4.1 OVERVIEW

This chapter first outlines how DHS has planned for and responds to incidences of natural significance that would affect a shelter. These plans, policies, and procedures may be mirrored or modified by shelter owners and/or communities. Users of this document should check with local emergency management to determine their capabilities and plans for responding to an incident. The data presented for the Federal Government's approach to emergency management can be used to develop shelter operations plans and shelter maintenance plans.

4.2 NATIONAL EMERGENCY RESPONSE FRAMEWORK

On December 17, 2003, Homeland Security Presidential Directive (HSPD) 8: National Preparedness was issued. HSPD-8 defines preparedness as "*the existence of plans, procedures, policies, training, and equipment necessary at the Federal, State, and local level to maximize the ability to prevent, respond to, and recover from major events. The term 'readiness' is used interchangeably with preparedness.*" HSPD-8 refers to preparedness for major events as "*all-hazards preparedness.*" It defines major events as "*domestic terrorist attacks, major disasters, and other emergencies.*"

The Department of Homeland Security developed the National Response Plan (NRP) and the Catastrophic Supplement to the NRP and is now encouraging state and local government, private industry, and non-government organizations to achieve a multi-hazards capability as defined in the National Preparedness Goal.

The Homeland Security Digital Library (HSDL, https://www.hsdl.org) should be consulted for the following publications. The HSDL is the nation's premier collection of homeland security policy and strategy related documents.

The National Incident Management System

The National Incident Management System (NIMS) integrates existing best practices into a consistent, nationwide approach to domestic incident management that is applicable at all jurisdictional levels and across functional disciplines in an all-hazards context. https://www.hsdl.org/homesec/docs/dhs/nps14-030604-02.pdf

National Response Plan (Final) Base Plan and Appendices

The President directed the development of a new National Response Plan (NRP) to align Federal coordination structures, capabilities, and resources into a unified, all-discipline, and all-hazards approach to domestic incident management. https://www.hsdl.org/homesec/docs/dhs/nps08-010605-07.pdf
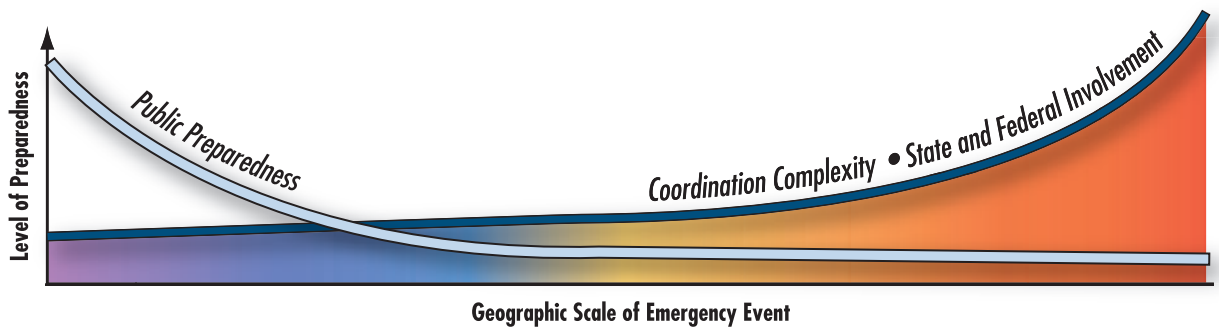
National Preparedness Goal [Final Draft]

The President directed the development of a National Preparedness Goal that reorients how the Federal government proposes to strengthen the preparedness of the United States to prevent, protect against, respond to, and recover from terrorist attacks, major disasters, and other emergencies. https://www.hsdl.org/homesec/docs/dhs/nps03-010306-02.pdf

National Response Plan

In Homeland Security Presidential Directive (HSPD)-5, the President directed the development of a new National Response Plan (NRP) to align Federal coordination of structures, capabilities, and resources into a unified, all discipline, and all-hazards approach to domestic incident management. This approach is unique and far-reaching in that it, for the first time, eliminates critical seams and ties together a complete spectrum of incident management activities to include the prevention of, preparedness for, response to, and recovery from terrorism, major natural disasters, and other major emergencies. The end result is vastly improved coordination among Federal, state, local, and tribal organizations to help save lives and protect communities by increasing the speed, effectiveness, and efficiency of incident management.

DHS has identified two emergency levels: routine and cata-strophic, as shown in Figure 4-1. The types of emergencies that occur on a daily basis, such as car accidents, road spills, or house fires, are routine events. Catastrophic events, such as tornadoes, terrorist attacks, or floods, tend to cover a larger area, impact a greater number of citizens, cost more to recover from, and occur less frequently. Emergencies are complicated as the extent increases due to the additional layers of coordina-tion and communication that need to occur as the event crosses jurisdictional boundaries and overburdens the resources at the origin of the event.

	Routine		Catastrophic	
Classification	Local	Regional	State	National
Examples	• Minor Traffic Incidents • Minor Load Spills • Vehicle Fires • Minor Train/Bus Accidents • Accidents with Injuries but No Fatalities	• Train Derailment • Major Bus/Rail Transit Accidents • Major Truck Accidents • Multi-vehicle Crashes • HazMat Spills • Accidents with Injuries and Fatalities	• Train Crashes • Airplane Crashes • HazMat Incidents • Multi-vehicle Accidents • Tunnel Fires • Multiple Injuries and Fatalities • Port/Airport Incidents • Large Building Fire or Explosion • Industrial Incidents • Major Tunnel/Bridge Closure	• Terrorist Attack/WMD • Floods, Blizzards, Tornadoes • Transportation Infrastructure Collapse • Extended Power/Water Outages • Riots • Mass Casualties
Expected Event Duration	0 – 2 Hours	2 – 24 Hours	Days	Weeks

Figure 4-1   Preparedness versus scale of event

SOURCE: DHS NATIONAL GEOSPATIAL PREPAREDNESS NEEDS ASSESSMENT
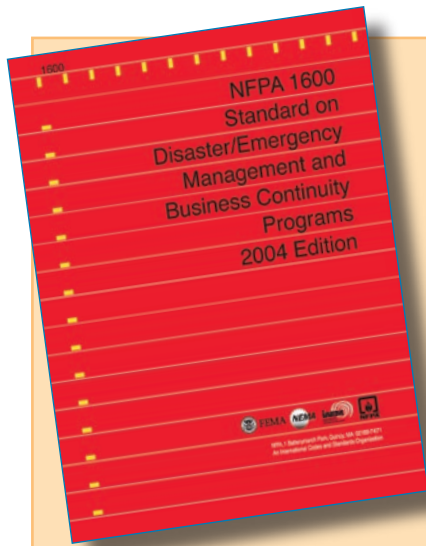
The National Fire Protection Association developed, in cooperation and coordination with representatives from FEMA, the National Emergency Management Association (NEMA), and the International Association of Emergency Managers (IAEM), the 2004 edition of the NFPA 1600 *Standard on Disaster/ Emergency Management and Business Continuity Programs*. This coordinated effort was reflected in the expansion of the title of the standard for disaster and emergency management, as well as information on business continuity programs.

SOURCE: NFPA

The NRP provides the structure and mechanisms for the coordination of Federal support to state, local, tribal, and incident managers, and for exercising direct Federal authorities and responsibilities. It assists in the important security mission of preventing terrorist attacks within the United States, reducing the vulnerability to all natural and manmade hazards, and minimizing the damage and assisting in the recovery from any type of incident that occurs.

