

18 EMERGENCY PREPAREDNESS

ANSWERS—QUIZ 1

1. b
2. b
3. a
4. b
5. a
6. d
7. c
8. d
9. b
10. b
11. a
12. To estimate potential damage to property, one should look at surroundings in addition to general structures.
13. The environmental problems that a fire or explosion can cause include toxic gases and dust resulting from combustion and decomposition, thermal plumes carrying materials substantial distances, and disposal problems involving large quantities of contaminated water used to extinguish the fire.
14. An emergency involving civil strife raises issues about the right to protect property versus individuals' legal right to assemble.
15. Priority checklists should be used so that if only short notice is give, at least the most vital precautions will have been taken.
16. In addition to having special training in fire prevention and protection, a fire brigade chief must also be able to command people.
17. The sequence is (1) water supply, (2) power facility, (3) machinery areas, (4) warehouse areas, and so on.
18. Some of the services a company has on standby may go instead to the highest bidder. As a result, management must have a contingency plan.
19. At predetermined locations, a specified alert condition becomes effective, and each supervisor completes a checklist for that alert. As the hurricane progresses toward the facility through the 100-mile (160-km) circle, 50-mile (80-km) circle, and so on, the facility is shut down in an orderly manner.
20. Members of a HAZWOPER team are an organized group of employees designated by their employer. They are expected to handle and control actual or potential leaks or spills of hazardous substances,

including possible close approach to the substance. Their goal is to control or stabilize an incident. The HAZWOPER team is not a fire brigade and a typical fire brigade is not a HAZWOPER team; however, a HAZWOPER team may be a separate component of a fire brigade.

ANSWERS—QUIZ 2

1. a
2. b
3. a
4. b
5. b
6. b
7. a
8. d
9. d
10. a
11. c
12. The basic plan will usually include: a chain of command, an alarm system, medical treatment plans, a communications system, shutdown and evacuation procedures, and auxiliary power systems.
13. The first step is determining what types of hazards may affect the organization.
14. It has increased due to the complexity of processes, the proliferation of industrial and agricultural chemicals, and the often close proximity of residential areas to industrial activities.
15. They are (1) keep the chain as small as is practical and (2) appoint personnel to crisis management positions based on their ability to respond to situations under extreme stress.
16. Alarms should be checked under a variety of wind and weather conditions to determine if the signal can be heard in all parts of the facility at all times.
17. A salvage squad is trained to protect as much stock and equipment as possible by controlling the flow of water, covering stock with tarpaulins, and spreading absorbent materials.
18. Companies often overlook the issue of who will pay any costs, such as repairs to equipment or workers' compensation for injured employees.
19. "Earthquake-resistant construction" consists of building a structure so that it "floats above the bedrock and ballasting it as a ship is ballasted, by making

lower stories heavy and upper stories light.” Utility lines and water mains should be flexible and laid in trenches that are free of the building, rising in open shafts, and connected to fixtures by flexible joints. Lockers, cabinets, shelves, etc., should be securely installed with seismic bracing and safety restraining strips on shelves containing bottles of chemicals.

20. A control room should be equipped with the following (needs to list at least seven types of equipment): telephones, sound-powered phones, public address system, maps of the facility, emergency lighting and electric power, sanitary facilities, reference books, emergency plans, material safety data sheets, a second exit, two-way radios for communicating locally and with emergency management authorities, if necessary. If communications break down during a disaster, panic and disintegration will quickly take over. A good communications plan should provide flexibility and control over the situation. It should have enough telephones, be able to handle incoming and outgoing calls, and use means of communication independent of normal telephone service, such as a battery-powered radio. In some cases, mobile phones may not work during a disaster.

small as is practical and (2) appoint personnel to crisis management positions based on their ability to respond to a situation under extreme stress, not on their title. The smaller a chain of command, the more effective and efficient its decisions and actions will be during a crisis.

3. Generally the ranking manager appears to be the best candidate for the position of crisis manager, however this may not be the best decision. Many people may be excellent managers under normal conditions because they have time to weigh the pros and cons of a situation. In a highly stressful, emergency situation, however, they may be incapable of making snap decisions. Individuals should be tested to see if they can perform under emergency conditions. If a ranking manager is not the best candidate, he or she should be a consultant to the position.

ANSWERS—CASE STUDY

1. An emergency manual often begins by addressing company policy and stating purposes, authority, principal, and control measures. An emergency organization chart showing positions and functions may also be provided. The manual should also describe potential disasters, in the case hurricanes and floods, and give a risk statement. A map of the facility showing equipment, medical and first aid supplies, fire control materials, shelters, the command center, evacuation routes, and assembly areas should also be included. The manual should describe the alarm system and the central communications center, including home contacts of employees as well as detail the shutdown procedure, including provisions for a security guard. Suggestions as to how to handle visitors and customers should be provided in addition to lists of locally related and necessary items and the availability and location of equipment and resources.
2. There are two basic guidelines to follow when establishing a chain of command: (1) keep the chain as