

LESSON PLAN

PART I
COVER SHEET

LESSON TITLE: Major Accident Threats and Hazardous Materials

TRAINING METHOD: Briefing

REFERENCES: AFI 32-4001, Disaster Preparedness Planning and Operations (May 1994)
FEMA Handbook HS-2, Emergency Management USA (May 1986)
FEMA Handbook HS-5, Hazardous Materials: A Citizen's Orientation
(Jan 1990)
FEMA Handbook SM-305.6, Community Awareness and Right-to-Know
DOT P 5800.5, 1993 Emergency Response Guidebook
AFIT 410 CE Readiness Officer Course
National Fire Protection Association Standard 472

**AIDS AND
HANDOUTS:**

LESSON OBJECTIVE: Given a lecture on major accident threats, hazardous materials, and personal protective actions, the student, should gain a basic understanding of the major accident threats that they may be subject to and their required individual actions.

SAMPLES OF BEHAVIOR: The material covered in this briefing is not testable.

ORGANIZATIONAL PATTERN: Topical

SUGGESTED COURSE(S) OF INSTRUCTION: Base Populace Course

STRATEGY: Incorporate this lesson into the Installation Disaster Preparedness Information Program. Emphasize prevalent local threats and the required actions the students should take. Modify this briefing to meet your base's mission and major accident threats.

LESSON OUTLINE:

MAIN POINT 1. MAJOR ACCIDENTS
A. Types
B. Awareness

- MAIN POINT 2. HAZARDOUS MATERIALS
- A. "Community Right-To-Know" Act
 - B. Immediate Dangers
 - C. Definition

- MAIN POINT 3. INDIVIDUAL'S ACTIONS IN THE COMMUNITY

- MAIN POINT 4. INDIVIDUAL'S ACTIONS ON THE BASE
- A. Individual Actions
 - B. First Responders
 - C. Responding Agencies

PART II
TEACHING PLAN
INTRODUCTION

ATTENTION:

Yesterday at 2:00 p.m., "A Pope AFB F-16D aircraft, assigned to the 74th Fighter Squadron, collided with a C-130 aircraft, assigned to the 2nd Airlift Squadron. A C-141 was struck by debris from the F-16 aircraft. Several Fort Bragg soldiers were killed and many injured as they were preparing to board the C-141. Initial figures indicated that 15 soldiers were killed and 91 were injured."

That is how the headlines read in reference to a multiple aircraft crash that occurred at Pope AFB in March 1994.

Although technology helps us in so many ways, it also creates a higher potential for disaster.

MOTIVATION:

As an appointed member of the Disaster Response Force (DRF), you may be in the forefront of any response to a major accident or natural disaster. You need to know what sort of hazards may be present so you can advise the responding forces and ensure they avoid unnecessary danger.

OVERVIEW:

In this block we will discuss the types of major accidents you may encounter, along with some of the associated hazards. In addition, we will cover the required actions to save lives, mitigate damage and protect the environment during a contingency response.

TRANSITION:

Let's begin with the types of major accidents.

BODY

MAIN POINT 1. MAJOR ACCIDENTS

A major accident is considered any accident involving DOD material or activities that is serious enough to warrant response by the base disaster response force.

It differs from the minor day-today emergencies and incidents that base emergency response agencies typically handle.

Major accidents will most likely result in risk of injury or death to personnel, extensive property damage, and adverse public reaction.

A. TYPES

A. A major accident may involve:

(1) Conventional explosives:

- ⇒ Mass explosion hazards
- ⇒ Projection hazards
- ⇒ Mass fire hazards
- ⇒ Minor explosion hazards
- ⇒ Insensitive explosion hazards

(2) Nuclear weapons or materials:

- ⇒ Radioactive sources
- ⇒ Heavy metal/corrosive sources
- ⇒ Pressurized cylinders

(3) Aircraft accidents:

- ⇒ Ejector seat cartridges
- ⇒ Bomb rack squibs
- ⇒ Hydraulic fluid, fuel, pressurized containers
- ⇒ Flares and chaff
- ⇒ Composite material/carbon fiber

(4) Accidents that involve mass casualties.

(5) Hazardous materials:

- ⇒ Toxic or caustic chemicals
- ⇒ Asphyxiating chemicals or gases
- ⇒ Flammable or explosive
- ⇒ Pollutants

(6) Fires

- ⇒ Structural or terrain
- ⇒ Electrical sources
- ⇒ Forest

MOST OFTEN, MAJOR
ACCIDENTS INVOLVE
MULTIPLE HAZARDS

Most major accidents aren't nice or neat packages. More often than not, a major accident will involve multiple hazards. For example, the major accident at Pope AFB included the aircraft accident, as well as, the possibility of explosive munitions and contamination from composite fibers and fuel.

