

**Environmental Health Sciences
Self-Study Course SS3010**

Lesson 14: Emergency Response and Hazardous Spill Management

Part I: Multiple Choice

1. The speed with which emergency action can be taken is largely dependent on:
 - a. size of the emergency
 - b. number of flood victims
 - c. prior planning
 - d. distance to stockpiled resources

2. The evacuation and survival of individuals in an emergency or natural disaster are dependent of the extent to which:
 - a. individuals can help themselves
 - b. how soon relief can be mustered
 - c. how soon a favorable or controlled environment can be restored
 - d. all of the above

3. The _____ is usually involved in dealing with major disasters.
 - a. American Legion
 - b. Federal Emergency Management Agency
 - c. Red Cross
 - d. both b and c

4. International Agencies which assist in emergency situations include:
 - a. World Health Organization (WHO)
 - b. World Safety Organization
 - c. International Welfare System
 - d. none of the above

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5. When the evacuation of homes and businesses is anticipated, individuals should turn off the:
- a. main electric power switch
 - b. outside gas valve
 - c. water supply valve, where applicable
 - d. all of the above
6. If temporary shelter is necessary in an emergency, shelter selection should take into consideration:
- a. protection from flooding and the elements
 - b. availability of heat, light, and space
 - c. both a and b
 - d. color of chlorination tablets
7. Natural disaster victims should be provided with _____ of water per day.
- a. 1 to 3 gallons
 - b. 3 to 6 gallons
 - c. 6 to 9 gallons
 - d. water is not necessary for this population
8. There is no need for _____ vaccination after flooding and other natural disasters, although it is frequently cause for public concern.
- a. typhoid
 - b. measles
 - c. AIDS
 - d. tick fever
9. A quantity of _____ liquid bleach (household) can be used to treat 1000 gallons of water for drinking.
- a. 2 quarts
 - b. 2 pints
 - c. 1 pint
 - d. 0.5 quarts

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10. _____ is a satisfactory method for disinfecting water that is not grossly polluted.
- a. chlorination
 - b. fluorination
 - c. oxygenation
 - d. CO₂ treatment
11. When treating water with chlorine in emergency situations, the chlorine dosage should be _____ when the water is turbid or colored.
- a. tripled
 - b. discontinued
 - c. decreased
 - d. doubled
12. Approved emergency response plans at nuclear electric power plant sites must be tested at least every _____.
- a. 2 years
 - b. quarter
 - c. 5 years
 - d. 1 month
13. The emergency plan at a nuclear electric power plant must include a means for notification of the public living within _____ of the plant within a 15-minute period.
- a. 1 mile
 - b. 5 miles
 - c. 10 miles
 - d. 12 miles
14. During nuclear emergencies, _____ provides technical support.
- a. EPA
 - b. DOE
 - c. FDA
 - d. all of the above

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15. The most hazardous category of nuclear emergency is _____.
- a. general emergency
 - b. unusual event
 - c. site area emergency
 - d. alert
16. Key components of the "HAZWOPER" program include:
- a. safety and health program
 - b. personal protection
 - c. training
 - d. all of the above
17. HAZWOPER requirements apply to:
- a. voluntary clean-ups at uncontrolled hazardous waste sites
 - b. routine sanitary sewer operations
 - c. small quantity generators of hazardous waste
 - d. water treatment plant operators
18. OSHA regulations other than HAZWOPER apply to emergency response and hazardous waste operations if they are:
- a. less stringent
 - b. more stringent
 - c. endorsed by FDA
 - d. ~~known by the site supervisor~~
19. The written safety and health program must incorporate _____.
- a. comprehensive work plan
 - b. medical surveillance program
 - c. standard operating procedures for safety and health
 - d. all of the above

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20. Hazardous waste sites must be characterized _____ general site entry to determine the hazards present at the site.

- a. after
- b. during
- c. prior to
- d. none of the above

21. The site control program at an uncontrolled hazardous waste site must include:

- a. site work zones
- b. times when EPA is likely to inspect
- c. medical surveillance requirements
- d. none of the above

22. Those who work on uncontrolled hazardous waste sites are required to receive a minimum of _____ of training.

- a. 20 hours
- b. 4 hours
- c. 40 hours
- d. 100 hours

23. Workers involved in waste operations at hazardous waste TSD facilities are required to receive at least _____ of training before working in hazardous waste operations.