The NRP is the core plan for managing domestic incidents and details the Federal coordinating structures and processes used during Incidents of National Significance.

The National Incident Management System (NIMS) establishes standardized incident management processes, protocols, and procedures that all responders (Federal, state, local, and tribal) will use to coordinate and conduct response actions. With responders using the same standardized procedures, they will all share a common focus, and will be able to place full emphasis on incident management when a homeland security incident occurs, whether a manmade or natural disaster. In addition, national preparedness and readiness in responding to and recovering from an incident is enhanced because all of the Nation's emergency teams and authorities are using a common language and set of procedures.

Using the NIMS and NRP framework, the shelter plan should implement direction and control for managing resources, analyzing information, and making decisions. The direction and control system described below assumes a facility of sufficient size. Some facilities may require a less sophisticated system, although the principles described here will still apply.
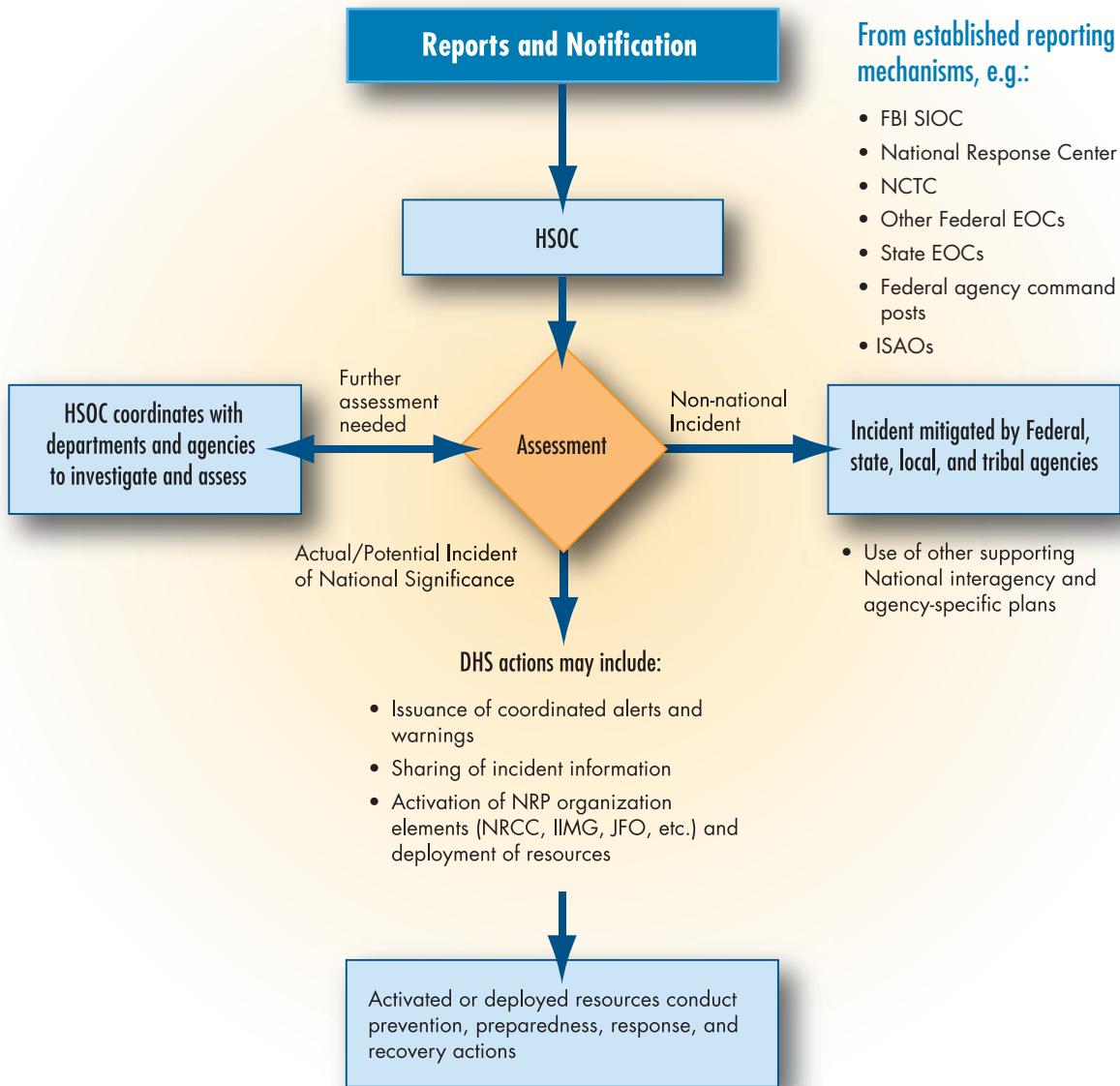
EMERGENCY MANAGEMENT CONSIDERATIONS

At the Federal headquarters level, incident information-sharing, operational planning, and deployment of Federal resources are coordinated by the Homeland Security Operations Center (HSOC), and its component element, the National Response Co-ordination Center (NRCC).

The national structure for incident management establishes a clear progression of coordination and communication from the local level to the regional level to the national headquarters level. The local incident command structures (namely the Incident Command Post (ICP) and Area Command) are responsible for directing on-scene emergency management and maintaining command and control of on-scene incident operations. Figure 4-2 is a flowchart of initial National-level incident management actions.

A CBRE event can affect a large region and the shelter designer should consider how response and recovery teams can access and work in the vicinity of an incident as shown in Figure 4-3.

An Emergency Management Group (EMG) is the team responsible for the direction and control of a shelter plan. It controls all incident-related activities. The Incident Commander (IC) oversees the technical aspects of the response. The EMG supports the IC by allocating resources and by interfacing with the community, the media, outside response organizations, and regulatory agencies. The EMG is headed by the Emergency Director (ED), who should be the facility manager. The ED is in command and control of all aspects of the emergency. Other EMG members should be senior managers who have the authority to:

❍ Determine the short- and long-term effects of an emergency

❍ Order the evacuation or shutdown of the facility

❍ Interface with outside organizations and the media

❍ Issue press releases

Reports and Notification

From established reporting mechanisms, e.g.:

- FBI SIOC
- National Response Center
- NCTC
- Other Federal EOCs
- State EOCs
- Federal agency command posts
- ISAOs

HSOC

Further assessment needed

HSOC coordinates with departments and agencies to investigate and assess

Assessment

Non-national Incident

Incident mitigated by Federal, state, local, and tribal agencies

- Use of other supporting National interagency and agency-specific plans

Actual/Potential Incident of National Significance

DHS actions may include:

- Issuance of coordinated alerts and warnings
- Sharing of incident information
- Activation of NRP organization elements (NRCC, IIMG, JFO, etc.) and deployment of resources

Activated or deployed resources conduct prevention, preparedness, response, and recovery actions

A basic premise of the NRP is that incidents are generally handled at the lowest jurisdictional level possible. In an Incident of National Significance, the Secretary of Homeland Security, in coordination with other Federal departments and agencies, initiates actions to prevent, prepare for, respond to, and recover from the incident. These actions are taken in conjunction with state, local, tribal, nongovernmental, and private-sector entities.

