Missouri Valley Fire & Rescue Department

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STANDARD OPERATING GUIDELINE

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401

Chronological History
Effective: January 1, 2010

HAZARDOUS MATERIALS RESPONSE

Purpose

To establish guidelines for incident evaluation and safe handling of hazardous materials incidents.

Policy

These guidelines shall be followed in the handling of hazardous material incidents and to insure the safety of the personnel and citizens.

Procedure

1. Upon Arrival

   A. Size up the situation:
      1. The first unit must consciously avoid committing itself to a dangerous situation. When approaching, slow down or stop to asses any visible activity taking place. Evaluate the effects of the wind, topography and location of the situation.
      2. The objective of size-up is to identify the nature and severity of the immediate problem and gather sufficient information to formulate a valid action plan. A hazardous materials incident requires a more cautious and deliberate size-up than most fire situations.
      3. Avoid premature commitment of companies and personnel to potentially hazardous locations. Proceed with caution in evaluating risks before formulating a plan and keep uncommitted companies at a safe distance.
      4. Make careful size-up before deciding on a commitment. It may be necessary to take immediate action to make a rescue or evacuate an area, but this should be done with an awareness of the risk to response personnel, and taking advantage of available protective equipment.

5. Don't assume anything! A wrong decision, while working with hazardous materials, can be worse than no decision.

B. Report on conditions.
C. Establish an operational perimeter.
D. Initiate material identification operations:
    1. It is imperative that the first arriving unit determine what hazardous material(s) is(are) involved, and how much, prior to taking action to stabilize the incident.
    2. Entering the scene to make positive identification may be a considerable risk. The danger of explosion, leaking gas and poisoning may be great.
    3. Action taken prior to determining the product involved may be totally wrong and may severely compound the problem.
F. Attempt to identify the involved material(s) by way of the following:
    1. Check placarding and/or labeling.
    2. Check paperwork associated with the materials transportation or storage.
    3. Check with persons directly related to the accident/incident, ie driver, owner, trainman, technician, area operator, etc.
    4. Contact shipper and/or manufacturer.
    5. Obtain the exact spelling of the materials involved.

2. Initial Operations:
    A. Establish a command post
    B. Obtain technical information:
        1. Utilize the DOT Hazardous Materials Emergency Response Guidebook.
        2. Contact ChemTrec (800) 424-9300.
        3. Utilize other informational sources available.
        4. Contact the shipper and/or the manufacturer (ChemTrec can assist in this).
    C. Identify Priorities based on the following:
        1. The type and magnitude of life hazard involved.
        2. The type and quantity of hazardous material(s) involved.
        3. Reference the "DECIDE" acronym for determining the steps in dealing with a hazardous materials event.
            D - Detect the presence of hazardous materials.
            E - Estimate potential harm without intervention.
            C - Choose response objectives.
            I - Identify action options.
            D - Do best option.
            E - Evaluate progress.
    D. Identify the objectives:
        1. The objectives must be based upon those priorities which have already been identified. They must be flexible enough to account for the dynamics of the situation.
        2. The objectives must focus on confinement and/or control of the involved materials in such a way so as to save lives and to prevent the unnecessary exposure of on-scene or nearby personnel (including responders, bystanders, law enforcement personnel, etc.) to the adverse effects of the involved material(s). Objectives must also provide for the protection of uninvolved property and the environment.
        3. Objectives must be clearly understood and well communicated among all levels of the on-scene organization attempting to cope with the problem. Close cooperation and coordination is essential if disaster is to be averted.
    E. Action Plan - The action plan must be based upon the identified objectives and must be understood by all involved personnel at the scene. The action plan should be centered primarily around the following:
            a. Protection of life.
            b. Confinement of the material and its by-products.
            c. Control of the material and its effects on humans, animals, property and the environment.

F. Monitor progress of the action plan to insure that objectives are either accomplished or modified according to the dynamics of the situation.

