missiles by the force of the wind associated with the explosion.
- *Thermal pulse (heat flash).* The thermal pulse ignites exposed combustible materials, causing many fires. People in the open may be severely burned by the heat from the detonation.
- *Electromagnetic Pulse.* When the radiation energy generated by a high altitude (60 miles and above) nuclear detonation interacts with the earth's atmosphere it produces low frequency electromagnetic waves. These waves are referred to as the EMP. When EMP interacts with the electric and electronic equipment components of radio and television systems, the resulting "energy surge" can cause severe damage. EMP is not a threat to most people. Only those who rely on an electrically driven life support system (e.g., pacemaker) are at risk.

Risk Area

The end of the cold war and collapse of the military alliance between the Soviet Union and its allies have significantly diminished the possibility of a massive coordinated attack on the United States. Control of a significant portion of the former Soviet Union's nuclear arsenal is in the hands of several independent nations. These nations now chart their own foreign policy and are not obligated to support any military action in which the new "Russia" may become involved. There are now upwards of twenty nations that may possess the capability to use nuclear weapons. However, it is unlikely that any one of them possesses or controls a large enough stockpile of weapons to carry out the kind of massive attack on the United States that was previously envisioned.

Under the current international climate, it is unlikely that an **organized** attack on the United States would occur. However, if an attack did occur, areas potentially at risk might include:

- Military installations that **directly** support our nation's nuclear retaliatory capabilities. Such installations may include intercontinental ballistic missile launch facilities, bases that house fixed wing bombers, and those that are involved in command and control of offensive nuclear weapons.
- Large, densely populated metropolitan areas that play a significant role in support of the nation's governmental or financial management activities.

Nuclear Conflict Unique Planning Considerations

This section contains a listing of the functional annexes that typically would require the preparation of a nuclear conflict hazard-specific appendix. It also identifies many of the unique planning considerations that should be examined by the planning team and addressed, as appropriate, when preparing nuclear conflict hazard-specific appendices.

Direction and Control

For this hazard it is vital for emergency response personnel to be able to detect and quantify the location and amount of gamma radiation present in the jurisdiction.

Provisions should be made, as appropriate, to address the following planning considerations in one or more appendices to a direction and control annex:

- Coordinating, when appropriate (during an international crisis, U.S. military intervention overseas, etc.) with the next level of government to obtain essential information concerning:
 - Intelligence estimate of the intent of adversary nations that possess weapons of mass destruction.
 - Appropriate increased readiness actions to take and the timing for their implementation.
- Ensuring that personnel with expertise in dealing with hazards associated with the nuclear conflict threat are assigned to work in the EOC.

Typical tasks may include:

- Advising decision makers on the scope of the radiological hazards.
- Determining when it would be appropriate to distribute radiological instruments to emergency response organizations and mass care facility management teams.
- Disseminating essential radiological information to emergency response personnel and shelter management teams.
- Analyzing radiological information reported by emergency response teams and facility managers. Then:
 - Determine the relevant exposure data of shelter occupants and personnel performing emergency response duties and ensure that this information is tracked and recorded.
 - Implement a procedure that would limit the exposure of personnel performing emergency response duties.
 - Ensure facilities and areas that must be inhabited or used by humans are monitored and decontaminated, if appropriate.
 - Ensure facilities and areas that are unsafe for human use are identified.
 - Ensure people remain sheltered (in their mass care facility or risk area shelter) until the gamma radiation hazard has passed.
 - Determine the appropriate time to allow evacuees and the general public to leave mass care facilities

Warning

Warning of the public is a critical function related to this hazard. Lead time is necessary to make the arrangements needed to ensure the people that are located in risk areas evacuate or seek shelter. Approximately 48 or more hours may be needed to carry out the necessary actions to ensure the public is protected from this hazard. The following planning considerations should be addressed, if appropriate, in one or more appendices to a warning annex:

- Coordination with the next level of government, when appropriate, (during international crisis, U. S. military intervention overseas, etc.) to obtain information concerning the appropriate time to disseminate warning.
- Use of a jurisdiction-wide warning system to disseminate timely warning to the public and members of the emergency response organization.

**Emergency
Public
Information**

A nuclear conflict appendix to an EPI annex should address survival tips for people living in jurisdictions vulnerable to nuclear effects who choose to shelter themselves in their homes.

Evacuation

Evacuation is the primary protective action option that should be used to protect people from this hazard. The information gained from the risk assessment should be used to develop the planning instructions that will be relied upon to carry out an evacuation of those people at risk to direct weapons effects. These planning instructions detail the time-phased actions to be taken to evacuate people and relocate, if practical, essential services, special custodial facilities, and government resources from the risk area. All actions must be completed before a nuclear detonation occurs. For this reason, a nuclear conflict appendix to the evacuation annex should address the clearance times needed to conduct a safe and timely evacuation of the population at risk.

Since a jurisdiction cannot guarantee that it will receive warning in time to evacuate fully, provisions should be made for **relocation within the risk area** of the public at risk in situations where the warning comes too late to permit evacuation. The following needs should be addressed:

- *Facilities.* Provisions should be made to:

- Identify the facilities in the risk area that:
 - Offer the best protection available.
 - Can be used to house large numbers of people.
 - Use tabs to reflect key information (protection factor, capacity, cooking, sleeping, water, medical, recreational capabilities, telephone numbers, point of contact for access, etc.) associated with each facility.
- *Special Equipment.* Provisions should be made to:
- Move radiac meters and dosimeters (that can be used to detect and measure gamma radiation) to those facilities selected for use as shelters within the risk area.
 - Ensure members of the facility management team can operate available radiological detection and decontamination equipment.
 - Ensure that mass care facility management team members are assigned to work at any shelter facility to be opened within the risk area, if their facility is not scheduled to be opened.
- *Decontamination.* Ensure members of each facility management team are familiar with procedures for decontaminating people and the shelter.