Figure 4-2   Flowchart of initial National-level incident management actions

SOURCE: DHS NATIONAL RESPONSE PLAN
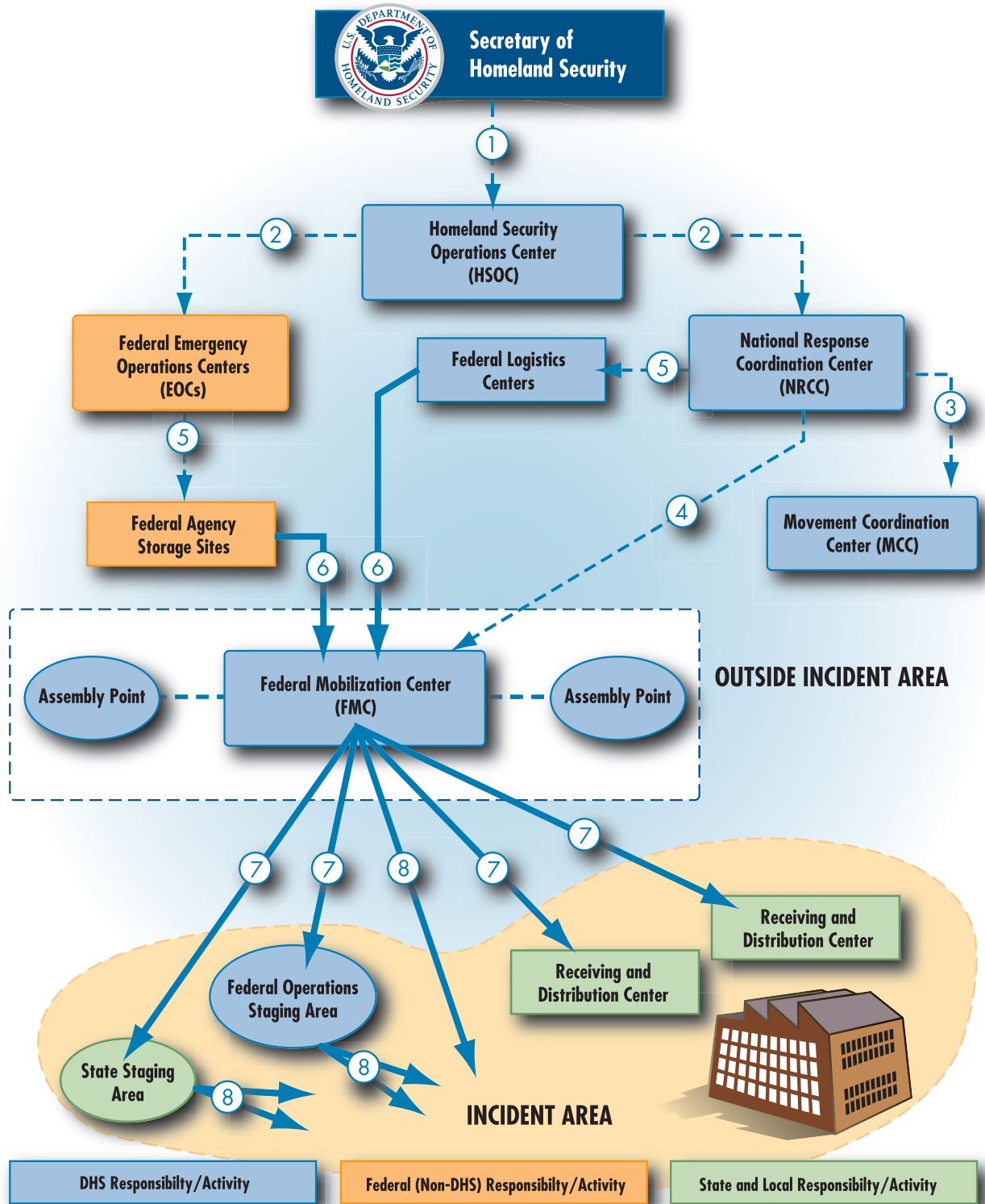
EMERGENCY MANAGEMENT CONSIDERATIONS

Figure 4-3   NRP-CIS Mass Casualty Incident Response
SOURCE: NRP-CIS

An Emergency Operations Center (EOC) should be established within the shelter that serves as a centralized management center for emergency operations. Here, decisions are made by the EMG based upon information provided by the IC and other personnel. Regardless of size or process, every facility should designate an area where decision-makers can gather during an emergency. Each facility must determine its requirements for an EOC based upon the functions to be performed and the number of people involved. Ideally, the EOC is a dedicated area equipped with communications equipment, reference materials, activity logs, and all the tools necessary to respond quickly and appropriately to an emergency.

The relationship between the EMG and the Emergency Operations Group (EOG) is shown in Figure 4-4.

An Incident Command System (ICS) provides for coordinated response and a clear chain of command and safe operations. The IC is responsible for front-line management of the incident, for tactical planning and execution, determining whether outside assistance is needed, and relaying requests for internal resources or outside assistance through the EOC. The IC can be any employee, but a member of management with the authority to make decisions is usually the best choice. The IC must have the capability and authority to:

❍ Assume command

❍ Assess the situation

❍ Implement the emergency management plan

❍ Determine response strategies

❍ Activate resources

❍ Order an evacuation

❍ Oversee all incident response activities

❍ Declare that the incident is "over"

EMERGENCY MANAGEMENT CONSIDERATIONS

Emergency Management Group (EMG) **Emergency Operations Group (EOG)**

Facility Manager

Emergency Director ⟷ Emergency Director

Affected Area Unit Manager/Superintendent

Security Coordinator

Safety and Health Coordinator

Environmental Coordinator

Maintenance Coordinator

Human Resources Coordinator

Planning and Logistics Coordinator

Public Relations Coordinator

Safety Officer

Operations Officer

Emergency Medical Technicians Team
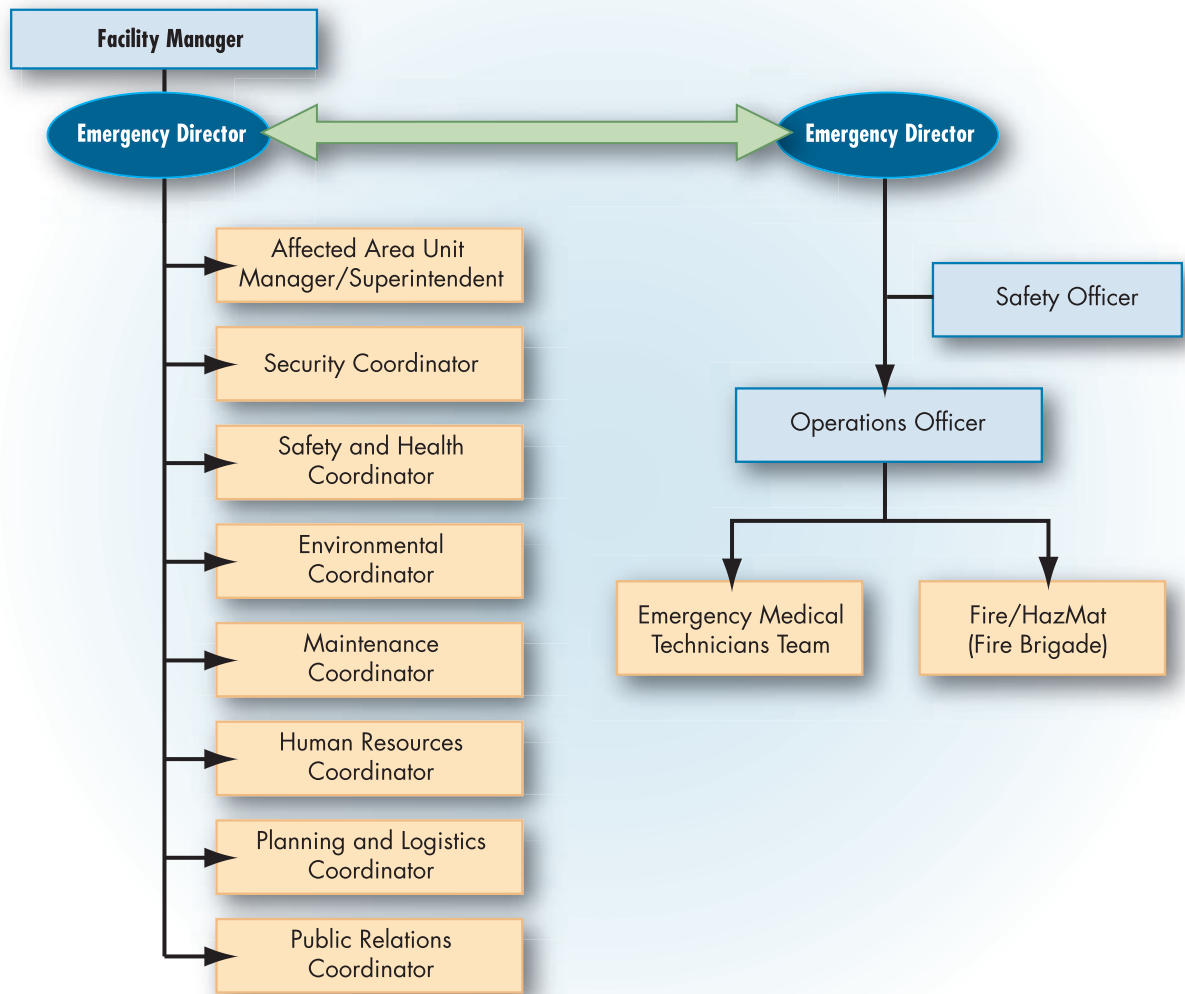
Fire/HazMat (Fire Brigade)

