Initial Response to Terrorism: Basic Concepts

IRT: BC-Student Manual

2nd Edition, 2nd Printing-August 2024



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Initial Response to Terrorism: Basic Concepts

FEMA

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TABLE OF CONTENTS

PAGE

Table of Contents iii
Acknowledgments v
Course Description vii
Course Goal vii
Audience, Scope and Course Purpose vii
Grading Methodology viii
Grading Rubrics ix
Schedule xiii
Firefighter Code of Ethics xv
A Student Guide to End-of-course Evaluations xvii

UNIT 1: UNDERSTANDING AND RECOGNIZING TERRORISM SM 1-1

Appendix A: Significant Domestic Terrorism Incidents in the United States in 2020 and 2021
Appendix B: Complex Coordinated Attacks — Security Awareness for Soft Targets and Crowded Places

UNIT 2: IMPLEMENTING SELF-PROTECTIVE AND SCENE CONTROL MEASURES SM 2-1

Appendix: Guidelines for Control of Emergency Exposures

UNIT 3: TACTICAL CONSIDERATIONS SM 3-1

UNIT 4: CREATING AN ACTION PLAN: COMPLEX COORDINATED ATTACK SM 4-1

UNIT 5: INCIDENT COMMAND OVERVIEW SM 5-1

Acronyms

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ACKNOWLEDGMENTS

The development of any National Fire Academy (NFA) course is a complex process aimed at providing students the best possible learning opportunity we can deliver.

There are many players in the course development, each of whom plays an equally important part in its success. We want to acknowledge their participation and contribution to this effort and extend our heartfelt thanks for making this quality product.

The following people participated in the creation of this course:

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COURSE DESCRIPTION

This course introduces the fundamental concepts of emergency response for incidents of known or suspected terrorist activities involving hazardous materials, weapons of mass destruction (WMD) or active shooter/hostile events (ASHE).

COURSE GOAL

The Fire Prevention and Control Act of 1974, Public Law 93-498, authorizes the U.S. Fire Administration's (USFA's) NFA to administer a national training program in Emmitsburg, Maryland, for "advancing the professional development of fire, rescue and emergency service personnel" to mitigate the loss of life and property from fire and other hazards. An integral part of that program is training in emergency response to terrorism.

The goal of the course is to provide guidance during the first 30 to 60 minutes of a hazardous materials incident to include pre-incident planning, recognition of a criminal hazardous materials/WMD or ASHE incident, establishing command, scene size-up, and initiating a risk-based response that incorporates jurisdictional and agency capabilities with incident needs.

AUDIENCE, SCOPE AND COURSE PURPOSE

The primary target audience for this course includes three groups of people, preferably trained to the operations level in hazardous materials response: fire personnel, emergency medical services (EMS) responders and hazardous materials responders.

In addition, this course is designed to benefit law enforcement personnel, emergency communications personnel, emergency management personnel, public works management, public health workers, armed forces/reserves/National Guard members and disaster response agencies.

The course will be delivered in a residential, instructor-led format.

GRADING METHODOLOGY

Grading rubrics are provided for all graded assignments. Each rubric is labeled according to the activity name.

Students who do not complete the entire course will be awarded an Incomplete (I) grade. In accordance with NFA academic policies, an Incomplete (I) grade must be removed by the end of the next semester following the course, or it automatically becomes a Failing (F) grade. Students must earn a C (70%) to pass the course. The final course grade will be comprised of the elements in the following table.

Element	Completion/formal grade	Grade	Weight
Activity 1.1: Recognizing Suspicious Incidents	Completion	–	–
Activity 2.1: Self-Protective Measures and Scene Control	Completion	–	–
Activity 3.1: Tactical Considerations	**Formal grade**	**20**	**40%**
Activity 4.1: Creating an Action Plan: Complex Coordinated Attack	**Formal grade**	**35**	**60%**
Activity 5.1: Terrorism Planning Research	Completion	–	–
		Total	**100%**

GRADING RUBRICS

ACTIVITY 3.1: TACTICAL CONSIDERATIONS RUBRIC

The table below details the point distribution for Activity 3.1.

CRITERIA	UNSATISFACTORY 0-3 Points	PROFICIENT 4 Points	EXEMPLARY 5 Points	POINTS	NOTES
Identify unique challenges to implementing scene control.	The group failed to identify unique challenges to implementing scene control. **OR** Responses were **not** relevant or supported by course references.	The group identified **at least 3** unique challenges to implementing scene control. **AND** Responses were **mostly** relevant and well supported by course references.	The group identified **at least 4** unique challenges to implementing scene control. **AND** Responses were **completely** relevant and fully supported by course references.		
Explain factors that influence public/ responder protection considerations.	The group failed to identify factors that influence public/responder protection considerations. **OR** Responses were **not** relevant or supported by course references.	The group identified **at least 3** factors that influence public/responder protection considerations. **AND** Responses were **mostly** relevant and well supported by course references.	The group identified **at least 4** factors that influence public/responder protection considerations. **AND** Responses were **completely** relevant and fully supported by course references.		
Determine what resources should be utilized to maintain perimeter security.	The group failed to identify what resources should be utilized to maintain perimeter security. **OR** Responses were **not** relevant or supported by course references.	The group identified **at least 3** resources that should be utilized to maintain perimeter security. **AND** Responses were **mostly** relevant and well supported by course references.	The group identified **at least 4** resources that should be utilized to maintain perimeter security. **AND** Responses were **completely** relevant and fully supported by course references.		
Each group will have five minutes to report their findings to the class.	The group poorly manages their allotted time (> two minutes over/under).	The group generally manages their allotted time (< two minutes over/under).	The group effectively manages their allotted time, strictly adhering to the five-minute requirement.		

Grading:

A	B	C	D	F
20-18	17-16	15-14	13-12	11-0

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ACTIVITY 4.1: CREATING AN ACTION PLAN: COMPLEX COORDINATED ATTACK

The table below details the point distribution for Activity 4.1.