B. AWARENESS

INSTRUCTOR'S NOTE: Tell the students what is unique about their base: type of aircraft, weapon threats, high-risk chemical hazards, etc. Use the base OPlan and the current edition of the Emergency Response Guidebook as guides to initiate protective actions consistent with the local emergency response plan and the organization's standard operation procedures.

B. Major accidents can occur anytime, day or night, including holidays and weekends.

They can occur on or off-base. In fact, a major accident in the civilian community could affect base operations and vice versa.

Hazardous materials are becoming very prominent these days and their presence in everyday life has forced us to become better aware of the dangers associated with storing, using, transporting, and disposing of these substances.

Awareness of the threats and hazards is your first defense, as well as, the foundation of an efficient response.

There are programs available at the installation level to help in controlling hazardous materials. Types of training available:

- ⇒ Hazardous Emergency Response
- ⇒ Hazardous Communications
(HAZCOM)
- ⇒ Hazardous Waste Operations Response
(HAZWOPER)

Your job may require you to have some of this training.

We must be aware of the hazardous materials we use, dispose of , or store. Handle them in accordance with manufacturer's instructions.

TRANSITION:

Let's spend some more time on this area of high public concern.

MAIN POINT 2. HAZARDOUS MATERIALS

In the past few years the number of incidents involving hazardous materials have drastically increased.

A. THE "COMMUNITY RIGHT- TO-KNOW" ACT

A. Hazardous materials accidents are a very real threat in our daily lives at home and work. Hazardous materials are widely used throughout the Air Force and the civilian community.

In 1985, a gasket failed on a storage tank releasing a cloud of toxic chemicals (Methyl Isocyanate) injuring 120 people near a Union Carbide plant, located in Institute, West Virginia.

EPCRA

In October 1986 the Emergency Planning and Community Right-to-Know Act, commonly referred to as EPCRA, was signed into law, along with procedures being initiated, by the Department of Transportation (DOT) for expanding transportation requirements and placarding of all classes of hazardous materials.

The government initiated these programs so individuals would be able to obtain information about chemicals that are manufactured, stored, used, transported, and disposed of in the community.

B. DEFINITION

As defined by the U.S. DOT, a hazardous material is one that poses an unreasonable risk to the health and safety of operating or emergency personnel, the public, and/or the environment, if it is not properly controlled. This risk may occur during handling, storage, manufacture, processing, packaging, use, disposal, or transportation of the materials.

In short, hazardous materials are substances that, either alone or in combination with other substances, have the potential to damage human life.

C. IMMEDIATE
DANGERS

C. Immediate dangers from hazardous materials are poison gases, fires, explosions, and possible contamination of the environment and its natural resources.

The release of toxic gases may cause immediate death or disablement if inhaled.

Water resources, if contaminated, are unsafe and unusable.

Some chemicals cause painful and damaging burns to the skin if you come in direct contact with them.

There are, of course, long term dangers causing debilitation, disease, or birth defects that can occur over an extended period of time.

TRANSITION:

Now, let's talk about some of the required actions when you're involved in a major accident response.

MAIN POINT 3.
INDIVIDUAL
ACTIONS IN THE
COMMUNITY

A. HAZMAT/MAJOR
ACCIDENTS

Individuals witnessing an incident must alert others in the immediate area and report the accident.

As the result of a major accident involving hazardous waste, there may be familiar substances like gasoline, natural gas, and other petroleum products, or there may be chemicals capable of producing toxic or even deadly fumes.

The key to safety is knowing what to do if a hazardous materials spill or accident happens. The uncontrolled release of these substances through transportation or industrial accident can result in dangerous or even lethal situations.

If you see an accident or incident that may involve hazardous materials, notify others and the emergency authorities at “911” or your local fire or police officials.

Report briefly what you have seen and let the authorities handle the situation from there. Do not approach an emergency scene if hazardous materials are present or suspected. Resist the urge to rush in, you may endanger your life and the lives of others.

In the case of a hazardous material emergency in your immediate community, you may be asked to take actions like, protect your breathing, shelter in place, or evacuate until notified. Consider listening to the TV or radio for further information.

**MAIN POINT 4.
ACTIONS ON THE
BASE**

Just remember, as a member of the community and this base, you also have certain responsibilities during hazardous materials incidents, as well as, other major accidents.

Awareness level responders must be familiar with the notifications process, which will vary at each location. These standard procedures are located in the base Oplan.

**A. INDIVIDUAL
ACTIONS**

Whatever the procedures, the Awareness level responder must rapidly set the proper notification process in motion.