Mass Care

The following planning considerations should be addressed, if appropriate, in one or more appendices to a mass care annex:

- Ensure facilities designated for use are located outside of the area vulnerable to direct weapons effects.
- Tabs should be used to reflect key information (protection factor, capacity, cooking, sleeping, water, medical, recreational capabilities, telephone numbers, point of contact for access, etc.) associated with

each facility.

- If facilities are located outside of the jurisdiction's boundaries, coordinate with the adjacent jurisdiction(s) to arrange space for evacuees.
- Identify mass care facilities suitable for housing custodial care groups.
- Ensure the facilities designated for use provide protection from gamma radiation to shelter occupants.
- Ensure provisions have been made regarding necessary special equipment:
 - Move radiac meters and dosimeters (that can be used to detect and measure gamma radiation) to those mass care facilities that have been selected for opening.
 - Ensure members of the facility management team can operate available radiological detection and decontamination equipment.
- Ensure members of each mass care facility management team are familiar with procedures for decontaminating people and the facility.

Health and Medical

The following planning considerations should be addressed, if appropriate, in one or more appendices to a health and medical annex:

- Provisions for determining the levels of radiation exposure of exposed people.
- Designation of facilities that:
 - Have the capability to decontaminate and medically treat people exposed to radiation.

- Dispose of contaminated items (clothing, medical supplies, and other waste items).
- Provisions for continued medical surveillance of personnel performing essential operational tasks.

**Resource
Management**

The following planning considerations should be addressed, if appropriate, in one or more appendices to a resource management annex:

- Provisions for purchasing, stockpiling, or otherwise obtaining essential gamma radiation detection devices for use in shelters within the risk area and in mass care facilities.
- Provisions for purchasing, stockpiling, or otherwise obtaining the essential stocks (food, water, medical, etc.) needed to support an extended stay (3-14 days) in shelters within the risk area or in mass care facilities.

Attachment G Terrorism

TO BE DEVELOPED

Attachment H Tornado

The Hazard

Nature of the Hazard

A tornado consists of violent whirling wind accompanied by a funnel-shaped cloud. Usually, tornadoes are associated with severe weather conditions such as thunderstorms and hurricanes. Tornadoes are very destructive. The average width of a tornado is 300 to 500 yards. Their path may extend up to fifty miles, and the funnel cloud moves at speeds between 10 and 50 mph. The wind speed within the funnel cloud has been estimated at between 100 and 500 mph. Roughly two percent of all tornadoes are "violent" tornadoes, with wind speeds of 300 mph or more, an average path width of 425 yards, and an average path length of 26 miles. Tornado season runs from March to August in the United States, with peak activity from April to June; however, tornadoes can occur year-round.

Risk Area

Tornadoes have occurred in every State. Historically, they have been most frequent in Texas, Oklahoma, Florida, Kansas, Nebraska, Iowa, South Dakota, Illinois, Missouri, Mississippi, Louisiana, Colorado, Wisconsin, Arkansas, Georgia, North Dakota, Minnesota, Indiana, and Michigan. More than 50 percent of the land mass in the United States is within the area of significant tornado risk.

Tornado Unique Planning Considerations

This section contains a listing of the functional annexes that typically would require the preparation of a hazard-specific appendix for tornadoes. It also identifies many of the unique planning considerations that should be examined by the planning team and used, as appropriate, when preparing tornado-specific appendices.

Direction and Control

For this hazard it is essential for emergency response personnel to take immediate action, as soon as conditions permit, to gather initial damage assessment information in the area that was impacted by the tornado. This information is needed to determine the severity and extent of injuries and

damages.

High-risk jurisdictions may want to use a network of trained spotters. This spotting network would be relied on to rapidly communicate information that can be helpful to the appropriate authorities responsible for making the decision for when to upgrade from a Tornado Watch to Tornado Warning. The network can also assist in tracking the tornado's path.

This data gathering effort should provide much of the information decision makers will need to implement and prioritize response actions for: search and rescue activities; access control and re-entry to the impacted area; debris clearance; restoration of utilities and lifeline repairs; and the inspection, condemnation, and/or demolition of buildings and other structures.

Provisions should be made, as appropriate, to address the following planning considerations in one or more appendices to a direction and control annex:

<i>Damage Assessment</i>	Conduct of immediate ground and air surveys to determine the extent of damage, casualties, and the status of key facilities.
<i>Search and Rescue</i>	Use of damage assessment information to identify the facilities and areas where search and rescue operations may need to be conducted and to establish a priority for conduct of these operations. Planning should focus on the actions that need to be carried out in order to remove trapped and injured persons from homes, buildings collapses, and other structural collapses, administer first aid, and assist in transporting the seriously injured to medical facilities.
<i>Access Control and Re-entry</i>	Control of access to the area severely affected by the tornado until the area is safe. Only those directly involved in emergency response operations should be allowed to enter.
<i>Debris Clearance</i>	<p>Actions taken to identify, remove, and dispose of rubble, wreckage, and other material which block or hamper the performance of emergency response functions. Activities may include:</p> <ul style="list-style-type: none"> ➤ Demolition and other actions to clear obstructed roads.

- Repairing or temporarily reinforcing roads and bridges.
- Construction of emergency detours and access roads.

*Inspection,
Condemnation
, and
Demolition*

Actions taken to inspect buildings and other structures to determine whether it is safe to inhabit or use them after a tornado has occurred. Activities may include:

Inspection of buildings and structures which are critical to emergency operations.