	CRITERIA	UNSATISFACTORY 0-3 Points	PROFICIENT 4 Points	EXEMPLARY 5 Points	POINTS	NOTES
Sheet 1	**1. Identify the key indicators that this may be a terrorism event.**	The group fails to identify key indicators of a terrorism event.	The group identifies **most** key indicators of a terrorism event.	The group identifies **all** key indicators of a terrorism event.		
	2. Identify potential threats and hazards to responders.	The group fails to identify potential threats and hazards to responders. **OR** Identifies types of harm that are not relevant for the scenario.	The group identifies **most** potential threats and hazards to responders.	The group identifies **all** potential threats and hazards to responders.		
Sheet 2	**1. Identify appropriate scene control measures.**	The group fails to identify appropriate scene control measures. **OR** Identifies measures which are inappropriate for the scenario.	The group identifies **most** appropriate scene control measures.	The group identifies **all** appropriate scene control measures.		
	2. Indicate scene security measures taken.	The group fails to indicate the scene security measures taken. **OR** Indicates measures that are inappropriate for the scenario.	The group indicates **most** of the appropriate scene security measures taken.	The group identifies **all** appropriate scene security measures taken.		
	3. Identify outward warning signs and detection clues.	The group fails to identify outward warning signs and detection clues. **OR** Identifies signs/clues that are not relevant to the scenario.	The group identifies **most** outward warning signs and detection clues.	The group identifies **all** outward warning signs and detection clues.		
	4. Identify the type of event.	The group fails to correctly identify the type of event.	–	The group successfully identifies the type of event.		

	CRITERIA	UNSATISFACTORY 0-3 Points	PROFICIENT 4 Points	EXEMPLARY 5 Points	POINTS	NOTES
	5. List any other significant tactical considerations.	The group fails to list other significant tactical considerations. **OR** Provides considerations that are not relevant or appropriate for the scenario.	The group provides some significant tactical considerations that are mostly relevant and appropriate for the scenario.	The group provides several significant tactical considerations that are entirely relevant and well-reasoned for the scenario.		

Grading:

A	B	C	D	F
35-32	31-28	27-25	24-22	21-0

SCHEDULE

TIME	DAY 1	DAY 2
8:00 – 9:00	Introduction, Welcome, and Administrative	Unit 3: Tactical Considerations (cont'd)
9:00 – 9:10	*Break*	*Break*
9:10 – 10:20	Unit 1: Understanding and Recognizing Terrorism	Unit 3: Tactical Considerations (cont'd) Unit 4: Creating an Action Plan: Complex Coordinated Attack
10:20 – 10:30	*Break*	*Break*
10:30 – 12:00	Unit 1: Understanding and Recognizing Terrorism (cont'd) Unit 2: Implementing Self-Protective and Scene Control Measures	Unit 4: Creating an Action Plan: Complex Coordinated Attack (cont'd)
12:00 – 1:00	*Lunch Break*	*Lunch Break*
1:00 – 2:15	Unit 2: Implementing Self-Protective and Scene Control Measures (cont'd)	Unit 5: Incident Command Overview
2:15 – 2:30	*Break*	*Break*
2:30 – 5:00	Unit 3: Tactical Considerations	Unit 5: Incident Command Overview (cont'd) Wrap-Up

Note: This schedule is subject to modification by the instructors and approved by the training specialist.

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FIREFIGHTER CODE OF ETHICS

Background

The Fire Service is a noble calling, one which is founded on mutual respect and trust between firefighters and the citizens they serve. To ensure the continuing integrity of the Fire Service, the highest standards of ethical conduct must be maintained at all times.

Developed in response to the publication of the Fire Service Reputation Management White Paper, the purpose of this National Firefighter Code of Ethics is to establish criteria that encourages fire service personnel to promote a culture of ethical integrity and high standards of professionalism in our field. The broad scope of this recommended Code of Ethics is intended to mitigate and negate situations that may result in embarrassment and waning of public support for what has historically been a highly respected profession.

Ethics comes from the Greek word ethos, meaning character. Character is not necessarily defined by how a person behaves when conditions are optimal and life is good. It is easy to take the high road when the path is paved and obstacles are few or non-existent. Character is also defined by decisions made under pressure, when no one is looking, when the road contains land mines, and the way is obscured. As members of the Fire Service, we share a responsibility to project an ethical character of professionalism, integrity, compassion, loyalty and honesty in all that we do, all of the time.

We need to accept this ethics challenge and be truly willing to maintain a culture that is consistent with the expectations outlined in this document. By doing so, we can create a legacy that validates and sustains the distinguished Fire Service institution, and at the same time ensure that we leave the Fire Service in better condition than when we arrived.



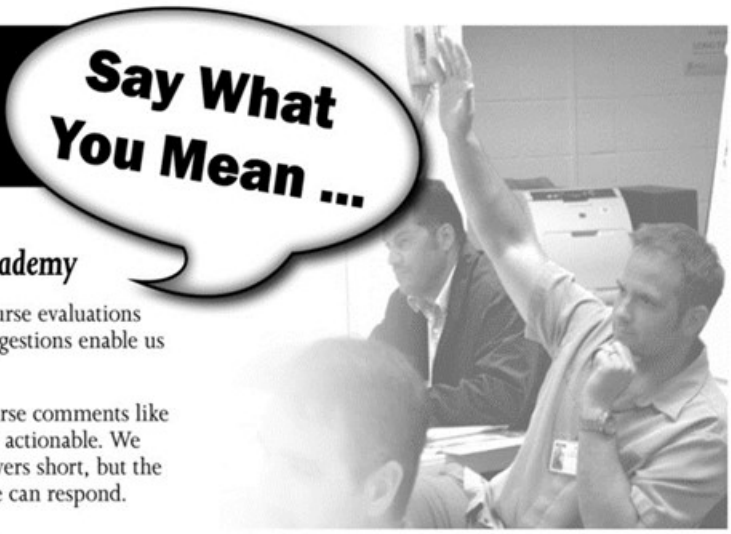
FIREFIGHTER CODE OF ETHICS

I understand that I have the responsibility to conduct myself in a manner that reflects proper ethical behavior and integrity. In so doing, I will help foster a continuing positive public perception of the fire service. Therefore, I pledge the following…