3. Safety
   A. All operations up to and including the evacuation process must be accomplished with the idea of overall safety as the key component.
   B. Members shall wear the appropriate protective clothing. A minimum of FULL PROTECTIVE CLOTHING must be worn inside the operational perimeter. Special protective clothing may be necessary depending upon the nature of the materials involved.
   C. Be alert for the symptoms of chemical poisoning and reactions that could threaten the lives of responders and other involved personnel.
   D. Members who have been exposed to hazardous materials shall receive immediate medical treatment.
   E. In general, the following safety guidelines should be observed:
      1. Move and keep people away from incident scene.
      2. Do not walk into or touch any spilled material.
      3. Avoid inhalation of all gases, fumes, and smoke even if no hazardous materials are involved.
      4. Do not assume that gases or vapors are harmless because of lack of smell.
   F. Keep in mind the basic safety priorities:
      1. Personnel safety.
      2. Safety of others.
      3. Environmental impact.

4. Cleanup and disposal
   A. Department responsibility, beyond that of preserving life and property, is only to identify and, stop and contain the spill material if adequately trained personnel and equipment are available. Professional disposal companies and/or teams should be utilized for cleanup and disposal. Use of this resource is expected. The transport company or the shipper shall be held responsible for any costs involved.

5. General procedures

   It must be remembered that any and all procedures which must be carried out at a hazardous materials incident must be based upon and compatible with the physical properties of the involved material(s). The following list contains some basic guidelines which may apply to hazardous materials situations in a general sense. The nature of materials involved will dictate more specific procedures.

   A. Take all feasible steps necessary to protect or save human life. Safeguard property insofar as practical.
   B. Take actions to contain and/or prevent the spread of the material. Spread sand or other collection agents, build dikes, etc. Control run-off water at fires.
   C. Keep bystanders as far from the scene of the incident as reasonably possible.
   D. Isolate for further examination those persons who may have had contact with the material. Obtain names and addresses, where applicable, of those involved.
   E. Remove injured persons from the area with as little direct personal contact as possible. Hold them at a transfer point for first aid. If serious injury has occurred, demanding more than first aid measures, the patient should be sent, at once, to the nearest emergency room for medical attention. Advise medical attendants and facilities of possible contamination and what material is involved.
      1. Medical first aid is directed primarily toward restoration of breathing, control of hemorrhage, splinting for fractures, prevention of shock and control of pain. These are carried out for exposed persons in the same basic fashion as for a non-exposed individual.

2. First aid for contaminated persons consists of cleansing the skin of obvious dirt (possible contamination) and, if feasible, carefully remove the outer garments and shoes of the patient and wrapping him mummy-fashion in a blanket, sheet, canvas, or large coat. By this measure, any remaining contamination is contained and if the wrapping is carefully done, the victim can be moved with little likelihood of spreading contamination.

F. If incidents involve fire or material subject to blowing in the wind, conduct operation from an upwind position. Keep out of smoke, fumes, or dust resulting from the incident. Segregate clothing and tools used at the scene until they can be checked for contamination. Do not handle suspected material until it has been inspected and released by qualified technical experts.

G. In a vehicle accident involving hazardous material, detour all traffic around the accident scene. If this is not possible, move the vehicle or vehicles involved the shortest distance necessary to clear the right-of-way. If the material is spilled, prevent the passage of vehicles and people through the area until it has been surveyed. If right-of-way must be cleared before the assistance team arrives, wash spillage to the shoulders of the right-of-way with a minimum of dispersal of wash water. Try and construct a dike to contain the wash water or use absorbent materials to control run off. Do not allow wash water to enter the drainage system.

H. Do not eat, drink, or smoke in the accident area. Do not use food or drinking water that may have been in contact with material from the incident area.

I. Sometimes, a non-attack posture is the best approach to a hazardous materials problem. A fire in any of the following materials should signal a non-attack posture and immediate evacuation of the surrounding area:
    1. Class A Explosives
    2. Class B Explosives
    3. Oxidizers
    4. Organic Peroxides (does not include hydrogen peroxide)

K. Hazardous materials must not be carelessly washed down storm drains or sewers. Such action could compound the problem and hasten disaster.

L. In some cases, it may be better to let a fire involving certain hazardous materials to burn. In such cases, the run off water from fire extinguishment operations may pose more a hazard than the fire itself.

M. Fires involving hazardous materials in closed containers such as tank trucks, tank farms, etc., may also indicate a non-attack posture.

By Authority of:
Fire Chief

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