Figure 4-4   Emergency Management Group and Emergency Operations Group

4.3 FEDERAL CBRE RESPONSE TEAMS

The NIMS standardizes resource and asset typing. The following teams are resources that have been typed or are in the process of being typed. These teams are good examples of how to type resources, are available for state and Federal response operations, and can provide technical design guidance for shelters:

❍ **Weapons of Mass Destruction-Civil Support Team (WMD-CST):** A team that supports civil authorities at a domestic CBRE incident site by identifying CBRE agents/substances, assessing current and projected consequences, advising on response measures, and assisting with appropriate requests for state support. The National Guard Bureau fosters the development of WMD-CSTs.

❍ **Disaster Medical Assistance Team (DMAT):** A group of professional and paraprofessional medical personnel (supported by a cadre of logistical and administrative staff) designed to provide emergency medical care during a disaster or other event. The National Disaster Medical System (NDMS), through the U.S. Public Health Service (PHS), fosters the development of DMATs.

❍ **Disaster Mortuary Operational Response Team (DMORT):** A team that works under the guidance of local authorities by providing technical assistance and personnel to recover, identify, and process deceased victims. DMORTs are composed of private citizens, each with a particular field of expertise, who are activated in the event of a disaster. The NDMS, through the PHS, and the National Association for Search and Rescue (NASAR) fosters the development of DMORTs.

❍ **National Medical Response Team-Weapons of Mass Destruction (NMRT-WMD):** A specialized response force designed to provide medical care following a nuclear, biological, and/or chemical incident. This unit is capable of providing mass casualty decontamination, medical triage, and primary and secondary medical care to stabilize victims for transportation to tertiary care facilities in a hazardous material environment. There are four NMRT-WMDs geographically dispersed throughout the United States. The NDMS, through the PHS, fosters the development of NMRTs.

❍ **Urban Search and Rescue (US&R) Task Force:** A highly trained team for search-and-rescue operations in damaged

or collapsed structures, hazardous materials evaluations, and stabilization of damaged structures; it also can provide emergency medical care to the injured. US&R is a partnership between local fire departments, law enforcement agencies, Federal and local governmental agencies, and private companies.

❍ **Incident Management Team (IMT):** A team of highly trained, experienced individuals who are organized to manage large and/or complex incidents. They provide full logistical support for receiving and distribution centers. Each IMT is hosted and managed by one of the United States Forest Service's Geographic Area Coordination Centers.

4.4 EMERGENCY RESPONSE

Although the NIMS, the NRP, and the National Preparedness Goal provide the designer with factors that may impact shelter management on a regional scale, the incident response occurs at the local level. The IC must evaluate the situation and make a number of time critical decisions. A shelter's location, orientation, and surrounding property adjacent to the site must be evaluated and the locations of the entry access control point, decontamination and disposal areas, and site cordons established, often with little more than the visual inspection of the event area.

4.4.1 General Considerations

The shelter site and surrounding areas should be selected to allow law, fire, and medical vehicles and personnel access for mass decontamination operations in case of an emergency. Runoff from decontamination operations must be controlled or contained to prevent further site contamination. To help the IC, the Emergency Response to Terrorism Job Aid 2.0 should be used. This includes both tactical and strategic issues that range from line personnel to unit officers.

DHS/FEMA and the Office for Domestic Preparedness developed the Emergency Response to Terrorism Job Aid 2.0 (http:// www.usfa.fema.gov/subjects/terror/ download-jobaid.shtm), which is designed to assist the first responder from the fire, Emergency Medical Services (EMS), hazardous material (HazMat), and law enforcement disciplines respond to a CBRE event.

The Job Aid is divided into five primary sections that are tabbed and color coded for rapid access to information:

❍ Introduction (Gray)

❍ Operational Considerations (Yellow)

❍ Incident-Specific Actions (White)

❍ Agency-Related Actions (Blue)

❍ Glossary (Tan)

As the IC begins the direction of the response and recovery teams in the field, the mobilization of resources to coordinate the Federal, state, local, and tribal efforts will have begun.

4.4.2   Evacuation Considerations

Many of the NIST findings (see Section 1.9) and recommendations for emergency response can be applied to all building types and shelters:

❍ Active fire protection systems for many buildings are designed to the same performance specifications, regardless of height, size, and threat profile.

❍ Approximately 87 percent of the World Trade Center (WTC) occupants, and over 99 percent of those below the floors of impact, were able to evacuate successfully.

❍ At the time of the aircraft impacts, the towers were only about one-third occupied. Had they been at the full capacity of 25,000 workers and visitors per tower, computer egress modeling indicated that a full evacuation would have required about 4 hours. Under those circumstances, over 14,000 occupants might have perished in the building collapses.