- Always conduct myself, on and off duty, in a manner that reflects positively on myself, my department and the fire service in general.
- Accept responsibility for my actions and for the consequences of my actions.
- Support the concept of fairness and the value of diverse thoughts and opinions.
- Avoid situations that would adversely affect the credibility or public perception of the fire service profession.
- Be truthful and honest at all times and report instances of cheating or other dishonest acts that compromise the integrity of the fire service.
- Conduct my personal affairs in a manner that does not improperly influence the performance of my duties, or bring discredit to my organization.
- Be respectful and conscious of each member's safety and welfare.
- Recognize that I serve in a position of public trust that requires stewardship in the honest and efficient use of publicly owned resources, including uniforms, facilities, vehicles and equipment and that these are protected from misuse and theft.
- Exercise professionalism, competence, respect and loyalty in the performance of my duties and use information, confidential or otherwise, gained by virtue of my position, only to benefit those I am entrusted to serve.
- Avoid financial investments, outside employment, outside business interests or activities that conflict with or are enhanced by my official position or have the potential to create the perception of impropriety.
- Never propose or accept personal rewards, special privileges, benefits, advancement, honors or gifts that may create a conflict of interest, or the appearance thereof.
- Never engage in activities involving alcohol or other substance use or abuse that can impair my mental state or the performance of my duties and compromise safety.
- Never discriminate on the basis of race, religion, color, creed, age, marital status, national origin, ancestry, gender, sexual preference, medical condition or handicap.
- Never harass, intimidate or threaten fellow members of the service or the public and stop or report the actions of other firefighters who engage in such behaviors.
- Responsibly use social networking, electronic communications, or other media technology opportunities in a manner that does not discredit, dishonor or embarrass my organization, the fire service and the public. I also understand that failure to resolve or report inappropriate use of this media equates to condoning this behavior.

Developed by the National Society of Executive Fire Officers

A Student Guide to End-of-course Evaluations



Ten Things You Can Do to Improve the National Fire Academy

The National Fire Academy takes its course evaluations very seriously. Your comments and suggestions enable us to improve your learning experience.

Unfortunately, we often get end-of-course comments like these that are vague and, therefore, not actionable. We know you are trying to keep your answers short, but the more specific you can be, the better we can respond.

Actual quotes from student evaluations:	Examples of specific, actionable comments that would help us improve the course:
1 "Update the materials."	• The (ABC) fire video is out-of-date because of the dangerous tactics it demonstrates. The available (XYZ) video shows current practices. • The student manual references building codes that are 12 years old.
2 "We want an advanced class in (fill in the blank)."	• We would like a class that enables us to calculate energy transfer rates resulting from exposure fires. • We would like a class that provides one-on-one workplace harassment counseling practice exercises.
3 "More activities."	• An activity where students can physically measure the area of sprinkler coverage would improve understanding of the concept. • Not all students were able to fill all ICS positions in the exercises. Add more exercises so all students can participate.
4 "A longer course."	• The class should be increased by one hour per day to enable all students to participate in exercises. • The class should be increased by two days so that all group presentations can be peer evaluated and have written abstracts.
5 "Readable plans."	• The plans should be enlarged to 11 by 17 and provided with an accurate scale. • My plan set was blurry, which caused the dotted lines to be interpreted as solid lines.
6 "Better student guide organization," "manual did not coincide with slides."	• The slide sequence in Unit 4 did not align with the content in the student manual from slides 4-16 through 4-21. • The instructor added slides in Unit 4 that were not in my student manual.
7 "Dry in spots."	• The instructor/activity should have used student group activities rather than lecture to explain Maslow's Hierarchy. • Create a pre-course reading on symbiotic personal relationships rather than trying to lecture on them in class.
8 "More visual aids."	• The text description of V-patterns did not provide three-dimensional views. More photographs or drawings would help me imagine the pattern. • There was a video clip on NBC News (date) that summarized the topic very well.
9 "Re-evaluate pre-course assignments."	• The pre-course assignments were not discussed or referenced in class. Either connect them to the course content or delete them. • The pre-course assignments on ICS could be reduced to a one-page job aid rather than a 25-page reading.
10 "A better understanding of NIMS."	• The instructor did not explain the connection between NIMS and ICS. • The student manual needs an illustrated guide to NIMS.

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UNIT 1: UNDERSTANDING AND RECOGNIZING TERRORISM

TERMINAL OBJECTIVE

The students will be able to:

1.1. Articulate indicators of a potential terrorist incident for a given scenario using the risk-based response process.

ENABLING OBJECTIVES

The students will be able to:

1.1. Define domestic and international terrorism per the current U.S. Code definition.

1.2. Explain the risk-based response process.

1.3. Compare responding to terrorist incidents and non-terrorist incidents.

1.4. Differentiate between incidents involving chemical, biological, radiological, nuclear and explosives (CBRNE) and active shooter/hostile events (ASHE) response incidents.

1.5. Recognize suspicious circumstances that may indicate possible terrorism.

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FEMA

U.S. Fire Administration

UNIT 1: UNDERSTANDING AND RECOGNIZING TERRORISM

Slide 1-1

TERMINAL OBJECTIVE

Articulate indicators of a potential terrorist incident for a given scenario using the risk-based response process.

Slide 1-2

ENABLING OBJECTIVES

- Define domestic and international terrorism per the current U.S. Code definition.
- Explain the risk-based response process.
- Compare responding to terrorist incidents and non-terrorist incidents.

Slide 1-3

ENABLING OBJECTIVES (cont'd)

- Differentiate between incidents involving chemical, biological, radiological, nuclear and explosives (CBRNE) and active shooter/hostile events (ASHE) response incidents.
- Recognize suspicious circumstances that may indicate possible terrorism.

Slide 1-4

I. INTRODUCTION

INTRODUCTION

- The threat of terrorism affects all communities — no community is immune.
- International and domestic terrorists have demonstrated the knowledge and capability to strike anywhere.



Photo courtesy of iStock.

Slide 1-5

A. The threat of terrorism affects all communities, both nationally and internationally. History has shown that no community is immune. Terrorism transcends all geographic and demographic boundaries, and all jurisdictions — suburban, urban and rural — are at risk.

B. Terrorists, both international and domestic, have demonstrated they have the knowledge and capability to strike anywhere in the world. While not all the incidents we cite here have been determined to be terrorism, they are all suspicious criminal acts that may be linked to terrorist activity.

II. DEFINING TERRORISM

DEFINING TERRORISM

Terrorism: "Acts dangerous to human life that are a violation of the criminal laws of the United States or of any State that appear to be intended to intimidate or coerce a civilian population; influence the policy of a government by intimidation or coercion; or affect the conduct of a government by mass destruction, assassination, or kidnapping."
(18 USC § 2331(5))

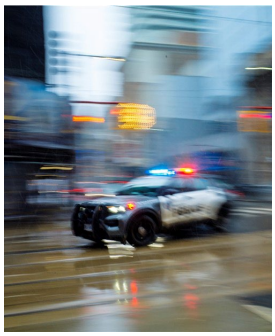
Slide 1-6

A. General definition, from 18 U.S.C. § 2331(5).

1. "Acts dangerous to human life that are a violation of the criminal laws of the United States or of any State that appear to be intended to intimidate or coerce a civilian population; influence the policy of a government by intimidation or coercion; or affect the conduct of a government by mass destruction, assassination, or kidnapping" (Title 18—Crimes and Criminal Procedure, 2018).