- Inspection of buildings and structures that may threaten public safety.
- Inspection of less critically damaged structures. Designate those that may be occupied and identify/mark those that are to be condemned.
- Arrangements for the demolition of condemned structures.

Warning

Warning of the public is critical for this hazard. The NWS will place areas under a Tornado Watch when conditions are particularly favorable for tornadoes and severe storms. NWS will issue a Tornado Warning when a tornado has been visually spotted or picked up on radar. Television, radio, and NOAA tone alert radio are sources of information for the public.

The following planning considerations should be addressed, if appropriate, in one or more appendices to a warning annex:

- Provision for the jurisdiction's central warning point to obtain timely Tornado Watch and Warning information (direct link to area weather stations, continuously monitor NWS and other sources, etc.).
- Provisions for notifying institutions and facilities (e.g., schools, hospitals, nursing homes, jails, prisons, shopping malls, major factories, and sporting events) that a Watch or Warning has been issued.

- Provisions for activating the jurisdiction-wide (if available) warning system to disseminate timely warning to the public and emergency response organization members that a tornado has touched down in the jurisdiction.

**Emergency
Public
Information**

The flow of accurate and timely emergency information is critical to the protection of lives and property. This section deals with the provisions made to prepare and disseminate notifications, updates, and instructional messages to follow up on the initial warning.

The following planning considerations should be addressed, if appropriate, in one or more appendices to an EPI annex:

- Survival tips for people on what to do during and immediately after a tornado. During a Tornado Watch information should be disseminated to the public on the appropriate protective actions to take if a Tornado Warning is issued (e.g., encourage people without underground shelter to seek out an interior room or hallway on the lowest floor and there to seek cover under something sturdy, like a table, etc.).
- Warnings and advice on the continuing threat of storms, unsafe areas, buildings and structures, and other hazards.

Evacuation

Evacuation is not a practical option for this hazard since the point of touchdown and the track of a tornado are unpredictable. The typical protective action option for a tornado is shelter-in-place.

Mass Care

A tornado-specific appendix is probably unnecessary, since the mass care functional annex should adequately address the immediate actions to be taken, as soon as conditions permit, in the area that was severely impacted by a tornado. Damaged houses may not be habitable; residents should be dissuaded from entering unsafe buildings and persuaded instead to seek temporary shelter.

Chapter 7

Linking Federal and State Emergency Response Operations

Introduction

The Robert T. Stafford Disaster Relief and Emergency Assistance Act, Public Law 93-288, as amended, authorizes the Federal Government to respond to disasters and emergencies in order to provide State and local governments assistance to save lives and protect public health, safety, and property. The FRP was developed to help expedite Federal support to State and local governments dealing with the consequences of large-scale disasters (see Figure 7-1). Generally, the FRP is implemented when the State's resources are not sufficient to cope with a disaster and the Governor has requested Federal assistance.

This chapter summarizes the response planning considerations that shape the content of the FRP, Regional Response Plans (RRP), and State EOPs. It also outlines the linkages between Federal and State emergency response operations for planning purposes.

Relationship - Federal (National/ Regional) Response Plans and the State EOP

Federal Response Plans and State EOPs describe each respective level of government's approach to emergency response operations. Since both levels of government provide support there are some similar and overlapping functions in the plans.

Federal Response Plan

The FRP details what the Federal Government will do to provide emergency assistance to a State and its affected local governments impacted by a large-scale disaster. It also describes an organizational structure for providing this assistance.

Concept of Operations

The FRP may be implemented after a large-scale disaster has occurred or upon warning that such a disaster is likely to occur. In either case the fundamental assumption is that the situation has exceeded or will exceed the State and local

governments' capability to respond and recover. The plan guides the activities of Federal agencies (and supporting organizations like the ARC) that are tasked to perform response and recovery actions.

Insert Figure 7-1 here

**Functional
Organization**

The FRP uses twelve ESFs to group and describe the kinds of resources and types of Federal assistance that can be provided to augment State and local response efforts. The ESFs include: (1) Transportation, (2) Communications, (3) Public Works and Engineering, (4) Firefighting, (5) Information and Planning, (6) Mass Care, (7) Resource Support, (8) Health and Medical Services, (9) Urban Search and Rescue, (10) Hazardous Materials, (11) Food, and (12) Energy. A primary agency has been designated for each ESF. During response and recovery operations, the primary agency forms and activates a team that is responsible for working with the appropriate State and local officials to identify unmet resource needs. The team also coordinates the flow of resources and assistance the Federal Government provides to meet these needs.

The FRP serves as the foundation for the development of headquarters and regional response plans that will be relied on to implement Federal response activities.

**Regional
Response
Plans**

RRPs supplement the FRP and detail the specific regional level response and recovery actions and activities that may be taken by Federal departments and agencies to support the Federal response effort. They also provide the necessary linkage between the State EOP and the FRP. Each RRP:

- Specifies the responsibilities that are assigned to each of the tasked Federal departments and agencies for mobilizing and deploying resources to assist State(s) in response/recovery efforts.
- Describes the relationship between the responding Federal agencies/departments and their State counterparts.
- Provides information to the States on the various response mechanisms, capabilities, and resources available to them through the Federal Government.
- Includes organizational tasking and implementing instructions for accomplishing the actions agreed upon in the Region/State MOUs. The MOU is a written agreement between the Federal and State governments. The FEMA Regional Director and the appropriate State

official are the signatories. The MOU describes the working relationship and provisions that have been made to facilitate joint Federal/State operations during large-scale disasters. The following list identifies some of the typical MOU responsibilities that may be addressed in a RRP:

