

CHAPTER II Operations

SUBJECT 3 Emergency Operations

TOPIC 13 Natural Disasters

A. PURPOSE

1. To describe general tactics and strategies to be used at the scene of a natural disaster.

B. OBJECTIVES

1. Safely rescue trapped occupants.
2. Conduct a systematic search of the affected area.
3. Triage and render emergency medical treatment as necessary.
4. Minimize property damage, especially that caused by secondary emergencies (fire, explosions, electrical emergencies).

C. SAFETY

1. Strict accounting of all personnel shall be maintained through the Incident Command System.
2. Members shall carefully evaluate the potential for structural collapse before entering a collapsed or partially collapsed structure (see Structural Collapse 203.09).
3. Shore or otherwise stabilize structures or debris before searching (see Cave-In 203.15).
4. At least one member will remain outside the structure or debris when a search is being conducted. When members enter a damaged area of questionable stability, at least one member of the entry team shall have a Fire Division portable radio.
5. The Incident Commander shall work with the Liaison Officer to shut down utilities (gas and electric) where necessary. This also includes shutting down gas or electric service to individual buildings.

D. INITIAL ACTIONS

1. There is a need for immediate and well coordinated action when a natural disaster occurs. The actions taken by first responders effect the outcome more than any other form of intervention. Natural disasters strike suddenly, many times with little or no warning. The more sudden the occurrence, the greater the Fire Division's role.
2. The tactical priorities for a natural disaster are:
 - a. Life Safety
 - b. Incident Stabilization
 - c. Property Conservation

E. SECONDARY HAZARDS

1. Natural disasters disrupt community functions and leaves the community vulnerable to other emergencies in the aftermath.
2. A mass casualty incident could easily arise out of a natural disaster, as could a hazardous materials incident.
3. The Incident Commander must consider all the eventual outcomes, and be pro-active.

F. SIZE UP

1. First arriving units generally have no idea of the extent of the problem in terms of lives or property.
2. Many communities rely on one another for assistance when a major emergency strikes. Natural disasters tend to be widespread, involving several communities. Mutual aid may not be available.
3. Natural disasters tend to block normal access routes. In an earthquake, the earth separates, and building debris blocks normal street traffic. In a tornado, building debris and downed trees block access. Floods block streets with water high enough to make them impassible for fire apparatus.

Consider the fact that street signs may be missing or damaged, making street identification difficult.

F. SIZE UP (continued)

4. Conditions leading to natural disasters make recurrence a distinct possibility. After shocks are common in earthquakes. The unstable atmospheric conditions leading to a tornado exist for hours after an initial touchdown. Part of the analysis involves a determination of the likelihood of further destruction. The planning section must be staffed by, or in communication with, technical specialists at the earliest possible moment.
5. Assessing the magnitude of the problem is another important consideration. The Incident Commander must ascertain:
 - a. How wide spread the incident is (geographical boundaries).
 - b. The extent of property damage, which is directly linked to the life hazard.
 - c. What access to the area is available.
 - d. Status of utilities (water, gas, and electricity).
 - e. The location of people who have escaped.
 - f. Other possible contributing factors (fire, hazardous materials, etc.).

This is in addition to evaluating resource status. Pre-planned resources may be damaged or unavailable. The planning section will be needed to process this information and keep the information current.

6. Under severe conditions, with many calls for assistance, it may be necessary to dispatch companies at the district level. If this becomes necessary, the District Chief will stage all companies in their district at a central location and the dispatcher will announce all dispatches by district over the radio. The District Chief will determine which companies to send.

Under these conditions, a recall should be considered by the Duty Chief, and companies from non-affected districts should be reassigned to handle the emergency.

G. CONSIDER THE ALTERNATIVES

1. Alternative actions in a natural disaster usually revolve around life safety considerations. Search and rescue is the most common alternative; however, if fires, hazardous material release, or other perils, threaten victims of the area, incident stabilization may do more to save lives than any other action.

H. SELECT THE BEST ALTERNATIVE

1. Initial response personnel can easily be overwhelmed by the variety of tasks necessary to stabilize a natural disaster. Application of the tactical priority list is essential, but only after evaluating the actions that will MOST favorably change the outcome. Providing access for ambulances and fire apparatus may be the best alternative. Searching a few buildings may not be as important as shutting down a natural gas leak, or setting up a plan for systematically searching the area. Many times, primary search efforts are not well planned, resulting in a search of the same area several times before other areas are searched.

I. IMPLEMENT THE PLAN OF ACTION

1. Once the plan of action has been formulated, some of the required tactical activities will be foreign to fire-fighters. Resources are not sufficient until there is enough manpower and equipment to:
 - a. Search for, and Rescue trapped occupants.
 - b. Provide necessary medical care.
 - c. Account for, and shelter those in need.
 - d. Provide access to the area for fire apparatus and ambulances.
 - e. Control utilities.
 - f. Control fires, hazardous material emergencies, etc.