Treatment, Storage, Disposal Unit (Controlled Facility)

- a. 16 hours
- b. 24 hours
- c. 4 hours
- d. none of the above

24. Air monitoring at uncontrolled hazardous waste sites can be conducted by:

- a. a person knowledgeable about industrial hygiene practices
- b. any person who can operate air monitoring instruments
- c. all EPA and OSHA personnel
- d. all hazardous waste workers

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25. Air monitoring shall be conducted in order to ensure proper selection of:

- a. engineering controls
- b. work practices
- c. personal protective equipment
- d. all of the above

Part II: Multiple Choice

1. A medical surveillance program must be provided to workers at hazardous waste sites by the:
 - a. workers' health insurance
 - b. OSHA
 - c. Federal government
 - d. employer

2. Employers are required to develop and implement a program to inform _____ of the degree of exposure likely as a result of participation in hazardous waste operations.
 - a. employees
 - b. contractors
 - c. attorneys
 - d. both a and b

3. Containers used in site clean-up operations must be marked and labeled in accordance with regulations.
 - a. OSHA
 - b. EPA
 - c. DOT
 - d. all of the above

4. If equipment or clothing is sent from an uncontrolled hazardous waste site for cleaning, the _____ associated with the equipment must be communicated to the off-site facility.
 - a. specifications
 - b. sizes
 - c. hazards
 - d. none of the above

5. Decontamination solvents must be:
 - a. disposed of properly
 - b. reused continuously until the site clean-up is complete
 - c. inspected by OSHA personnel
 - d. inspected by EPA personnel

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6. Uncontrolled hazardous waste sites must have an emergency response plan with the following elements:
- emergency recognition and prevention
 - site security and control
 - emergency alerting and response procedures
 - all of the above
7. Which of the following is not required in an emergency response plan at a hazardous waste site?
- PPE and emergency equipment
 - emergency medical treatment and first aid
 - EPA library telephone number
 - pre-emergency planning
8. Showers must be provided at hazardous waste cleanup sites when operations will last longer than _____.
- 6 months
 - 1 month
 - 12 months
 - 24 months
9. Those involved in hazardous waste operations at permitted TSD facilities must receive _____ of initial training.
- 16 hours
 - 24 hours
 - 40 hours
 - 8 hours
10. The yellow pages of the emergency response guidebook lists:
- commercial companies who respond to emergencies
 - hazardous materials by ID number
 - guides to use when responding to hazardous materials transportation incidents - orange
 - none of the above

Blue = hazardous materials by name of material

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11. The orange pages of the emergency response guidebook lists:
- a. guides to use when responding to hazardous materials transportation incidents
 - b. emergency telephone numbers
 - c. EPA hazardous materials personnel
 - d. none of the above
12. The green pages of the emergency response guidebook lists:
- a. EPA hazardous materials personnel
 - b. hazardous materials in alphabetical order - blue pages
 - c. initial isolation and protective action distances
 - d. hazardous materials by ID number - yellow
13. The U.S. DOT emergency response guidebook can be used to:
- a. determine compliance with the U.S. DOT hazardous materials regulations
 - b. create worker safety documents for specific chemicals
 - c. quickly identify the specific or generic classification of hazardous materials during the initial response phase of an incident
 - d. characterize hazardous waste for the purposes of disposal
14. Emergency guide # _____ would be used for guidance when responding to a highway spill of liquified sulfur dioxide.
- a. 1
 - b. 12
 - c. 16
 - d. 69
15. Emergency guide # _____ would be used for guidance when responding to a highway spill of barium peroxide.
- a. 42
 - b. 13
 - c. 1
 - d. 22