- Notification procedures and protocols for communicating with State officials (points of contact--State Governor, State Emergency Management Agency Director, EOC managers, etc.); means of communication (telephone, radio, teletype, e-mail, fax, etc.); frequency of contact; and message content (initial discussions on scope of the disaster, State's initial assessment of the situation, identification of liaison officers and their estimated arrival time at the State EOC, likely staging areas for Federal response teams, etc.).
- Provision for Federal Field Assessment Team (FAsT) personnel to assist in conduct of a "rapid situation assessment" immediately after a disaster has occurred or immediately prior to such an event.
- The coordination responsibilities of Regional liaison officer(s) and the provisions established for deployment to the State EOC.
- Provisions for deployment of emergency response team members to the State EOC, staging locations, or directly into the area impacted by the disaster.
- Provisions for obtaining work space in the State EOC and other locations for the initial response cadre, arrangements to obtain work space for the Disaster Field Office (DFO) and other follow-on response teams, and a variety of other activities that require extensive coordination.

**State
Emergency**

The State emergency response mission is much broader than the Federal Government's. In addition to providing resources to satisfy unmet local needs,

**Operations
Plan**

the State EOP addresses several operational response functions. These functions focus on the direction and control, warning, emergency public information, and evacuation actions that must be dealt with during the initial phase of response operations, fall outside of the Federal response mission, and are not appropriate for inclusion in Federal response plans. The functional planning approach suggested in Chapter 5 allows States to address those operational responsibilities. Table 7-1 shows how the functions described in Chapter 5, if adopted, may link with Federal ESFs in those emergencies that require implementation of the FRP. (Table 7-1 is at the end of this chapter, due to its length.)

However, since States do have this additional responsibility to channel Federal assistance provided under the FRP, some States choose to "mirror" the FRP functions. There is no need to mirror the Federal ESFs exactly: States have successfully used a hybrid approach, either by giving State counterparts of Federal ESFs those "extra" responsibilities appropriate to the State level, or by creating functions in addition to those used by the Federal Government in order to address State responsibilities and concerns.

The important thing is for the State's choice of functions to fit the State's own concept of operations, policies, governmental structure, and resource base. That is because the State EOP details what the **State** government will do to respond to all large-scale disaster and emergency situations that could harm people and property within the State, whether or not links to the FRP/RRP framework become necessary. The State EOP:

- Identifies the State departments and agencies that have been designated to perform response and recovery activities and specifies the tasks to be accomplished.
- Outlines the assistance that may be provided to local jurisdictions during disaster situations that generate emergency response and recovery needs beyond the jurisdiction's capabilities to satisfy.
- Specifies the direction and control and communications procedures and systems that will be relied upon to alert, notify, recall, and dispatch emergency response personnel; warn local jurisdictions; protect citizens

and property; and request aid/support from other States and/or the Federal Government (including the role of the Governor's Authorized Representative, or GAR).

- Describes the provisions that have been made to obtain initial situation assessment information from the local jurisdiction(s) that have been directly impacted by the disaster. Typically, this information provides an early assessment of:
 - The approximate number of disaster victims that have been:
 - Injured, killed, or are missing.
 - Evacuated from the area impacted by the disaster.
 - Housed in mass care facilities.
 - The damage done to lifeline systems such as hospitals, power plants, water and sanitation systems, etc.
 - The damage done to transportation networks such as airports, major roads and bridges, rail lines, ports, etc.
 - The types of assistance (food, water, medical, US&R, etc.) the jurisdiction will require to satisfy the immediate needs of disaster victims.
- Includes organizational tasking and instructions for accomplishing the actions agreed upon in the Region/State MOU. The MOU describes the working relationship and provisions that have been made to facilitate joint Federal/State operations during large-scale disasters. The following list identifies some of the typical responsibilities contained in the MOUs that may be addressed in the State EOP:
 - Provisions for notifying the FEMA Regional Office about the occurrence of a disaster or evolving emergency situation that may warrant activation of the RRP.

- Communication protocols to include means of communication, frequency of contact, and message content (e.g. warning messages, situation reports, requests for assistance, etc.).
- Provisions for requesting Federal response teams to assist the State.
 - Requesting that a FAsT be deployed to assist the State in assessing the disaster situation.
 - Designating individuals to participate as State Emergency Management Agency representatives on the FAsT.
 - Preparing a joint (FEMA/State) Preliminary Damage Assessment (PDA).
- Provisions for providing work space and communication support to the Regional liaison officers and other Federal teams deployed to the State EOC, staging areas, or the area directly impacted by the disaster.
- Provisions for designating a SCO to work directly with the FCO.
- Provisions for assisting the FCO in identifying candidate locations for establishing the DFO.
- Details the coordinating instructions and provisions for implementing interstate compacts, as applicable.
- Explains how planned operations will be logistically supported.

Glossary of Terms

Words, phrases, abbreviations, and acronyms relevant to emergency management should be defined. Many terms in emergency management have special meanings, so it is important to establish precise definitions. Such definitions allow the users of the EOP to share an understanding of the EOP.

<i>American Red Cross</i>	The American Red Cross is a humanitarian organization, led by volunteers, that provides relief to victims of disasters and helps people prevent, prepare for, and respond to emergencies. It does this through services that are consistent with its Congressional Charter and the Principles of the International Red Cross Movement.
<i>Attack</i>	A hostile action taken against the United States by foreign forces or terrorists, resulting in the destruction of or damage to military targets, injury or death to the civilian population, or damage or destruction to public and private property.
<i>Checklist</i>	Written (or computerized) enumeration of actions to be taken by an individual or organization, meant to aid memory rather than provide detailed instruction.
<i>Chief Executive Official</i>	The official of the community who is charged with authority to implement and administer laws, ordinances, and regulations for the community. He or she may be a mayor, city manager, etc.
<i>Community</i>	A political entity which has the authority to adopt and enforce laws and ordinances for the area under its jurisdiction. In most cases, the community is an incorporated town, city, township, village, or unincorporated area of a county. However, each State defines its own political subdivisions and forms of government.
<i>Contamination</i>	The undesirable deposition of a chemical, biological, or radiological material on the surface of structures, areas, objects, or people.
<i>Dam</i>	A barrier built across a watercourse for the purpose of impounding, controlling, or diverting the flow of water.