I. IMPLEMENT THE PLAN OF ACTION (continued)

All of these activities must be accomplished. In a resource deficient situation, they must be done in a priority order, based on incident needs. On other occasions, it may be feasible to conduct these operations concurrently. Sometimes, it may take days to provide access or account for victims.

J. SEARCH FOR AND RESCUE TRAPPED OCCUPANTS

1. This task is a natural beginning, although not always the best choice for first action. Once this option is selected, and sooner or later it will be, several troublesome questions arise:
 - a. How do you search areas that may be spread out over several miles, and separated by long distances.
 - b. Where do you start the search effort?
 - c. How is a systematic search conducted?

The only way to conduct a systematic search, while prioritizing areas in greatest need, is with an adequate command system. Units must be given specific areas to search. A marking system, just as with a high rise fire, is a must. The chalk marking system (see Structure Fires 203.01) leaves much to be desired in the open air environment of a natural disaster. The use of barrier tape, carried by district chiefs and Squad 52 is one possibility. Securely tying a large piece of this tape to part of the remaining structure can show that the structure has been searched. Whatever method is used, a marking system is a valuable adjunct to a systematic search.

J. SEARCH FOR AND RESCUE TRAPPED OCCUPANTS (continued)

2. Prioritizing areas to be searched is difficult. The most devastated area, may not be the area most in need of search. A form of triage is necessary when resources are not sufficient to rescue all victims in a short period of time. It is difficult to assess the condition of a victim until they are found. With limited resources, it may be necessary to search for and remove those victims who are in danger, and most easily rescued, first. Several firefighters should not be assigned to one extremely difficult and time consuming rescue, when large numbers of other people are in need. Search priorities are subject to change. Searchers may discover that an area of total devastation, contains only fatalities, while other tracts have large numbers of live, viable victims.

K. PROVIDE NECESSARY MEDICAL CARE

1. Mass casualty incidents are discussed in the topic 204.02. A natural disaster can also be a mass casualty incident. Setting up triage and transportation groups is an important part of a natural disaster. Command must anticipate the need for a rapid build up of emergency medical services.

L. ACCOUNT FOR AND SHELTER THOSE IN NEED

1. Many victims will be in need of transportation to medical facilities, many others will need temporary shelter from the elements. Organizations, such as the Red Cross, usually provide for the long range need, but there is an immediate need to find a safe place for the evacuees. Just as with the fire scene search, victim information is somewhat unreliable, but it would be foolish not to use intelligence gathered from those involved in the incident. You might find out that everyone escaped certain buildings or that others are unaccounted for.

M. PROVIDE ACCESS TO THE AREA FOR FIRE APPARATUS AND AMBULANCES

1. Providing access to the area may be as simple as moving small amounts of debris, or require a considerable effort removing trees, large objects, etc. In the case of an earthquake or flood, it may be impossible to drive fire apparatus into the area. Boats or helicopters may be needed. Whenever possible, access routes should be established into the area. Carrying victims or laying hose long distances is time consuming and inefficient. Once access to the area has been secured, it must be maintained. Many agencies respond to a natural disaster. If they are not controlled, they will park vehicles, blocking precious access routes.
2. The liaison officer is an important part of the Incident Commanders team in these situations. Liaison should establish a staging area for outside agencies and coordinate their movement with the Incident Commander.

N. CONTROL UTILITIES

1. Electrical equipment can be a source of ignition, and cause injuries in the damaged area and should be shut down. Gas lines will rupture, and gas operated appliances will leak after major damage to an area, and should also be shut down. Water supplies should not be shut down unless severely damaged. Major water main ruptures are probable in an earthquake, and possible during other natural disasters. If this happens, water should be shut down to the effected area. When water is shut down, the fire division should establish a temporary water supply. Flood waters may pollute the water supply, making it necessary to shut down hydrant valves. Providing access for suction connections is an alternative water supply during flood emergencies.

O. CONTROL FIRES, HAZARDOUS MATERIALS EMERGENCIES, ETC.

1. Other emergencies are likely to occur after a natural disaster. If they are not controlled, additional deaths, injuries, and property damage will result. Preventing, containing, and controlling such emergencies is an integral part of natural disaster management.

P. RECOVERY OPERATIONS

1. Restoring a community to normalcy is part of the Fire Division's responsibility. Other government agencies have primary responsibility in this area, but the fire division will be called upon to assist.
2. During large scale, or particularly destructive incidents, it may take 72 hours or longer to answer some citizen calls for assistance. Citizens should be encouraged to take measures to stay informed and told not expect normal public service.