

IMPLEMENTING the PLANNED RESPONSE

MODULE II

Initiating protective actions by giving examples of facility and transportation hazardous materials incidents, the local emergency response plan, the organization's standard operating procedures, and the current edition of the Emergency Response Guidebook. (4.4.1)

- a) Awareness level responders can implement appropriate actions based on knowledge acquired while analyzing the incident.
- b) Emergency response plans should establish methods and procedures that facility owners and operators, as well as local emergency and medical response personnel, are to follow.
- c) Effective response handling for incidents is a must for responders to accurately assess the situation and initiate appropriate measures.

Identify the basic precautions to be taken by the awareness level responder to protect themselves and others in a hazardous materials incident. IAW the Emergency Response Plan (ERP) or SOP's (4.4.1(3))

- a) Take protective action to isolate the hazard area
 - 1 Evacuate those in danger from the immediate area.
 - 2 Deny entry to unauthorized personnel
- b) If evacuation is not possible
 - 1 Responders are to provide in-place protection
 - 2 Keep victims away from doors and windows due to blast hazard

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Identify the precautions necessary when providing emergency medical care to victims of hazardous material incidents. (4.4.1(3)(a))

- a) The victim may be contaminated, decontamination measures must be considered.
- b) Awareness level responders may not be wearing respiratory protection or any other personal protective clothing.
- c) Understanding your limitations will prevent you from becoming a victim.

Identify the typical ignition sources found at the scenes of hazardous materials incidents. (4.4.1(3)(b))

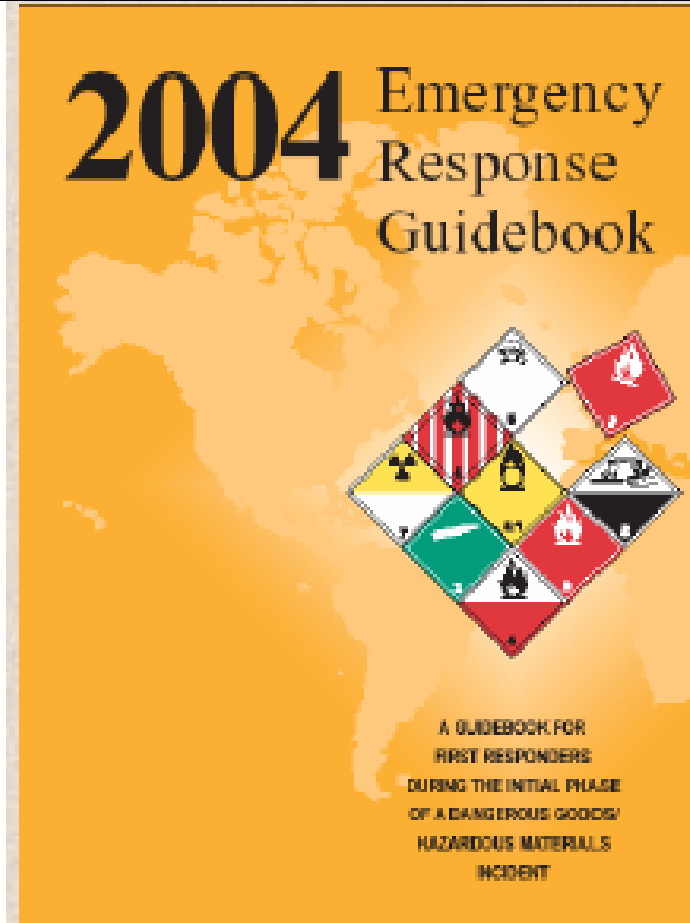
- a) Open flames
- b) Smoking materials heat
- c) Cutting and welding operations
- d) Heated surfaces
- e) Frictional heat
- f) Radiant heat
- g) Static electricity
- h) Electrical and mechanical sparks
- i) Chemical reactions
- j) Lightning

Identify general routes of entry for human exposure to hazardous materials for each hazard class. (4.4.1(3)(d))

- a) Contact - skin surface of corrosive materials that damages skin or body tissue through touching.
 - 1. Acids and alkalis can cause severe burns

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- b) Absorption – The process in which one substance penetrates the inner structure of another.
 - 1) Hydrogen cyanide (Class 2), can be absorbed through the skin with fatal results
- c) Inhalation – Breathing the substance, which can cause severe damage.
 - 1) Chlorine and ammonia (Class 2), poisonous materials and infectious substances (Class 6), and some radioactive materials (Class 7)
- d) Ingestion – Introduction of hazardous material(s) into the body through the mouth. Toxic substances can be present in drinking water and in food.
 - 1) Examples may include poisonous materials and infectious substances (Class 6), radioactive materials (Class 7), can do even more damage when ingested.



***Note: Summary of changes from ERG 2000**

1. General information (White) pages have various sections expanded and/or revised;
 - a. What is a TIH? - covering both gases and liquids
 - b. Isolation and evacuation distances
 - c. Who to call for assistance
 - d. Hazard classification system
 - e. Table of placards and Initial Response Guide
 - f. Rail car identification chart
 - g. Road trailer identification chart
 - h. Hazard identification codes on some intermodal containers
 - i. Criminal/Terrorist use of Chemical/Biological/Radiological Agents