<i>Damage Assessment</i>	The process used to appraise or determine the number of injuries and deaths, damage to public and private property, and the status of key facilities and services such as hospitals and other health care facilities, fire and police stations, communications networks, water and sanitation systems, utilities, and transportation networks resulting from a man-made or natural disaster.
<i>Decontamination</i>	The reduction or removal of a chemical, biological, or radiological material from the surface of a structure, area, object, or person.
<i>Disaster</i>	An occurrence of a natural catastrophe, technological accident, or human-caused event that has resulted in severe property damage, deaths, and/or multiple injuries. As used in this Guide, a “large-scale disaster” is one that exceeds the response capability of the local jurisdiction and requires State, and potentially Federal, involvement. As used in the Stafford Act, a “major disaster” is “any natural catastrophe [...] or, regardless of cause, any fire, flood, or explosion, in any part of the United States, which in the determination of the President causes damage of sufficient severity and magnitude to warrant major disaster assistance under [the] Act to supplement the efforts and available resources or States, local governments, and disaster relief organizations in alleviating the damage, loss, hardship, or suffering caused thereby.”
<i>Disaster Field Office</i>	The office established in or near the designated area of a Presidentially declared major disaster to support Federal and State response and recovery operations. The DFO houses the FCO and ERT, and where possible, the SCO and support staff.
<i>Disaster Recovery Center</i>	Places established in the area of a Presidentially declared major disaster, as soon as practicable, to provide victims the opportunity to apply in person for assistance and/or obtain information relating to that assistance. DRCs are staffed by local, State, and Federal agency representatives, as well as staff from volunteer organizations (e.g., the ARC).
<i>Dose (Radiation)</i>	A general term indicating the quantity (total or accumulated) of ionizing radiation or energy absorbed by a person or animal.
<i>Dose Rate</i>	The amount of ionizing radiation which an individual would absorb per unit of time.
<i>Dosimeter</i>	An instrument for measuring and registering total accumulated exposure to

	ionizing radiation.
<i>Earthquake</i>	The sudden motion or trembling of the ground produced by abrupt displacement of rock masses, usually within the upper 10 to 20 miles of the earth's surface.
<i>Electromagnetic Pulse</i>	A sharp pulse of energy radiated instantaneously by a nuclear detonation which may affect or damage electronic components and equipment.
<i>Emergency</i>	Any occasion or instance--such as a hurricane, tornado, storm, flood, tidal wave, tsunami, earthquake, volcanic eruption, landslide, mudslide, snowstorm, fire, explosion, nuclear accident, or any other natural or man-made catastrophe--that warrants action to save lives and to protect property, public health, and safety.
<i>Emergency Alert System</i>	A digital technology (voice/text) communications system consisting of broadcast stations and interconnecting facilities authorized by the Federal Communication Commission. The system provides the President and other national, State, and local officials the means to broadcast emergency information to the public before, during, and after disasters.
<i>Emergency Environmental Health Services</i>	Services required to correct or improve damaging environmental health effects on humans, including inspection for food contamination, inspection for water contamination, and vector control; providing for sewage and solid waste inspection and disposal; clean-up and disposal of hazardous materials; and sanitation inspection for emergency shelter facilities.
<i>Emergency Health Services</i>	Services required to prevent and treat the damaging health effects of an emergency, including communicable disease control, immunization, laboratory services, dental and nutritional services; providing first aid for treatment of ambulatory patients and those with minor injuries; providing public health information on emergency treatment, prevention, and control; and providing administrative support including maintenance of vital records and providing for a conduit of emergency health funds from State and Federal governments.
<i>Emergency Medical</i>	Services, including personnel, facilities, and equipment required to ensure proper medical care for the sick and injured from the time of injury to the time

<i>Services</i>	of final disposition, including medical disposition within a hospital, temporary medical facility, or special care facility, release from site, or declared dead. Further, emergency medical services specifically include those services immediately required to ensure proper medical care and specialized treatment for patients in a hospital and coordination of related hospital services.
<i>Emergency Mortuary Services</i>	Services required to assure adequate death investigation, identification, and disposition of bodies; removal, temporary storage, and transportation of bodies to temporary morgue facilities; notification of next of kin; and coordination of mortuary services and burial of unclaimed bodies.
<i>Emergency Operating Center</i>	The protected site from which State and local civil government officials coordinate, monitor, and direct emergency response activities during an emergency.
<i>Emergency Operations Plan</i>	A document that: describes how people and property will be protected in disaster and disaster threat situations; details who is responsible for carrying out specific actions; identifies the personnel, equipment, facilities, supplies, and other resources available for use in the disaster; and outlines how all actions will be coordinated.
<i>Emergency Planning Zones</i>	Areas around a facility for which planning is needed to ensure prompt and effective actions are taken to protect the health and safety of the public if an accident occurs. The REP Program and CSEPP use the EPZ concept. <ul style="list-style-type: none">➤ In the REP Program, the two EPZs are:<ul style="list-style-type: none">• <i>Plume Exposure Pathway (10-mile EPZ)</i>. A circular geographic zone (with a 10-mile radius centered at the nuclear power plant) for which plans are developed to protect the public against exposure to radiation emanating from a radioactive plume caused as a result of an accident at the nuclear power plant.• <i>Ingestion Pathway (50-mile EPZ)</i>. A circular geographic

zone (with a 50-mile radius centered at the nuclear power plant) for which plans are developed to protect the public from the ingestion of water or foods contaminated as the result of a nuclear power plant accident.