ELEMENTS OF TERRORISM

- Dangerous criminal acts.
- Intent to coerce and intimidate.
- Public and governments.
  - Influence conduct and policy.
- Use CBRNE weapons.



Slide 1-7

2. Elements.

a. Actions that are either directly or indirectly dangerous to people.

b. Acts intended to intimidate or coerce the population or a government.

c. Acts intended to affect or influence the operations of a government.

3. A person or group with a social or political cause that they want to advance, the capabilities necessary to cause harm to people or property, and the motivation to cause the incident to happen.

TYPES OF TERRORISM (FBI)

- **International:** "Violent, criminal acts committed by individuals and/or groups who are inspired by, or associated with, designated foreign terrorist organizations or nations (state-sponsored)."
- **Domestic:** "Violent, criminal acts committed by individuals and/or groups to further ideological goals stemming from domestic influences, such as those of a political, religious, social, racial, or environmental nature."

Slide 1-8

B. Types of terrorism (as defined by the FBI).

1. International terrorism:

"Violent, criminal acts committed by individuals and/or groups who are inspired by, or associated with, designated foreign terrorist organizations or nations (state-sponsored)" (Federal Bureau of Investigation, n.d.).

2. Domestic terrorism:

"Violent, criminal acts committed by individuals and/or groups to further ideological goals stemming from domestic influences, such as those of a political, religious, social, racial, or environmental nature" (Federal Bureau of Investigation, n.d.).

WHERE DOES TERRORISM FIT?

- CBRNE incidents.
- Criminal incidents.
- Threats to public safety and responders.
- Threats of armed attacks and hostage situations.
- Bombings.



Slide 1-9

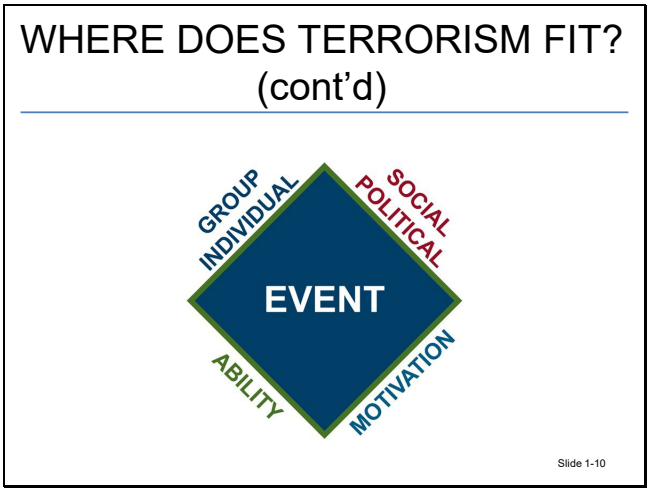
C. Where does terrorism fit?

1. Incidents involving chemical, biological, radiological, nuclear and explosives (CBRNE) agents and devices are considered technological hazardous incidents. This is a broad field that includes the use of hazardous materials. Criminal incidents also comprise a broad field. Where those two types of incidents overlap, we find a select group of incidents including arson, environmental crimes, industrial sabotage, bombings, civil unrest, targeted assassinations and the use of weapons of mass destruction (WMDs) or toxic industrial materials (TIMs)/toxic industrial chemicals (TICs). This overlap is where we find acts of terrorism.

2. While the FBI uses a very narrow definition of terrorism, the concerns of public safety responders go well beyond that limited scope. In this program, we will study terrorism, bombings, hazardous materials and WMDs described as CBRNE incidents. However, criminals that resort to WMDs, regardless of their motive, will not be restricted by any definition or category. We need to be concerned with the broader field of criminal incidents that offer a variety of threats to public safety and responders alike.

3. Typically not part of the CBRNE incident is the human threat of armed attacks and hostage situations. While still a means of terrorism, it does not fit within the CBRNE types of incidents but must still be considered a common and dangerous threat to responders.

4. Terrorists often use bombings due to the relative ease of obtaining materials and availability of information on the internet. The information on this slide is from the U.S. Bomb Data Center (USBDC). It shows the scope of bombings and incendiary incidents from 2017 through 2021 and the dangers faced by responders.



5. For an incident to be determined as terrorism, all four of the following components must be present. If you remove any one of these components, it is only considered a crime.

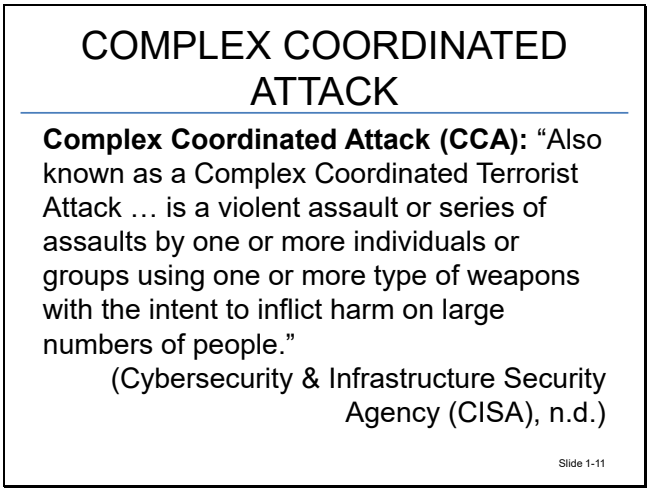
   a. A group or individual.

   b. With a social or political cause.

   c. The motivation to carry out the incident.

   d. Possessing the requisite knowledge, skills and capabilities to initiate the incident.

      - CBRNE and a delivery system.



6. Complex Coordinated Attack (CCA).

   a. "Also known as a Complex Coordinated Terrorist Attack … is a violent assault or series of assaults by one or more individuals or groups using one or more type of weapons with the intent to inflict harm on large numbers of people" (Cybersecurity & Infrastructure Security Agency (CISA), n.d.).

   b. "While these types of attacks often result from various motives including terrorist ideology, the continued proliferation of CCAs overseas and domestically demonstrates that CCAs remain a concern for the conceivable future" (CISA, n.d.).

WEAPONS OF MASS DESTRUCTION

- **Weapons of mass destruction (WMDs):** "Any weapon designed to kill, harm, or infect people, animals, or plants through the effects of a nuclear explosion or the toxic properties of a chemical warfare agent or the infectious or toxic properties of a biological warfare agent, and includes a delivery system exclusively designed, adapted, or intended to deliver such weapons."