❍ There were 8,900 ± 750 people in WTC 1 at 8:46 a.m. on September 11, 2001. Of those, 7,470 (or 84 percent) survived, while 1,462 to 1,533 occupants died. At least 107 occupants

were killed below the aircraft impact zone. No one who was above the 91st floor in WTC 1 after the aircraft impact survived. This was due to the fact that the stairwells and elevators were destroyed and helicopter rescue was impossible.
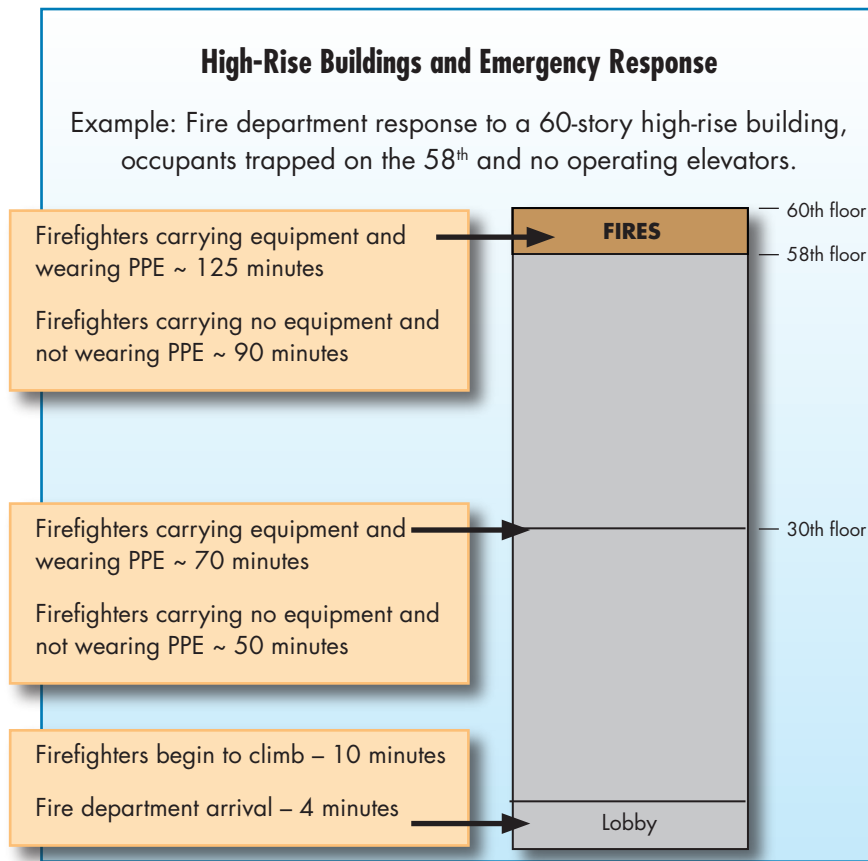
❍ There were 8,540 ± 920 people in WTC 2 at 8:46 a.m. on September 11, 2001. Of those, 7,940 (or 93 percent) survived, while 630 to 701 occupants were killed. Eleven occupants died below the aircraft impact zone. Approximately 75 percent of the occupants above the 78th floor at 8:46 a.m. had successfully descended below the 78th floor prior to the aircraft impact at 9:03 a.m. The use of elevators and self-initiated evacuation during this period saved roughly 3,000 lives.

❍ The delays of about 5 minutes in starting evacuation were largely spent trying to obtain additional information, trying to make sense of the situation, and generally preparing to evacuate.

❍ People who started their evacuation on higher floors took longer to start leaving and substantially increased their odds of encountering smoke, damage, or fire. These encounters, along with interruption for any reason, had a significant effect on increasing the amount of time that people spent to traverse their evacuation stairwell.

❍ The WTC occupants were inadequately prepared to encounter horizontal transfers during the evacuation process and were occasionally delayed by the confusion as to whether a hallway led to a stairwell as well as confusion about whether the transfer hallway doors would open or be locked.

❍ The WTC occupants were often unprepared for the physical challenge of full building evacuation. Numerous occupants required one or more rest periods during stairwell descent.

❍ In WTC 1, the average surviving occupant spent approximately 48 seconds per floor in the stairwell, about twice that observed in non-emergency evacuation drills.

The 48 seconds do not include the time prior to entering the stairwell, which was often substantial. Some occupants delayed or interrupted their evacuation, either by choice or instruction.

❍ Downward traveling evacuees reported slowing of their travel due to ascending emergency responders, but this counterflow was not a major factor in determining the length of their evacuation time.

❍ Approximately 1,000 surviving occupants had a limitation that impacted their ability to evacuate, including recent surgery or injury, obesity, heart condition, asthma, advanced age, and pregnancy. The most frequently reported disabilities were recent injuries and chronic illnesses. The number of occupants requiring use of a wheelchair was very small.

❍ Mobility challenged occupants were not universally accounted for by existing evacuation procedures, as some were left by colleagues (later rescued by strangers); some in WTC 1 were temporarily removed from the stairwells in order to allow more able occupants to evacuate the building, and others chose not to identify their mobility challenge to any colleagues.

❍ Most mobility challenged individuals were able to evacuate successfully, often with assistance from co-workers or emergency responders, and it is not clear how many were among the 118 from below the impact floors who did not survive. It does not appear that mobility challenged individuals were significantly over-represented amongst the decedents.

❍ As many as 40 to 60 mobility challenged occupants and their companions were found on the 12th floor of WTC 1 by emergency responders. About 20 of these were making their way down the stairs shortly before the building collapsed. It is not known how many from this group survived.

❍ The first emergency responders were colleagues and regular building occupants. Acts of individual heroism saved many people whom traditional emergency responders would have been unable to reach in time.

❍ Only one elevator in each building was of use to the responders. To gain access to the injured and trapped occupants, firefighters had to climb the stairs, carrying the equipment with them.

❍ NIST estimated that emergency responder climbing rates varied between approximately 1.4 minutes per floor for personnel not carrying extra equipment to approximately 2.0 minutes per floor for personnel wearing protective clothing and carrying between 50 and 100 pounds of extra equipment.

❍ With a few special exceptions, building codes in the United States do not permit use of fireprotected elevators for routine emergency access by first responders or as a secondary method (after stairwells) for emergency evacuation of building occupants. The elevator use by emergency responders would additionally mitigate counterflow problems in stairwells.

❍ Although the United States conducted research on specially protected elevators in the late 1970s, the United Kingdom along with several other countries that typically utilize British standards have required such "firefighter lifts," located in protected shafts, for a number of years.

❍ Although it is difficult to maintain this pace for more than about the first 20 stories, it would take an emergency responder between 1½ to 2 hours to reach, for example, the 60th floor of a tall building if that pace could be maintained (see Figure 4-5).

High-Rise Buildings and Emergency Response

Example: Fire department response to a 60-story high-rise building, occupants trapped on the 58th and no operating elevators.

Firefighters carrying equipment and wearing PPE ~ 125 minutes

Firefighters carrying no equipment and not wearing PPE ~ 90 minutes

FIRES

60th floor

58th floor

Firefighters carrying equipment and wearing PPE ~ 70 minutes

Firefighters carrying no equipment and not wearing PPE ~ 50 minutes

30th floor

Firefighters begin to climb – 10 minutes

Fire department arrival – 4 minutes

Lobby

○ Such a delay, combined with the resulting fatigue and physical effects on emergency responders that were reported on September 11, 2001, would make firefighting and rescue efforts difficult even in tall building emergencies not involving a terrorist attack.

4.4.3   Mass Care

The shelter plays a critical role in the mass care and response capability as developed in Appendix 3 of the NRP-CIS:

"Mass Care coordinates Federal assistance in support of Regional, State, and local efforts to meet the mass care needs of victims of a disaster. This Federal assistance will support the delivery of mass care services of shelter, feeding, and emergency first aid to disaster victims; the establishment of systems to provide bulk distribution

of emergency relief supplies to disaster victims; and the collection of information to operate a Disaster Welfare Information (DWI) system to report victim status and assist in family reunification. Depending on the nature of the event, a catastrophic disaster will cause a substantial need for mass sheltering and feeding within, near, and beyond the disaster-affected area."

There are a number of assumptions that are used to define the parameters of which the design, utilization, length of occupancy, and shelter capacity should be able to support:

❍ As a result of the incident, many local emergency personnel (paid and volunteer) that normally respond to disasters may be dead, injured, involved with family concerns, or otherwise unable to reach their assigned posts.