- In CSEPP, the EPZ is divided into three concentric circular zones:
- *Immediate Response Zone (IRZ)*. A circular zone ranging from 10 to 15 km (6 to 9 miles) from the potential chemical event source, depending on the stockpile location on-post. Emergency response plans developed for the IRZ must provide for the most rapid and effective protective actions possible, since the IRZ will have the highest concentration of agent and the least amount of warning time.
 - *Protective Action Zone (PAZ)*. An area that extends beyond the IRZ to approximately 16 to 50 km (10 to 30 miles) from the stockpile location. The PAZ is that area where public protective actions may still be necessary in case of an accidental release of chemical agent, but where the available warning and response time is such that most people could evacuate. However, other responses (e.g., sheltering) may be appropriate for institutions and special populations that could not evacuate within the available time.
 - *Precautionary Zone (PZ)*. The outermost portion of the EPZ for CSEPP, extending from the PAZ outer boundary to a distance where the risk of adverse impacts to humans is negligible. Because of the increased warning and response time available for implementation of response actions in the PZ, detailed local emergency planning is not required, although consequence management planning may be appropriate.

*Emergency
Response
Team*

An interagency team, consisting of the lead representative from each Federal department or agency assigned primary responsibility for an ESF and key members of the FCO's staff, formed to assist the FCO in carrying out his/her

coordination responsibilities. The ERT may be expanded by the FCO to include designated representatives of other Federal departments and agencies as needed. The ERT usually consists of regional-level staff.

*Emergency
Response
Team Advance
Element*

For Federal disaster response and recovery activities under the Stafford Act, the portion of the ERT that is first deployed to the field to respond to a disaster incident. The ERT-A is the nucleus of the full ERT.

*Emergency
Response
Team National*

An ERT that has been established and rostered for deployment to catastrophic disasters where the resources of the FEMA Region have been, or are expected to be, overwhelmed. Three ERT-Ns have been established.

*Emergency
Support
Function*

In the FRP, a functional area of response activity established to facilitate the delivery of Federal assistance required during the immediate response phase of a disaster to save lives, protect property and public health, and to maintain public safety. ESFs represent those types of Federal assistance which the State will most likely need because of the impact of a catastrophic or significant disaster on its own resources and response capabilities, or because of the specialized or unique nature of the assistance required. ESF missions are designed to supplement State and local response efforts.

*Emergency
Support Team*

An interagency group operating from FEMA headquarters. The EST oversees the national-level response support effort under the FRP and coordinates activities with the ESF primary and support agencies in supporting Federal requirements in the field.

Evacuation

Organized, phased, and supervised dispersal of people from dangerous or potentially dangerous areas.

- *Spontaneous Evacuation.* Residents or citizens in the threatened areas observe an emergency event or receive unofficial word of an actual or perceived threat and without receiving instructions to do so, elect to evacuate the area. Their movement, means, and direction of travel is unorganized and unsupervised.

- *Voluntary Evacuation.* This is a warning to persons within a designated area that a threat to life and property exists or is likely to exist in the immediate future. Individuals issued this type of warning or order are NOT required to evacuate, however it would be to their advantage to do so.
- *Mandatory or Directed Evacuation.* This is a warning to persons within the designated area that an imminent threat to life and property exists and individuals MUST evacuate in accordance with the instructions of local officials.

<i>Evacuees</i>	All persons removed or moving from areas threatened or struck by a disaster.
<i>Exposure (Radiological)</i>	A quantitative measure of gamma or x-ray radiation at a certain place based on its ability to produce ionization in air.
<i>Exposure Rate (Radiological)</i>	The amount of ionizing radiation to which an individual would be exposed or which he or she would receive per unit of time.
<i>Federal Coordinating Officer</i>	The person appointed by the President to coordinate Federal assistance in a Presidentially declared emergency or major disaster.
<i>Field Assessment Team</i>	A small team of pre-identified technical experts that conduct an assessment of response needs (not a PDA) immediately following a disaster. The experts are drawn from FEMA, other agencies and organizations--such as the U.S. Public Health Service, U.S. Army Corps of Engineers, U.S. Environmental Protection Agency, and the American Red Cross--and the affected State(s). All FAsT operations are joint Federal/State efforts.
<i>Flash Flood</i>	Follows a situation in which rainfall is so intense and severe and runoff so rapid that it precludes recording and relating it to stream stages and other information in time to forecast a flood condition.
<i>Flood</i>	A general and temporary condition of partial or complete inundation of normally dry land areas from overflow of inland or tidal waters, unusual or rapid accumulation or runoff of surface waters, or mudslides/mudflows caused by accumulation of water.