(18 U.S. Code § 2332a)

Slide 1-12

D. WMDs, as defined by 18 U.S.C. § 2332a: Weapon of mass destruction means any weapon designed to kill, harm, or infect people, animals, or plants through the effects of a nuclear explosion or the toxic properties of a chemical warfare agent or the infectious or toxic properties of a biological warfare agent, and includes a delivery system exclusively designed, adapted, or intended to deliver such weapons (n.d.-b).

WEAPONS OF MASS DESTRUCTION (cont'd)

- "Any destructive device as defined in section 921 of this title."
- "Any weapon that is designed or intended to cause death or serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors."
- "Any weapon involving a biological agent, toxin, or vector (as those terms are defined in section 178 of this title)."
- "Any weapon that is designed to release radiation or radioactivity at a level dangerous to human life."

(Title 18—Crimes and Criminal Procedure, n.d.)

Slide 1-13

1. The term "weapon of mass destruction" means:

   a. "Any destructive device as defined in section 921 of this title."

   b. "Any weapon that is designed or intended to cause death or serious bodily injury through the release, dissemination, or impact of toxic or poisonous chemicals, or their precursors."

   c. "Any weapon involving a biological agent, toxin, or vector (as those terms are defined in section 178 of this title)."

d. "Any weapon that is designed to release radiation or radioactivity at a level dangerous to human life" (Title 18—Crimes and Criminal Procedure, n.d.-b).

2. "The term 'destructive device' shall not include any device that is neither designed nor redesigned for use as a weapon; any device, although originally designed for use as a weapon, that is redesigned for use as a signaling, pyrotechnic, line throwing, safety, or similar device; surplus ordnance sold, loaned, or given by the Secretary of the Army pursuant to the provisions of section 7684(2), 7685, or 7686 of Title 10; or any other device that the Attorney General finds is not likely to be used as a weapon, is an antique or is a rifle that the owner intends to use solely for sporting, recreational, or cultural purposes" (Title 18—Crimes and Criminal Procedure, n.d.-a).



3. "The term 'firearm' means (A) any weapon (including a starter gun) which will or is designed to or may readily be converted to expel a projectile by the action of an explosive; (B) the frame or receiver of any such weapon; (C) any firearm muffler or firearm silencer; or (D) any destructive device. Such term does not include an antique firearm" (Title 18—Crimes and Criminal Procedure, n.d.-a).

4. CBRNE is an acronym for chemical, biological, radiological, nuclear and explosives agents.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR AND EXPLOSIVES EXAMPLES: CHEMICAL

- Nerve agents.
- Blister agents.
- Blood agents.
- Choking agents.
- Irritants.
- Recognizing chemical agents.

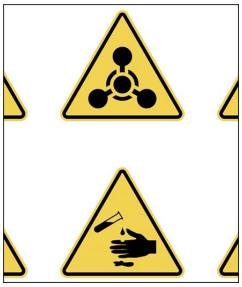


Photo courtesy of iStock.

Slide 1-15

5. CBRNE examples.

a. Chemical.

- Nerve agents.

-- Tabun (GA).

-- Sarin (GB).

-- Soman (GD).

-- Thickened soman (TGD).

-- V agent (VX).

-- 4th generation nerve agents.

-- Binary nerve agents.

VIDEO PRESENTATION

"VIDEO CLIP ON YOUTUBE SHOWS ALLEGED ATTACK ON KIM JONG NAM"

https://www.youtube.com/watch?v=Zjfm_XOxLOs&t=22s

Slide 1-16

-- Exposure and effects.

SLUDGEM (salivation, lacrimation, urination, defecation, gastric distress, emesis, miosis).

DUMBBELLS (defecation, urination, miosis, bronchospasm, bradycardia, emesis, lacrimation, lethargy, salivation).

- Blister agents (vesicants).

-- Mustard (H).

-- Distilled Mustard (HD).

-- Nitrogen Mustard (HN1, HN2, HN3).

-- Lewisite (L).

-- Exposure and effects (rash and irritation).

- Blood agents (cyanides).

-- Hydrogen cyanide (AC).

-- Cyanogen chloride (CK).

-- Carbon monoxide (CO).

-- Methylene chloride converts to carbon monoxide in the body and is much more difficult to off-gas (treat with oxygen and/or hyperbaric therapy).

-- Arsine: a gas that causes hemolytic anemia.

-- Outward warning signs.

-- Exposure and effects (level of consciousness).

- Choking agents (pulmonary).

-- Chlorine (CL).

-- Phosgene (CG).

  - -- Exposure and effects (coughing and difficulty breathing).

- Irritants.
  - -- CS (tear gas).
  - -- CR (tear gas).
  - -- CN (mace).
  - -- OC (pepper spray).
  - -- Exposure and effects (mucus membranes — temporary).
- Flammable liquids and gases — fire used as a weapon.
  - -- Arson.
  - -- Improvised incendiary device (IID).
  - -- Molotov cocktails.
  - -- Pyrotechnics.
  - -- Breaching flammable containers.
  - -- Transport vessels, tanks, cylinders.
- Recognizing chemical agents: Chemical agents may be characterized by the rapid onset of medical symptoms and easily observed signatures.
  - -- Dead animals/birds/fish.
  - -- Unexplained odors such as fruity, flowery, bitter almonds, garlic, skunk, etc.
  - -- Mass casualties or casualties in patterns (e.g., downwind or in a confined area).
  - -- Unusual liquid droplets or metal debris.
  - -- Dead, brown or withered plants in wide areas.

-- Low-lying or foggy clouds not consistent with surroundings.

-- Unusually aggressive fire behavior.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR AND EXPLOSIVES EXAMPLES: BIOLOGICAL

- Bacteria and rickettsia.
- Viruses.
- Toxins.
- Recognizing biological agents.

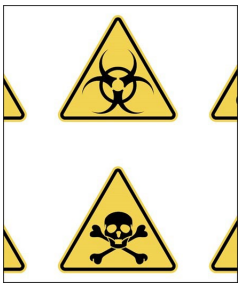


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Slide 1-17

b. Biological.

- Bacteria and rickettsia.

-- Anthrax.

-- Plague.

-- Tularemia.

-- Q fever.

- Viruses.

-- Smallpox.

-- Venezuelan equine encephalitis (VEE).

-- Viral hemorrhagic fevers (VHFs).