❍ Depending on the nature of the event, a catastrophic disaster will cause a substantial need for mass sheltering and feeding within, near, and beyond the disaster-affected area.

❍ State and local resources will immediately be overwhelmed; therefore, Federal assistance will be needed immediately.

❍ Extensive self-directed population evacuations may also occur with families and individuals traveling throughout the United States to stay with friends and relatives outside the affected area.

❍ Populations likely to require mass care services include the following:

  ❍ Primary victims (with damaged or destroyed homes)

  ❍ Secondary and tertiary victims (denied access to homes)

  ❍ Transients (visitors and travelers within the affected area)

  ❍ Emergency workers (seeking feeding support, respite shelter(s), and lodging)

❍ In the initial phase (hours and days) of a catastrophic disaster, organized and spontaneous sheltering will occur simultaneously within and at the periphery of the affected area as people leave the area. Additional congregate sheltering may be required for those evacuating to adjacent population centers.

❍ The wide dispersal of disaster victims will complicate Federal Government assistance eligibility and delivery processes for extended temporary housing, tracking, and need for registering the diseased, ill, injured, and exposed.

❍ More people will initially flee and seek shelter from terrorist attacks involving CBRE agents than for natural catastrophic disaster events. They will also exhibit a heightened concern for the health-related implications related to the disaster agent.

❍ Long-term sheltering, interim housing, and the mass relocation of affected populations may be required for incidents with significant residential damage and/or contamination.

❍ Substantial numbers of trained mass care specialists and managers will be required for an extended period of time to augment local responders and to sustain mass care sheltering and feeding activities.

❍ Timely logistical support to shelters and feeding sites will be essential and required for a sustained period of time. Food supplies from the U.S. Department of Agriculture (USDA) positioned at various locations across the country will need to be accessed and transported to the affected area in a timely manner.

❍ Public safety, health, and contamination monitoring expertise will be needed at shelters following CBRE events. Measures to ensure food and water safety will be necessary, and the general

EMERGENCY MANAGEMENT CONSIDERATIONS

public will also need to be reassured concerning food and water safety.

❍ Immediately following major CBRE events, decontamination facilities may not be readily available in all locations during the early stages of self-directed population evacuations. People who are unaware that they are contaminated may seek entry to shelters. These facilities may, as a result, become contaminated, adversely affecting resident health and general public trust.

❍ Public health and medical care in shelters will be a significant challenge as local EMS resources and medical facilities will likely be overwhelmed quickly. The deployment of public health and medical personnel and equipment to support medical needs in shelters will need to be immediate and sustained by the Department of Health and Human Services (HHS).

❍ Shelters will likely experience large numbers of elderly with specific medication requirements and other evacuees on critical home medical care maintenance regimens.

❍ Significant numbers of special needs shelters will likely be required as nursing homes and other similar care facilities are rendered inoperable and are unable to execute their evacuation mutual plans and agreements with other local facilities. The American Red Cross will coordinate with HHS in these situations.

4.5 COMMUNITY SHELTER OPERATIONS PLAN

Community shelters should have a Shelter Operations Plan. The plan should describe the different hazards warnings (CBRE, tornadoes, hurricanes, floods, etc.) and Homeland Security Advisory System, and clearly define the actions to be taken for each type of event. A Community Shelter Management Team composed of members committed to performing various duties should be

designated. The following is a list of action items for the Community Shelter Operations Plan:

❍ The names and all contact information for the coordinators/ managers detailed in Sections 4.5.1 through 4.5.7 should be presented in the beginning of the plan.

❍ A hazard event notification, natural or manmade, is issued by the DHS.

❍ When an event notification is issued, the Community Shelter Management Team is on alert.

❍ When a warning is issued, the Community Shelter Management Team is activated and begins performing the following tasks:

> ❍ Sending the warning signal to the community, alerting them to go to the shelter
>
> ❍ Evacuating the community residents from their business or homes and to the shelter
>
> ❍ Taking a head count in the shelter
>
> ❍ Securing the shelter
>
> ❍ Monitoring the event from within the shelter
>
> ❍ After the event is over, when conditions warrant, allowing shelter occupants to leave and return to their homes
>
> ❍ After the event is over, cleaning the shelter and restocking emergency supplies

A member of the Community Shelter Management Team can take on multiple assignments or roles as long as all assigned tasks can be performed effectively by the team member before and during an event.

The following team members would be responsible for overseeing the Community Shelter Operations Plan:

❍ Site Coordinator

❍ Assistant Site Coordinator

❍ Equipment Manager

❍ Signage Manager

❍ Notification Manager

❍ Field Manager

❍ Assistant Managers

As previously stated, full contact information (i.e., home and work telephone, cell phone, satellite phone, and pager numbers) should be provided for all team members, as well as their designated backups. The responsibilities of each of these team members are presented in Sections 4.5.1 through 4.5.7. Suggested equipment and supplies for shelters are listed in Section 4.5.8 and Table 4-1.

4.5.1   Site Coordinator

The Site Coordinator's responsibilities include the following:

❍ Organizing and coordinating the Community Shelter Operations Plan

❍ Ensuring that personnel are in place to facilitate the Community Shelter Operations Plan

❍ Ensuring that all aspects of the Community Shelter Operations Plan are implemented

❍ Developing community education and training programs

❍ Setting up first aid teams

❍ Coordinating shelter evacuation practice drills and determining how many should be conducted in order to be ready for a real event

❍ Conducting regular community meetings to discuss emergency planning

❍ Preparing and distributing newsletters to area residents

❍ Distributing phone numbers of key personnel to area residents

❍ Ensuring that the Community Shelter Operations Plan is periodically reviewed and updated as necessary

4.5.2 Assistant Site Coordinator

The Assistant Site Coordinator's responsibilities include the following:

❍ Performing duties of the Site Coordinator when he/she is off site or unable to carry out his/her responsibilities

❍ Performing duties as assigned by the Site Coordinator

4.5.3 Equipment Manager

The Equipment Manager's responsibilities include the following:

❍ Understanding and operating all shelter equipment (including communications, lighting, and safety equipment, and closures for shelter openings)

❍ Maintaining and updating, as necessary, the Shelter Maintenance Plan (see Section 4.6)

❍ Maintaining equipment or ensuring that equipment is maintained year-round, and ensuring that it will work properly during an event

EMERGENCY MANAGEMENT CONSIDERATIONS

❍ Informing the Site Coordinator if equipment is defective or needs to be upgraded

❍ Purchasing supplies, maintaining storage, keeping inventory, and replacing outdated supplies

❍ Replenishing supplies to pre-established levels following shelter usage

4.5.4 Signage Manager

The Signage Manager's responsibilities include the following:

❍ Determining what signage and maps are needed to help intended shelter occupants get to the shelter in the fastest and safest manner possible

❍ Preparing or acquiring placards to be posted along routes to the shelter throughout the community that direct intended occupants to the shelter

❍ Ensuring that signage complies with ADA requirements (including those for the blind)

❍ Providing signage in other languages as appropriate for the intended shelter occupants

❍ Working with the Equipment Manager to ensure that signage is illuminated or luminescent after dark and that all lighting will operate if a power outage occurs

❍ Periodically checking signage for theft, defacement, or deterioration and repairing or replacing signs as necessary

❍ Providing signage that clearly identifies all restrictions that apply to those seeking refuge in the shelter (e.g., no pets, limits on personal belongings)

4.5.5   Notification Manager

The Notification Manager's responsibilities include the following:

○ Developing a notification warning system that lets intended shelter occupants know they should proceed immediately to the shelter

○ Implementing the notification system when an event warning is issued

○ Ensuring that non-English-speaking shelter occupants understand the notification (this may require communication in other languages or the use of prerecorded tapes)

○ Ensuring that shelter occupants who are deaf receive notification (this may require sign language, installation of flashing lights, or handwritten notes)

○ Ensuring that shelter occupants with special needs receive notification in an acceptable manner

4.5.6   Field Manager

The Field Manager's responsibilities include the following:

○ Ensuring that shelter occupants enter the shelter in an orderly fashion

○ Pre-identifying shelter occupants with special needs such as those who are disabled or have serious medical problems

○ Arranging assistance for those shelter occupants who need help getting to the shelter (all complications should be anticipated and managed prior to the event)

○ Administering and overseeing first aid by those trained in it

○ Providing information to shelter occupants during an event

○ Determining when it is safe to leave the shelter after an event

4.5.7   Assistant Managers

Additional persons should be designated to serve as backups to the Site Coordinator, Assistant Site Coordinator, Equipment Manager, Signage Manager, Notification Manager, and Field Manager when they are off site or unable to carry out their responsibilities.

4.5.8   Emergency Provisions, Equipment, and Supplies

Shelters designed and constructed to the criteria in this manual are intended to provide short-term safe refuge. These shelters serve a different function from shelters designed for use as long-term recovery shelters after an event; however, shelter managers may elect to provide supplies that increase the comfort level within the short-term shelters. Table 4-1 lists suggested equipment and supplies for community shelters.

Emergency provisions will vary for different hazard events. In general, emergency provisions will include food and water, sanitation management, emergency supplies, and communications equipment. The necessary emergency provisions are as follows:

4.5.8.1 Food and Water. For tornado shelters, because of the short duration of occupancy, stored food is not a primary concern; however, water should be provided. For hurricane shelters, providing and storing food and water are of primary concern. As noted previously, the duration of occupancy in a hurricane shelter could be as long as 36 hours. Food and water would be required, and storage areas for them need to be included in the design of the shelter.

FEMA and ARC publications concerning food and water storage in shelters may be found at http://www.fema.gov and at http://www.redcross.org, respectively.

4.5.8.2 Sanitation Management. A minimum of two toilets are recommended for both tornado and hurricane shelters. Although the short duration of a tornado might suggest that toilets are not an essential requirement for a tornado shelter, the shelter owner/operator is advised to provide two toilets or at least two self-contained, chemical-type receptacles/toilets (and

a room or private area where they may be used) for shelter occupants. Meeting this criterion will provide separate facilities for men and women.

Table 4-1: Shelter Equipment and Supplies

Type	Equipment/Supplies
Communications Equipment	National Oceanic and Atmospheric Administration (NOAA) weather radios or receivers for commercial broadcast if NOAA broadcasts are not available
	Ham radios or emergency radios connected to the police or the fire and rescue systems
	Cellular and/or satellite telephones (may not operate during an event and may require a signal amplifier to be able to transmit within the shelter)
	Battery-powered radio transmitters or signal emitting devices that can signal local emergency personnel
	Portable generators with uninterruptible power supply (UPS) systems and vented exhaust systems
	Portable computers with modem and internet capabilities
	Fax/copier/scanner
	Public address systems
	Standard office supplies (paper, notepads, staplers, tape, whiteboards and markers, etc.)
Emergency Equipment	A minimum of two copies of the Shelter Operations Plan
	Flashlights and batteries, glow sticks
	Fire extinguishers
	Blankets
	Pry-bars (for opening doors that may have been damaged or blocked by debris)
	Stretchers and/or backboards
	Trash receptacles
	Automated External Defibrillator (AED)
	First aid kit
	Trash can liners and ties
	Tool kits
	Heaters
	Megaphones
	Note: many of these items may be stored in wall units or credenzas

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Table 4-1: Shelter Equipment and Supplies (continued)

Type	Equipment/Supplies
First Aid Supplies	Adhesive tape and bandages in assorted sizes
	Safety pins in assorted sizes
	Latex gloves
	Scissors and tweezers
	Antiseptic solutions
	Antibiotic ointments
	Moistened towelettes
	Non-prescription drugs (e.g., aspirin and non-aspirin pain relievers, anti-diarrhea medications, antacids, syrup of ipecac, laxatives)
	Smelling salts for fainting spells
	Petroleum jelly
	Eye drops
	Wooden splints
	Thermometers
	Towels
	Fold up cots
	First aid handbooks
Water	Adequate quantities for the duration of the expected event(s)
Sanitary Supplies	Toilet paper
	Moistened towelettes
	Paper towels
	Personal hygiene items
	Disinfectants
	Chlorine bleach
	Plastic bags
	Portable chemical toilet(s), when regular toilets are not contained in the shelter
Infant and Children Supplies	Disposable diapers
	Powders and ointments
	Moistened towelettes
	Pacifiers
	Blankets

Toilets would be needed by the occupants of hurricane shelters because of the long duration of hurricanes. The toilets would need to function without power, water supply, and possibly waste disposal. Whether equipped with standard or chemical toilets, the shelter should have at least one toilet for every 75 occupants, in addition to the two minimum recommended toilets.

4.5.8.3 Emergency Supplies. Shelter space should contain, at a minimum, the following safety equipment:

❍ Flashlights with continuously charging batteries (one flashlight per 10 shelter occupants) and glow sticks

❍ Fire extinguishers (number required based on occupancy type) appropriate for use in a closed environment with human occupancy, surface mounted on the shelter wall

❍ First aid kits rated for the shelter occupancy

❍ NOAA weather radio with continuously charging batteries

❍ A radio with continuously charging batteries for receiving commercial radio broadcasts

❍ A supply of extra batteries to operate radios and flashlights

❍ An audible sounding device that continuously charges or operates without a power source (e.g., canned air horn) to signal rescue workers if shelter egress is blocked

4.5.8.4 Communications Equipment. A means of communication other than a landline telephone is recommended for all shelters. Blasts, tornadoes, and hurricanes are likely to cause a disruption in telephone service. At least one means of backup communication should be stored in or brought to the shelter. This could be a ham radio, cellular telephone, satellite telephone, citizens band radio, or emergency radio capable of reaching police, fire, or other emergency service. If cellular telephones are relied upon for communications, the owners/operators of the shelter should install a signal amplifier to send/receive cellular signals from within the shelter. It should be noted that cellular

systems may be completely saturated in the hours immediately after an event if regular telephone service has been interrupted.

The shelter should also contain either a battery-powered radio transmitter or a signal-emitting device that can be used to signal the location of the shelter to local emergency personnel should occupants in the shelter become trapped by debris blocking the shelter access door. The shelter owner/operator is also encouraged to inform police, fire, and rescue organizations of the shelter location before an event occurs. These recommendations apply to both aboveground and belowground shelters.

4.5.8.5 Masks and Escape Hoods. Escape hoods, portable air filtration units, and victim recovery units can provide substantial protection and response capability against most agents for a minimal cost and without major changes to the space and structural system.

Escape masks or hoods (personal protective equipment) can be stored at individual desks and in credenzas or wall units in common areas. There are many types of escape masks and hoods that will provide protection against gases and vapors created by fire, chemical and biological agents, and nuclear particles. They can be donned very easily and very fast, generally less than 10 seconds and come in one size fits all.