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16. To disinfect a well, one should _____ and pour directly into the well.
- a. mix one gallon of bleach in five gallons of water
 - b. mix one quart of bleach in five gallons of water
 - c. mix one quart of bleach in three gallons of water
 - d. mix one pint of bleach in three gallons of water
17. Following floods or other natural disasters, there is frequently public concern for _____ vaccination.
- a. cholera
 - b. amoebic dysentery
 - c. typhus
 - d. typhoid
18. The number one item listed under emergency equipment and supplies is _____.
- a. food
 - b. first aid kit
 - c. water
 - d. folding portable toilet
19. The recommendation for mosquito control during breeding season is to apply _____ of water surface.
- ~~a. 6 ounces of pesticide per 25 square feet~~
 - b. 6 ounces of pesticide per 100 square feet
 - c. 3 ounces of pesticide per 100 square feet
 - d. 3 ounces of pesticide per 50 square feet
20. In case of disasters, the speed with which action may be implemented is dependent upon:
- a. prior plans for emergencies
 - b. availability of manpower
 - c. availability of resources
 - d. the type of emergency

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21. During an emergency, the drinking water source should be:

- a. assumed safe
- b. safe only if it comes from a deep well
- c. assumed unsafe
- d. safe if it is used in large amounts

22. Following a disaster raw food should be:

- a. washed in bleach
- b. cooked well
- c. avoided if possible
- d. all of the above

23. In an emergency, people will need _____ of water per day each.

- a. 1 to 2 gallons
- b. up to 3 gallons per family unit
- c. 3 to 6 gallons
- d. none of the above

24. Emergency shelters should provide a minimum of _____ per person.

- a. 30 sq. ft² per person
- b. 20 sq. ft² per person
- c. overcrowding will not be a concern in a disaster
- d. none of the above

25. To disinfect (1 gal of) clear water using 5% household bleach:

- a. mix 6 to 8 drops of bleach and drink after setting 5 minutes
- b. mix 6 to 8 drops and let set for 10 minutes
- c. mix 1 teaspoon to 10 gallon. and let set 30 minutes
- d. drink canned and bottled food and beverage materials even though they were contaminated externally

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Part III: Multiple Choice

1. The provisions of the CFR Part 1910 of Title 29 "Bloodborne Pathogens" are under the authority of:
 - a. United States Public Health Service
 - b. Department of Health and Human Services
 - c. Justice Department
 - d. Department of Labor

2. All patients should be considered to be potentially infectious for HIV and other blood-borne pathogens. Therefore you should:
 - a. wear appropriate personal protective equipment
 - b. properly dispose of all sharps
 - c. wash your hands regularly
 - d. all of the above

3. Engineering controls are:
 - a. controls that isolate or remove hazards from the workplace
 - b. less effective than good training
 - c. the last option that should be considered
 - d. less effective than personal protection processes

4. According to "Universal Precautions," which of the following are considered to be infectious?
 - a. all blood from human sources
 - b. certain body fluids
 - c. body contact
 - d. a and b

5. Wearing contact lenses in an area that has the potential to expose workers to body fluids requires:
 - a. special cleaning, disinfection procedures if cleaned in the work area
 - b. that they may not be cleaned in the work area
 - c. no special process
 - d. none of the above

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6. Contaminated needles must always be:
- a. recapped after use
 - b. cut to ensure that they are not used again
 - c. washed in hot soapy water prior to reuse
 - d. tagged as used
7. Protective equipment such as gloves for workers in contamination risk areas must be:
- a. offered to the employee at the same cost as paid by the employer
 - b. rewashed prior to use by other employees
 - c. provided at no cost to the employee for work purposes
 - d. none of the above
8. Broken glassware found in contamination risk areas or if suspected to have contained infectious material:
- a. must be sprayed with a weak concentration of carbolic acid and let sit for a minimum of 5 minutes prior to picking up
 - b. must be left in place no matter how long until the decontamination team arrives
 - c. must be picked up using mechanical means
 - d. covered with a red towel soaked in disinfectant
9. All Laundry that is suspected of being contaminated with body fluids must be:
- a. inspected prior to washing to ensure that there are no sharps left in the fabric from careless health care workers
 - b. placed directly into the washer without sorting
 - c. sorting and inspection of laundry is required prior to washing
 - d. stored in linen bags of a very tight weave
10. Hepatitis B vaccinations for employees that work in contamination risk jobs and areas:
- a. must be offered at no cost
 - b. must be made available to the employees at the employers cost
 - c. are required of all such employees
 - d. are not required due to the non-serious nature of the disease and its difficulty of spread or employee contraction