- Toxins.

-- Botulinum toxins.

-- Staphylococcal enterotoxins (SEB).

-- Ricin.

-- Mycotoxins (trichothecene mycotoxins).

- Recognizing biological agents. Biological agents are characterized by the onset of symptoms in hours to days, with symptoms unique to each pathogen used. For example, many will present with flu-like symptoms; botulism will present with descending flaccid paralysis (i.e., paralysis from the top down), while smallpox will present with bumps all appearing the same (i.e., macules, pustules), as compared with chicken pox where the sores will appear in different stages of maturity.

  -- The area affected may be greater due to movement of infected individuals.

  -- Unusual numbers of sick or dying people or animals, especially of unexplained causes.

  -- Unscheduled or unusual spray being disseminated or abandoned spray devices.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR AND EXPLOSIVES EXAMPLES: RADIOLOGICAL

- Radiological incident.
- Radiological exposure device (RED).
- Radiological dispersion device (RDD).
- Recognizing radiological incidents.

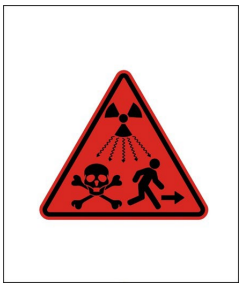


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Slide 1-18

c. Radiological.

- Radiological incident.

- Radiological exposure device (RED).

- Radiological dispersion device (RDD).

- Recognizing radiological incidents: Radiological materials cannot be sensed by the victim unless levels of radioactivity are extremely high. Without detection devices for radiation, the only indicators of a radiological incident may be explosions with little or no damage (as in an RDD), multiple people seeking medical care for radioactive exposure symptoms after exposure (as in an RED), or other intelligence or obvious outward signs, such as radioactive labels on containers.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR AND EXPLOSIVES EXAMPLES: NUCLEAR

- Nuclear detonation.
- Nuclear facilities as targets.
- Warning signs.

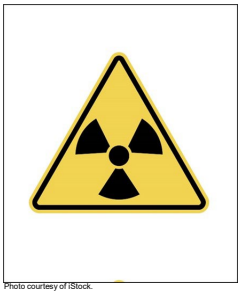


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Slide 1-19

d. Nuclear.

- Nuclear detonation (extremely rare if not improbable).
- Nuclear facilities as targets.
- Warning signs.

CHEMICAL, BIOLOGICAL, RADIOLOGICAL, NUCLEAR AND EXPLOSIVES EXAMPLES: EXPLOSIVES

- Improvised explosive device (IED).
- Effect of explosives.
- Types of common IEDs.
- Recognizing an IED.



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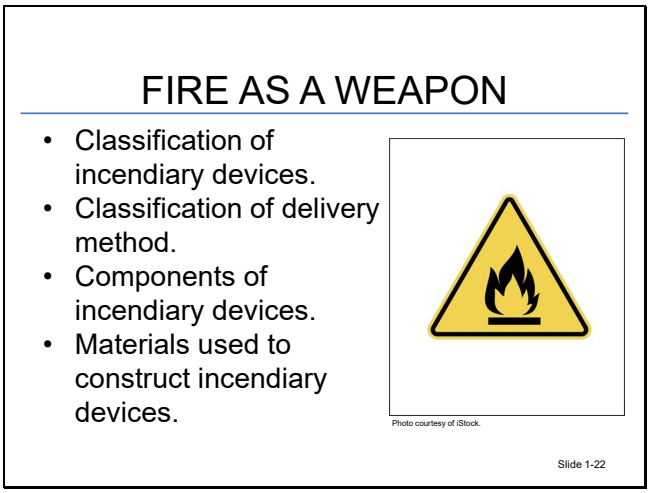
e. Explosives.

- Improvised explosive device (IED) terminology.
  - -- Explosive.
  - -- High-order filler.
  - -- Low-order filler.
- Effect of explosives.
  - -- Blast pressure.
  - -- Fragmentation.
  - -- Thermal effects.
- Types of common IEDs.
  - -- Vehicle bombs.
  - -- Pipe bombs.
  - -- Satchel devices.
  - -- Pressure-cooker devices.



- -- Other IEDs.

- Recognizing an IED: An IED attack is the use of a homemade bomb and/or destructive device to destroy, incapacitate, harass or distract. IEDs are used by criminals, vandals, terrorists, suicide bombers and insurgents. Because they are improvised, IEDs can come in many forms, ranging from a small pipe bomb to a sophisticated device capable of causing massive damage and loss of life.



f. Fire as a weapon.

- Classification of incendiary devices.

  -- By triggering methodology (i.e., chemical reaction, electronic ignition, mechanical ignition).

- Classification by delivery method: stationary (planted), hand-thrown (Molotov cocktail) and self-propelled (rocket, etc.).

- Components of incendiary devices.

  -- Ignition source.

  -- Combustible filler material.

  -- Housing or container to hold the filler.

- Materials used to construct incendiary devices.

  -- Roadway flares.

  -- Gasoline and motor oil.

-- Light bulbs.

-- Common electrical components and devices.

-- Matches and other household chemicals.

-- Fireworks (pyrotechnics).

-- Propane and butane cylinders.

-- Plastic pipes, bottles and cans.

g. ASHE response.

Is an active shooter considered a terrorist? Why?



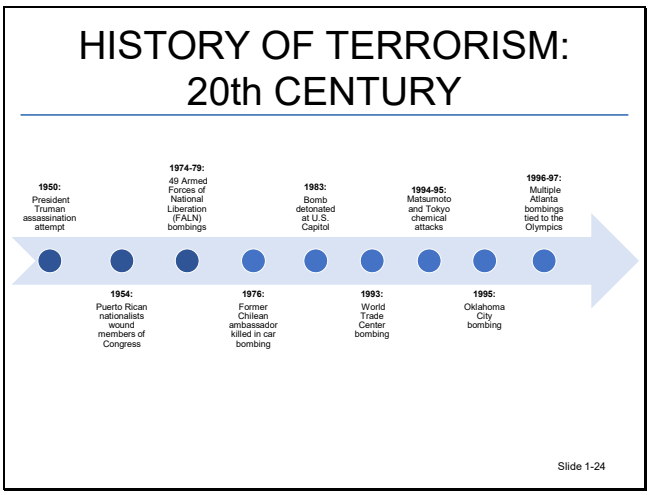
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- National Fire Protection Association (NFPA) 3000®, *Standard for an Active Shooter/Hostile Event Response (ASHER) Program* is the standard for these incidents.