May involve notifying local fire or police or internal organization notifications, such as the on sight specialist, fire brigade, or security.

**ISOLATE THE AREA
AND DENY ENTRY**

May need to isolate the hazard area and deny entry. Everybody not directly involved in the emergency response operations will be kept away from the affected area.

Immediate actions sometimes are required of both local emergency response agencies, as well as, the base fire department and disaster response forces.

BE AWARE OF YOUR
ROLE

(1) IF CAUGHT
OUTSIDE NEAR THE
ACCIDENT

(2) AREA OF
VULNERABILITY

Each organization has standard operating procedures based on the situation. It is important to be aware of the role you may play when responding to an incident.

(1) Outside, near the accident site:

- ⇒ Evacuate away from the site in upwind or crosswind direction.
- ⇒ Notify others.
- ⇒ Help without endangering yourself.
- ⇒ Call 911 and report details such as color of spill or cloud, description of container or vehicle, and any placards or signs.
- ⇒ Resist the urge to rush in; you can't help others until you know what you are facing.

- ⇒ Listen to the radio, TV, and response personnel.

(2) In a zone of vulnerability to the site:
(vulnerable to downwind hazard)

- ⇒ Leave immediately, if time permits shut off power, close windows/vents, and put a sign in the window saying "evacuated".
- ⇒ Monitor radio
- ⇒ Don't return until notified

(3) SHELTER-IN-
PLACE PROTECTION

(3) In place protection when an evacuation cannot be performed:

- ⇒ Shut off power/AC/heat and close windows/vents, pilot lights out
- ⇒ Extinguish all flammable items
- ⇒ Protect your respiratory tract with a cloth and skin with clothing
- ⇒ Monitor radio for updates

There may be a need to perform an evacuation or move everyone from the threatened area to a safer place. To accomplish this, there must be enough time to warn the personnel, to get them ready, and to leave the area.

INSTRUCTOR'S NOTE: The following information is geared more to the first responder/witness procedures versus a generic approach to an incident by the base populace.

B. FIRST
RESPONDERS

B. Persons witnessing an accident are referred to as "first responders". These individuals must alert others in the immediate area and report the incident.

The Department of Transportation's Emergency Response Guidebook, along with the base OPlan, lists a common sense approach to accidents that apply in just about every situation. Paraphrasing these two references include the following steps:

(1) APPROACH
CAUTIOUSLY

(1) Approach cautiously. Stay upwind or parallel to the accident. Resist the urge to rush in; you can't help others until you know what you are facing.

(2) IDENTIFY THE
HAZARDS

(2) Identify the hazards. Placards, container labels, shipping papers and/or knowledgeable people on the scene are valuable information sources.

(3) SECURE THE
SCENE

(3) Secure the scene. Without entering the immediate hazard area, do what you can to isolate the area and assure the safety of people and the environment. Move to a safe place and keep people away from the scene and the perimeter.

(4) CONTAMINATION
AVOIDANCE

(4) Contamination Avoidance. Above all, do not walk into or touch spilled material. Avoid inhalation of fumes, smoke, and vapors, even if no hazardous materials are suspected. Do not assume that gases or vapors are harmless because of lack of smell -- odorless gases or vapors may be harmful.

(5) HAZARD
AVOIDANCE

(5) Remember weigh any efforts you make to rescue people, protect property or the environment against the possibility that you could become part of the problem.

May need to isolate the hazard area and deny entry. Everybody not directly involved in the emergency response operations will be kept away from the affected area.

C. RESPONDING
AGENCIES

C. This is where the Disaster Response Force sets into action. Actions vary according to the incident but will usually include:

- (1) Notification and evacuation.
- (2) Response to perform rescue, lifesaving, and hazard suppression and containment.
- (3) Damage assessment and recovery.

TRANSITION:

Keeping homes, work centers, and communities safe from the dangers created by mishandling of hazardous materials falls on all our shoulders. From children to adults, the message is clear; we must stay aware of what hazardous materials we use, store, and dispose of.

Hazardous materials education and pre-planning at home, work, and play will help make our environment safe.

CONCLUSION

- SUMMARY:** We've just covered the different types of major accidents, the threat of hazardous materials and some basic actions required if you're involved in responding to a major accident.
- REMOTIVATION:** Now if you find yourself involved in a major accident you'll know what actions to take without becoming a casualty yourself.
- CLOSURE:** This concludes this lesson.
- TRANSITION:** (Develop locally to transition to the next topic.)

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**PART III
EVALUATION**

This section not used.

PART IV
RELATED MATERIALS

This section not used.

TRAINING PACKAGE COMMENT REPORT

RTP #	RTP DATE
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Comments: _____

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