<i>Governor's Authorized Representative</i>	The person empowered by the Governor to execute, on behalf of the State, all necessary documents for disaster assistance.
<i>Hazard Mitigation</i>	Any action taken to reduce or eliminate the long-term risk to human life and property from hazards. The term is sometimes used in a stricter sense to mean cost-effective measures to reduce the potential for damage to a facility or facilities from a disaster event.
<i>Hazardous Material</i>	Any substance or material that when involved in an accident and released in sufficient quantities, poses a risk to people's health, safety, and/or property. These substances and materials include explosives, radioactive materials, flammable liquids or solids, combustible liquids or solids, poisons, oxidizers, toxins, and corrosive materials.
<i>High-Hazard Areas</i>	Geographic locations that for planning purposes have been determined through historical experience and vulnerability analysis to be likely to experience the effects of a specific hazard (e.g., hurricane, earthquake, hazardous materials accident, etc.) resulting in vast property damage and loss of life.
<i>Hurricane</i>	A tropical cyclone, formed in the atmosphere over warm ocean areas, in which wind speeds reach 74 miles per hour or more and blow in a large spiral around a relatively calm center or "eye". Circulation is counter-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.
<i>Incident Command System</i>	A standardized organizational structure used to command, control, and coordinate the use of resources and personnel that have responded to the scene of an emergency. The concepts and principles for ICS include common terminology, modular organization, integrated communication, unified command structure, consolidated action plan, manageable span of control, designated incident facilities, and comprehensive resource management.
<i>Joint Information Center</i>	A central point of contact for all news media near the scene of a large-scale disaster. News media representatives are kept informed of activities and events by public information officials who represent all participating Federal, State, and

	local agencies that are collocated at the JIC.
<i>Joint Information System</i>	Under the FRP, connection of public affairs personnel, decision-makers, and news centers by electronic mail, fax, and telephone when a single Federal-State-local JIC is not a viable option.
<i>Mass Care</i>	The actions that are taken to protect evacuees and other disaster victims from the effects of the disaster. Activities include providing temporary shelter, food, medical care, clothing, and other essential life support needs to those people that have been displaced from their homes because of a disaster or threatened disaster.
<i>Nuclear Detonation</i>	An explosion resulting from fission and/or fusion reactions in nuclear material, such as that from a nuclear weapon.
<i>Public Information Officer</i>	A Federal, State, or local government official responsible for preparing and coordinating the dissemination of emergency public information.
<i>Preliminary Damage Assessment</i>	A mechanism used to determine the impact and magnitude of damage and the resulting unmet needs of individuals, businesses, the public sector, and the community as a whole. Information collected is used by the State as a basis for the Governor's request for a Presidential declaration, and by FEMA to document the recommendation made to the President in response to the Governor's request. PDAs are made by at least one State and one Federal representative. A local government representative familiar with the extent and location of damage in the community often participates; other State and Federal agencies and voluntary relief organizations also may be asked to participate, as needed.
<i>Radiation Sickness</i>	The symptoms characterizing the sickness known as radiation injury, resulting from excessive exposure of the whole body to ionizing radiation.
<i>Radiological Monitoring</i>	The process of locating and measuring radiation by means of survey instruments that can detect and measure (as exposure rates) ionizing radiation.
<i>Recovery</i>	The long-term activities beyond the initial crisis period and emergency response

	<p>phase of disaster operations that focus on returning all systems in the community to a normal status or to reconstitute these systems to a new condition that is less vulnerable.</p>
<i>Regional Operating Center</i>	<p>The temporary operations facility for the coordination of Federal response and recovery activities, located at the FEMA Regional Office (or Federal Regional Center) and led by the FEMA Regional Director or Deputy Director until the DFO becomes operational. Once the ERT-A is deployed, the ROC performs a support role for Federal staff at the disaster scene.</p>
<i>Resource Management</i>	<p>Those actions taken by a government to: identify sources and obtain resources needed to support disaster response activities; coordinate the supply, allocation, distribution, and delivery of resources so that they arrive where and when most needed; and maintain accountability for the resources used.</p>
<i>Secondary Hazard</i>	<p>A threat whose potential would be realized as the result of a triggering event that of itself would constitute an emergency. For example, dam failure might be a secondary hazard associated with earthquakes.</p>
<i>Standard Operating Procedure</i>	<p>A set of instructions constituting a directive, covering those features of operations which lend themselves to a definite, step-by-step process of accomplishment. SOPs supplement EOPs by detailing and specifying how tasks assigned in the EOP are to be carried out.</p>
<i>State Coordinating Officer</i>	<p>The person appointed by the Governor to coordinate State, Commonwealth, or Territorial response and recovery activities with FRP-related activities of the Federal Government, in cooperation with the FCO.</p>
<i>State Liaison</i>	<p>A FEMA official assigned to a particular State, who handles initial coordination with the State in the early stages of an emergency.</p>
<i>Storm Surge</i>	<p>A dome of sea water created by the strong winds and low barometric pressure in a hurricane that causes severe coastal flooding as the hurricane strikes land.</p>
<i>Terrorism</i>	<p>The use of--or threatened use of--criminal violence against civilians or civilian infrastructure to achieve political ends through fear and intimidation, rather than direct confrontation. Emergency management is typically concerned with the</p>

consequences of terrorist acts directed against large numbers of people (as opposed to political assassination or hijacking, which may also be considered "terrorism").

<i>Tornado</i>	A local atmospheric storm, generally of short duration, formed by winds rotating at very high speeds, usually in a counter-clockwise direction. The vortex, up to several hundred yards wide, is visible to the observer as a whirlpool-like column of winds rotating about a hollow cavity or funnel. Winds may reach 300 miles per hour or higher.
<i>Tsunami</i>	Sea waves produced by an undersea earthquake. Such sea waves can reach a height of 80 feet and can devastate coastal cities and low-lying coastal areas.
<i>Warning</i>	The alerting of emergency response personnel and the public to the threat of extraordinary danger and the related effects that specific hazards may cause. A warning issued by the NWS (e.g., severe storm warning, tornado warning, tropical storm warning) for a defined area indicates that the particular type of severe weather is imminent in that area.
<i>Watch</i>	Indication by the NWS that, in a defined area, conditions are favorable for the specified type of severe weather (e.g., flash flood watch, severe thunderstorm watch, tornado watch, tropical storm watch).

List of Acronyms

The following are acronyms used in this Guide.