4.5.8.6 Portable HVAC Units. There are a number of portable filtration units designed for hospital, manufacturing, printing, and other industries that can be used in a safe room with little building modification. The systems typically use HEPA filters to filter the air in a room. Combined HEPA-ultraviolet germicidal irradiation (UVGI) units are now becoming available. These units can provide substantial protection against biological and radiological particulates. There are several units with combined HEPA and activated granular carbon that can provide protection against chemical agents as well. The filtration units can be stored in conference rooms, closets, or in specially designed rooms such as information technology (IT) closets.

4.5.8.7 Emergency Equipment Credenza and Wall Units Storage.
Many Federal government buildings are being outfitted with
either an emergency equipment credenza, or built-in wall
storage units placed in or near the elevator lobby and other
public egress areas. These units can store the first aid kits,
escape hoods and masks, and other emergency preparedness
and response equipment.

4.6 SHELTER MAINTENANCE PLAN

Each shelter should have a maintenance plan that includes the
following:

❍ An inventory checklist of the emergency supplies (see Table 4-1)

❍ Information concerning the availability of emergency
   generators to be used to provide power for lighting and
   ventilation

❍ A schedule of regular maintenance of the shelter to be
   performed by a designated party

Such plans will help to ensure that the shelter equipment and
supplies are fully functional during an event.

4.7 COMMERCIAL BUILDING SHELTER OPERATIONS PLAN

A shelter designed to the criteria of this manual may be used by a
group other than a residential community (e.g., the shelter may
have been provided by a commercial business for its workers or by
a school for its students). Guidance for preparing a Commercial
Building Shelter Operations Plan is presented in this section.

4.7.1 Emergency Assignments

It is important to have personnel assigned to various tasks and
responsibilities for emergency situations before they occur.
An Emergency Committee, consisting of a Site Emergency

Coordinator, a Safety Manager, and an Emergency Security
Coordinator (and backups), should be formed, and additional
personnel should be assigned to serve on the committee.

The Site Emergency Coordinator's responsibilities include the
following:

❍ Maintaining a current Shelter Operations Plan

❍ Overseeing the activation of the Shelter Operations Plan

❍ Providing signage

❍ Notifying local authorities

❍ Implementing emergency procedures

❍ As necessary, providing for emergency housing and feeding
   needs of personnel isolated at the site because of an
   emergency situation

❍ Maintaining a log of events

The Safety Manager's responsibilities include the following:

❍ Ensuring that all personnel are thoroughly familiar with
   the Shelter Operations Plan and are conducting training
   programs that include the following, at a minimum:

    ❍ The various warning signals used, what they mean,
       and what responses are required

    ❍ What to do in an emergency (e.g., where to report)

    ❍ The identification, location, and use of common
       emergency equipment (e.g., fire extinguishers)

    ❍ Shutdown and startup procedures

❍ Evacuation and sheltering procedures (e.g., routes, locations of safe areas)

❍ Conducting drills and exercises (at a minimum, twice annually) to evaluate the Shelter Operations Plan and to test the capability of the emergency procedures

○ Ensuring that employees with special needs have been consulted about their specific limitations and then determining how best to provide them with assistance during an emergency

○ Conducting an evaluation after a drill, exercise, or actual occurrence of an emergency situation, in order to determine the adequacy and effectiveness of the Shelter Operations Plan and the appropriateness of the response by the site emergency personnel

The Emergency Security Coordinator's responsibilities include the following:

○ Opening the shelter for occupancy

○ Controlling the movement of people and vehicles at the site and maintaining access lanes for emergency vehicles and personnel

○ "Locking down" the shelter

○ Assisting with the care and handling of injured persons

○ Preventing unauthorized entry into hazardous or secured areas

○ Assisting with fire suppression, if necessary

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The Emergency Committee's responsibilities include the following:

❍ Informing employees in their assigned areas when to shut down work or equipment and evacuate the area

❍ Accounting for all employees in their assigned areas

❍ Turning off all equipment

4.7.2   Emergency Call List

A Shelter Operations Plan for a commercial building should include a list of all current emergency contact numbers. A copy of the list should be kept in the designated shelter area. The following is a suggested list of what agencies/numbers should be included:

❍ Office emergency management contacts for the building

❍ Local fire department—both emergency and non-emergency numbers

❍ Local police department—both emergency and non-emergency numbers

❍ Local ambulance

❍ Local emergency utilities (e.g., gas, electric, water, telephone)

❍ Emergency contractors (e.g., electrical, mechanical, plumbing, fire alarm and sprinkler service, window replacement, temporary emergency windows, general building repairs)

❍ Any regional office services pertinent to the company or companies occupying the building (e.g., catastrophe preparedness unit, company cars, communications, mail center, maintenance, records management, purchasing/ supply, data processing)

❍ Local services (e.g., cleaning, grounds maintenance, waste disposal, vending machines, snow removal, post office, postage equipment, copy machine repair)

4.7.3   Event Safety Procedures

The following safety procedures should be followed upon declaration of an event:

❍ The person first aware of the event should notify the switchboard operator or receptionist, or management immediately.

❍ If the switchboard operator or receptionist is notified, he or she should notify management immediately.

❍ Radios or televisions should be tuned to a local news or weather station, and the weather conditions should be monitored closely.

❍ If official instruction is given to proceed to shelters or conditions otherwise warrant, management should notify the employees to proceed to and assemble in a designated safe area(s). A suggested announcement would be "The area has been exposed to a CBRE event (type of event). Please proceed immediately to the designated safe area and stay away from all windows."

❍ Employees should sit on the floor in the designated safe area(s) and remain there until the Site Emergency Coordinator announces that conditions are safe for returning to work or evacuation.

4.8   GENERAL CONSIDERATIONS

The Shelter Manager and staff should be familiar with how to do the following:

❍ Avoid contact with liquids on the ground, victim's clothing, or other surfaces

❍ Evaluate signs/symptoms to determine the type of agent involved

❍ Separate the victims into groups of symptomatic and asymptomatic, ambulatory and non-ambulatory

❍ Prepare occupants for decontamination (patients may undergo gross decontamination with the use of fire hose lines or individual shower and portable decontamination units)

In the case of fire, an immediate evacuation to a predetermined area away from the facility may be necessary. In a hurricane, evacuation could involve the entire community and take place over a period of days. To develop an evacuation policy and procedure:

❍ Determine the conditions under which an evacuation would be necessary.

❍ Establish a clear chain of command. Identify personnel with the authority to order an evacuation. Designate "evacuation wardens" to assist others in an evacuation and to account for personnel.

❍ Establish specific evacuation procedures and a system for accounting for personnel. Consider employees' transportation needs for community wide evacuations.

❍ Establish procedures for assisting persons with disabilities and those who do not speak English.

❍ Establish post evacuation procedures.

❍ Designate personnel to continue or shut down critical operations while an evacuation is underway. They must be capable of recognizing when to abandon the operation and evacuate themselves.

❍ Coordinate plans with the local emergency management office.

4.9 TRAINING AND INFORMATION

Employees should be trained in evacuation, shelter, and other safety procedures. Sessions should be conducted at least annually or when:

❍ Employees are hired.

❍ Evacuation wardens, shelter managers, and others with special assignments are designated.

❍ New equipment, materials, or processes are introduced.

❍ Procedures are updated or revised.

❍ Exercises show that employee performance must be improved.

In addition:

❍ Emergency information such as checklists and evacuation maps should be provided.

❍ Evacuation maps should be posted in strategic locations.

❍ The information needs of customers and others who visit the facility should be considered.

EMERGENCY MANAGEMENT CONSIDERATIONS