III. A SHORT HISTORY OF TERRORISM

A. As a point to consider, chemical and biological terrorism have a much longer history than the use of explosives, since their use predates the discovery of gunpowder. As far back as the sixth century, various peoples poisoned wells and used powerful herbs and infected corpses as tools of biological warfare. For example, the Venetians used individuals who were infected and nearing death as carriers against their enemies, as corpses were found to be less effective in spreading disease. While a student of history will find plenty of terrorism in the ensuing centuries, we will look at some examples of terrorism from the more recent past, with special emphasis on America.



B. 20th century examples of terrorism.

1. The 1950 assassination attempt on President Truman by Puerto Rican nationalists. One D.C. police officer was killed during a gun battle outside Blair House.

2. In 1954, five members of Congress were wounded by gunfire during an attack by Puerto Rican nationalists.

3. One of 49 bombings attributed to the Puerto Rican group Armed Forces of National Liberation (FALN) between 1974 and 1977 was the Fraunces Tavern bombing in New York City. Four people died in this event.

4. In 1975, a bombing by Croatian nationalists killed 11 and injured 75 at La Guardia Airport in New York City.

5. In 1976, Orlando Letelier, a former Chilean ambassador to the United States, was killed along with one of his associates in a car bombing in Washington, D.C.

6. From 1978 to 1995, Theodore "Ted" Kaczynski, known commonly as the "Unabomber," killed three people and injured another 23 via 16 confirmed mail bombings.

7. In 1981, a man was killed when a bomb planted by a group calling itself the Puerto Rican Armed Resistance detonated in a men's bathroom at Kennedy International Airport in New York City.

8. In 1983, a bomb detonated in the cloakroom next to the U.S. Senate in the Capitol Building. Two left-wing radicals pleaded guilty to the attack.

9. Oct. 23, 1983, Beirut: 241 U.S. servicemen were killed when a suicide bomber with over 2,000 pounds of high explosives drove into the Marine barracks. This was the largest single-day loss of life for the U.S. Marines since Iwo Jima.

10. March 27, 1984, Havana: A Piedmont airplane was highjacked on a flight from LaGuardia, New York, to Miami. A man identifying himself as part of the Black Liberation Army demanded $5 million and stated he had two bombs on the plane. The plane landed in Havana, and he was taken into custody. Hijackings dropped significantly from their peak in the 1970s with better procedures and security.

11. In 1984, more than 700 individuals were deliberately exposed to salmonella via contaminated food served at restaurant salad bars by followers of Rajneesh who were attempting to influence voter turnout for impending county elections in Oregon.

12. Aug. 7, 1988; Nairobi, Kenya, and Dar es Salaam, Tanzania: A simultaneous al Qaeda bomb attack on U.S. embassies killed 224 people, including 12 Americans, and wounded over 4,500.

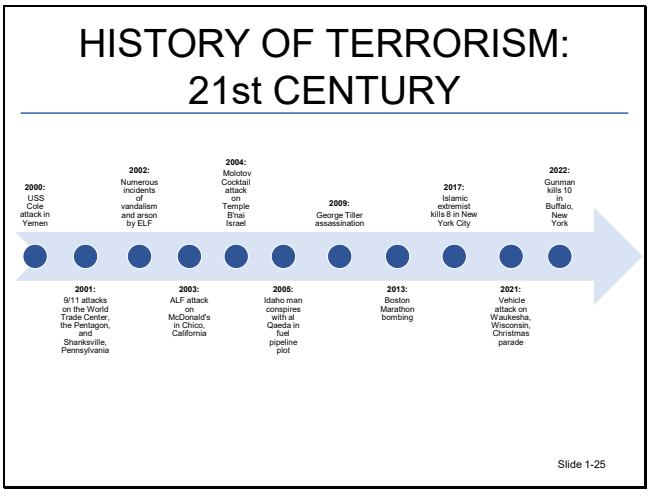
13. During the latter half of the 20th century, there were numerous airline hijackings and bombings.

    a. The 1993 World Trade Center bombing.

    b. The 1995 Oklahoma City bombing.

    c. The 1994 Matsumoto and 1995 Tokyo chemical attacks in Japan.

    d. Multiple bombings in Atlanta in 1996 and 1997 (Olympics).



C. 21st century examples of terrorism.

1. October 2000: In a Yemeni port, a small boat exploded alongside the USS Cole as it was refueling, killing 17 U.S. sailors.

2. Sept. 11, 2001: The World Trade Center buildings collapsed after being hit by commercial aircraft flown by suicide terrorists. 2,753 killed.

3. Sept. 11, 2001: The Pentagon was hit by commercial aircraft flown by suicide terrorists. 184 killed.

4. Sept. 11, 2001: Shanksville, Pennsylvania. A commercial aircraft flown by suicide terrorists was directed into the ground by passengers. 40 killed.

5. September-October 2001: In the weeks following the Sept. 11 terrorist attacks, anthrax spores were mailed to prominent news organizations and politicians, ultimately killing five people and infecting another 17. This became the worst biological attack in U.S. history.

6. March-November 2002: Numerous national incidents of vandalism and arson caused by the Environmental Liberation Front (ELF). Known as "ecoterrorism."

7. March 2003: Animal Liberation Front (ALF) members used kerosene to attack a McDonald's in California. ALF typically uses graffiti and vandalism as calling cards.

8. March 11, 2004, Madrid, Spain: Three days prior to the Spanish elections, 193 people were killed and over 2,000 injured in two simultaneous bomb attacks on passenger trains. Al Qaeda has taken credit for the attacks.

9. April 2004: A Molotov cocktail was used against the Temple B'nai Israel in Oklahoma City.

10. December 2005: A man in Pocatello, Idaho, conspired with al Qaeda members to blow up fuel pipelines in remote areas of the West.

11. 2009: An anti-abortion activist assassinated Dr. George Tiller, an OB/GYN who performed abortion procedures.

12. Sept. 11, 2012, Benghazi, Libya: Four people were killed, including the U.S. ambassador to Libya, and dozens wounded in a gun and mortar attack on two American diplomatic locations. Attributed to Ansar al-Sharia group targeting Americans.

13. April 15, 2013: Two homemade pressure cooker bombs were detonated 14 seconds and 210 yards apart near the finish line of the annual Boston Marathon. Three people were killed and hundreds were injured.