<i>ACP</i>	access control point
<i>ALERT</i>	Automated Local Evaluation in Real Time
<i>ANS</i>	alert and notification system
<i>ARC</i>	American Red Cross
<i>ANAD</i>	Anniston Army Depot
<i>APG</i>	Aberdeen Proving Ground
<i>BGAD</i>	Blue Grass Army Depot
<i>CB</i>	citizens band
<i>CDC</i>	Centers for Disease Control and Prevention
<i>“CEO”</i>	Chief Executive Official
<i>CERCLA</i>	Comprehensive Environmental Response, Compensation, and Liability Act
<i>CFR</i>	Code of Federal Regulations
<i>CHEMTREC</i>	Chemical Manufacturers’ Association Chemical Transportation Emergency Center
<i>CPG</i>	Civil Preparedness Guide
<i>CSEPP</i>	Chemical Stockpile Emergency Preparedness Program
<i>DFO</i>	Disaster Field Office
<i>DMAT</i>	Disaster Medical Assistance Team
<i>DOD</i>	U.S. Department of Defense
<i>DOE</i>	U.S. Department of Energy
<i>DOT</i>	U.S. Department of Transportation
<i>DRC</i>	Disaster Recovery Center
<i>DWI</i>	Disaster Welfare Information
<i>EAS</i>	Emergency Alert System
<i>ECL</i>	emergency classification level
<i>EMI</i>	Emergency Management Institute
<i>EMP</i>	electromagnetic pulse
<i>EMS</i>	emergency medical services
<i>EOC</i>	emergency operating center
<i>EOP</i>	emergency operations plan
<i>EPA</i>	U.S. Environmental Protection Agency
<i>EPCRA</i>	Emergency Planning and Community Right-to-Know Act
<i>EPG</i>	Emergency Planning Guide

<i>EPI</i>	emergency public information
<i>EPZ</i>	Emergency Planning Zone
<i>ERT</i>	Emergency Response Team
<i>ERT-A</i>	Emergency Response Team Advance Element
<i>ERT-N</i>	Emergency Response Team National
<i>ESF</i>	Emergency Support Function
<i>EST</i>	Emergency Support Team
<i>FAsT</i>	Field Assessment Team
<i>FCO</i>	Federal Coordinating Officer
<i>FEMA</i>	Federal Emergency Management Agency
<i>FHBM</i>	Flood Hazard Boundary Map
<i>FIA</i>	Federal Insurance Administration
<i>FIRM</i>	Flood Insurance Rate Map
<i>FIS</i>	Flood Insurance Study
<i>FPEIS</i>	Final Programmatic Environmental Impact Statement
<i>FRERP</i>	Federal Radiological Emergency Response Plan
<i>FRP</i>	Federal Response Plan
<i>GAR</i>	Governor's Authorized Representative
<i>GIS</i>	geographic information system
<i>HAZMAT</i>	hazardous material
<i>HRCQ</i>	highway route controlled quantity
<i>IC</i>	Incident Commander
<i>ICP</i>	Incident Command Post
<i>ICS</i>	Incident Command System
<i>IRZ</i>	Immediate Response Zone
<i>JIC</i>	Joint Information Center
<i>JIS</i>	Joint Information System
<i>JNACC</i>	Joint Nuclear Accident Coordinating Center
<i>LEPC</i>	Local Emergency Planning Committee
<i>MOU</i>	memorandum of understanding
<i>mph</i>	miles per hour
<i>MSDS</i>	material safety data sheet
<i>NAAP</i>	Newport Army Ammunition Plant
<i>NCP</i>	National Oil and Hazardous Substances Pollution Contingency Plan
<i>NDA</i>	National Defense Area
<i>NDMS</i>	National Disaster Medical System
<i>NFA</i>	National Fire Academy

<i>NFIP</i>	National Flood Insurance Program
<i>NOAA</i>	National Oceanic and Atmospheric Administration
<i>NRC</i>	Nuclear Regulatory Commission; National Response Center
<i>NRT</i>	National Response Team
<i>NUREG</i>	Nuclear Regulation
<i>NWS</i>	National Weather Service
<i>OPA</i>	Oil Pollution Act
<i>OSC</i>	On-Scene Coordinator
<i>OSHA</i>	U.S. Occupational Safety and Health Administration
<i>PA</i>	public address
<i>PAZ</i>	Protective Action Zone
<i>PBA</i>	Pine Bluff Arsenal
<i>PDA</i>	Preliminary Damage Assessment
<i>PIO</i>	Public Information Officer
<i>PL</i>	Public Law
<i>PPA</i>	Performance Partnership Agreement
<i>PUDA</i>	Pueblo Depot Activity
<i>PZ</i>	Precautionary Zone
<i>RACES</i>	Radio Amateur Civil Emergency Service
<i>RAP</i>	Radiological Assistance Program
<i>REACT</i>	Radio Emergency Associated Communications Teams
<i>REP</i>	Radiological Emergency Preparedness Program
<i>ROC</i>	Regional Operating Center
<i>ROD</i>	Record of Decision
<i>RRP</i>	Regional Response Plan
<i>SAME</i>	Specific Area Message Encoder
<i>SARA</i>	Superfund Amendments and Reauthorization Act
<i>SCO</i>	State Coordinating Officer
<i>SEMA</i>	State Emergency Management Agency
<i>SERC</i>	State Emergency Response Commission
<i>SLG</i>	State and Local Guide
<i>SOP</i>	standard operating procedure
<i>SPCA</i>	Society for the Prevention of Cruelty to Animals
<i>TEAD</i>	Tooele Army Depot
<i>UMDA</i>	Umatilla Depot Activity
<i>USDA</i>	U.S. Department of Agriculture
<i>USGS</i>	U.S. Geological Survey

US&R urban search and rescue

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