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- j. Emergency Response telephone numbers
- 2. Index list of Dangerous Goods in order of ID number (Yellow-bordered pages) and the index list of Dangerous Goods in alphabetical order (Blue-bordered pages).
 - a. Deletion of old organic peroxide names
 - b. Deletion of pre-1995 US NA numbers
 - c. Deletion of Canadian NA numbers
 - e. Addition of all new dangerous goods listed in UN recommendations on the Transport of Dangerous Goods (12th & 13th) editions.
 - f. Reassignment of certain materials to a different guide.
- 3. Safety Recommendation/Emergency Response Guides (Orange bordered pages)
 - a. Updates to some guides
 - b. Guide 147, presently “dormant” due to deletion of organic peroxide names.
- 4. Table of Initial Isolation and Protective Action Distances, and Table of Water-Reactive Materials which produce Toxic Gases (Green bordered pages).
 - a. Addition of materials to both tables
 - b. Update of initial isolation and protective action distances

Utilizing the 2004 Emergency Response Guidebook Identify the methods for determining the appropriate guide page for a specific hazardous material. (4.4.1(4))

- a) Four-digit ID number on (Yellow bordered Pages)
 - 1) A placard
 - 2) An orange panel
 - 3) Shipping papers
 - 4) Packaging
- b) Name of the material on (Blue bordered Pages)

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- 1) Shipping papers
- 2) Packaging
- 3) Placard
- c) Placards (Table of Placards)
- d) Dealing with an unknown
 - 1 Guide 111
 - 2 Dangerous placard

Identify the various hazardous materials, and the general response information found on each guide page. (4.4.1(4))

- a) Fire and Explosion Hazard
- b) Health hazard
- c) "P" presents a polymerization hazard
- d) Personal protective equipment necessary
- e) Initial isolation and protective action distances

First responders at awareness level shall identify the definitions for each of the following protective actions. (4.4.1(6))

- a) Isolation of the hazard area and denial of entry
 - 1) Personal protective for personnel not involved with incident
- b) Evacuation
 - 1) The movement of everyone away from the threatened area to a safer place
- c) Sheltering in-place protection

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- 1) Used when evacuation cannot be accomplished safely for threatened personnel
- d) Emergency actions from numbered guides in the ERG
 - 1) Fire
 - 2) Spill or leak
 - 3) First aid
- e) Protective Clothing
- f) Initial isolation & protective action distances

Recommended protective clothing in *Emergency Response Guidebook* (4.4.1(5))

- a) Street clothing and work uniforms
- b) Structural fire fighter's protective clothing
- c) Positive pressure SCBA
- d) Chemical-protective clothing and equipment.

Shapes of recommended initial isolation and protective action zones in ERG. (4.4.1(7))

- 1) Initial isolation zone is circular.
- 2) The protective action zone is a square shape.
- 3) The estimated downwind distance for protective actions is calculated when the downwind distance from the ERG Isolation and Protective Action Distance table, and divide the recommended downwind distance by $\frac{1}{2}$, then evacuation is achieved in a square area downwind from initial isolation spill.

Difference between small and large spills as found in the table of isolation distances. (4.4.1(8))

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- 1) Small spill
 - a) Leak or spill from a single small package
 - b) Small leak in a large package includes up to a 55 gallon drums or smaller
 - c) small cylinders.
 - d) small leak from large package

- 2) Large spill
 - a) Leak or spill from a large package
 - b) Spill from many small packages.
 - c) A large spill would be a - ton cylinder, a tank truck, or a rail car.

Circumstances under which different distances are used at a hazardous materials incident (4.4.1(9))

- 1) Table of initial isolation and protective action distances used when entries in yellow or blue bordered pages are highlighted
- 2) Isolation distance in the numbered guides are used when the correct guide is found in the blue or yellow bordered pages and the entry is NOT highlighted the material presents a hazard of explosion.

Difference between the isolation distances in the orange-bordered pages and the protective action distances in the green-bordered pages in the document. (4.4.1(10))

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- 1) Green bordered or protective action distances are used for materials that present a toxic by inhalation hazard
 - a. **"If not involved in fire"**
- 2) Orange bordered or numbered guides used to protect from immediate hazards

Identify techniques used to isolate the hazard area and deny entry to unauthorized persons. (4.4.1(11))

- a) Utilize a vehicle to block a road or driveway
- b) Ropes
- c) Barricades
- d) Law enforcement to divert traffic from area
- e) In fixed facility, close doors, gates or use public address system to announce problem and actions for personnel to follow

Specific actions necessary when an incident is suspected to involve criminal or terrorist activity. (4.4.1(12))

- a) Take appropriate actions to protect yourself and others
- b) Communicate the suspicion during notification process
- c) Isolate potentially exposed people or animals
- d) Document the initial observation
- e) Attempt to preserve evidence while performing operational duties
- f) Be alert for booby traps and/or explosive devices
- g) Establish control zones and access control points
- h) Prevent secondary contamination, including from handling patients

Initiating the notification process by giving either a facility or transportation incident, regardless of the presence of criminal or terrorist activities. Identify initial notifications and how to make them, consistent with the local emergency response plan and the organization's standard operating procedures. (4.4.2)

- a) Applicable to each jurisdiction
- b) Commonly kept with responsible agencies

Role of the first responder at the awareness level during a hazardous materials incident. (4.4.2)

- a) The guidelines for this are found in the
 - 1 Local emergency response plan
 - 2 Standard operating procedures (SOPs).
 - 3 Emergency Response Guidebook
- b) Who to call for assistance
 - 1. Follow steps outlined in your SOP's and/or local emergency response plan. Follow rest of steps in order
 - 2. Organization / Entry
 - 3. Emergency response telephone number
 - 4. National response assistance

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Performing these tasks is one of the most important tasks of the first responder awareness level as it all starts with the first on-scene.

Before actions are implemented, information must be gathered. This information must be accurate to be useful to the hazardous materials responder.

This lesson is the foundation of all training that follows.