14. April 2014: A Jewish Community Center was attacked by a gunman, killing three in Overland Park, Kansas.

15. Jan. 7, 2015, Paris, France: Two French Muslim extremists entered the satirical newspaper offices of Charlie Hebdo, after it had run a cartoon thought to be critical of the Prophet Muhammad, shooting and killing 12 people.

16. October 2017: An Islamic extremist rented a Home Depot pickup and drove through a crowded walking path, killing eight people in New York City.

17. March 4, 2018: Salisbury, England. A former Russian military officer and his daughter were poisoned with Novichok agent. The targeted attack was attributed to retaliation by the Russian government against the victim. Both recovered after months of intensive care.

18. June 2020: Nationwide unrest resulted in attacks on government buildings and first responders and led to billions of dollars in property damage.

19. November 2021: A vehicle attack on pedestrians at a Christmas parade killed 6 people in Waukesha, Wisconsin.

20. May 2022: A gunman targeting Black victims killed 10 at a Buffalo, New York, grocery store.

21. December 2022 and January 2023: Large electrical power stations in North Carolina and Washington state were attacked with firearms by persons attempting to disrupt the national power grid.

TERRORISTIC BEHAVIOR THROUGHOUT HISTORY

- Destruction and violence used to generate fear and compel societal change.
- The development of bureaucratic states resulted in a philosophical change among terrorist groups.
- Incidents are designed to create a public atmosphere of anxiety and undermine confidence in government.

Slide 1-26

D. Extremists have used property destruction and violence to generate fear and compel societal change throughout history. Prior to modern times, terrorists usually granted certain categories of people (e.g., women, children, clergy, elderly, infirm, etc.) immunity from attack. Like warriors in those times, terrorists recognized innocents: people not involved in the conflict. For example, in late 19th century Russia, radicals planning the assassination of Czar Alexander II aborted several planned attacks because they risked harming innocent people.

1. Historically, terrorism was direct; it intended to produce a political effect through the injury or death of the victim by targeted assassination.

2. The development of bureaucratic states resulted in a philosophical change among terrorist groups. Since modern governments are designed to be more dependent upon processes and structure than unique individuals, the death of a single individual, even a president or prime minister, may not necessarily produce the major disruption that terrorists desire.

3. Terrorists have reacted by turning from targeting prominent individuals to attacks aimed at a wider range of targets, including those historically considered immune, such as women, children, the elderly and first responders.

4. Events such as the 9/11 attacks, various clinic bombings and attacks on law enforcement are designed to create a public atmosphere of anxiety and undermine confidence in government. Their unpredictability and apparent randomness make it impossible for governments to protect all potential victims.

IV. RISK-BASED RESPONSE AND THE EMERGENCY RESPONSE CHALLENGE

RISK-BASED RESPONSE PROCESS

The emergency response challenge is governed by National Fire Protection Association (NFPA) and Occupational Safety and Health Administration (OSHA).

- **NFPA 470,** *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders*.
- **OSHA 29 CFR 1910.120:** Hazardous Waste Operations and Emergency Response (HAZWOPER).

Slide 1-27

A. The emergency response challenge is profound. Hazardous material and mass-casualty incidents are highly complex, supported by NFPA and Occupational Safety and Health Administration (OSHA) requirements to effectively respond to meet the needs of the victims and the public. The complexity is compounded by two factors that responders need to consider — the deliberate targeting of first responders and potential crime scene considerations.

B. NFPA 470, *Hazardous Materials/Weapons of Mass Destruction (WMD) Standard for Responders*.



1. This consensus standard provides minimum requirements for personnel responding to incidents involving hazardous materials and WMD.

2. The purpose of this standard is to specify minimum requirements for the following:

   a. Levels of competence required by responders to emergencies involving hazardous materials/WMD.

   b. Job performance requirements (JPRs) for personnel at the scene of a hazardous materials/WMD incident.

   c. Levels of competence required by emergency medical services (EMS) personnel who respond to incidents involving hazardous materials/WMD.

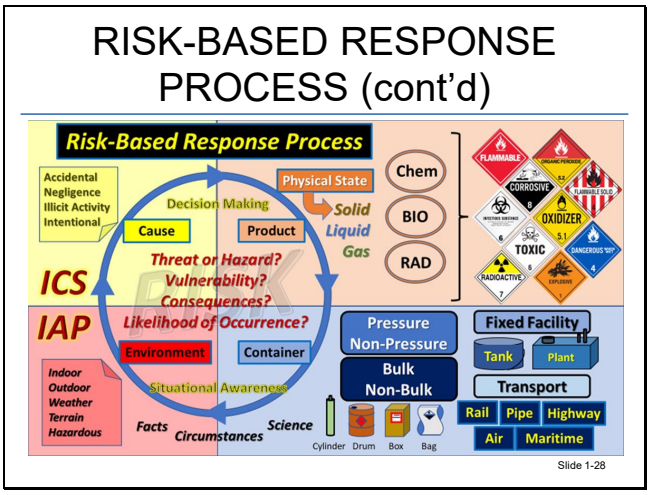
C. OSHA 29 CFR 1910.120: Hazardous Waste Operations and Emergency Response (HAZWOPER).



This federal law, enforced by OSHA, covers the following operations, including but not limited to:

1. "Emergency response operations for releases of, or substantial threats of releases of, hazardous substances without regard to the location of the hazard" (OSHA, 2013).

2. This law regulates the hazardous materials/WMD response community throughout the United States and sets forth a multitude of requirements, including minimum requirements for personnel responding to incidents involving hazardous materials and certain proscribed actions to occur at incidents involving hazardous materials, medical evaluations, personal protective equipment (PPE) selection, etc.



D. The risk-based response process.

1. A systematic process, based on the facts, science and circumstances of the incident, by which responders analyze a problem involving hazardous materials/WMDs to assess the hazards and consequences, develop an Incident Action Plan (IAP), and evaluate the effectiveness of the plan.

2. Hazardous materials response has historically been procedure-based, i.e., the actions of responders were tightly driven by standard operating procedures (SOPs) or standard operating guidelines (SOGs). This risk-based response moves away from procedure-driven response to a mature response based on the facts, science and circumstances of the incident.

3. The knowledge and experience of the responders and their understanding of the facts, science and circumstances of the incident applied to the product, container and environment (including the cause) are the keys to applying the process. Risk-based response increases the flexibility with which trained, knowledgeable and experienced responders can operate. As experience and knowledge increase, so does the efficiency of risk-based response. Continued sharing of smart practices and lessons learned will help develop the utilization of risk-based response to potential terrorist incidents.

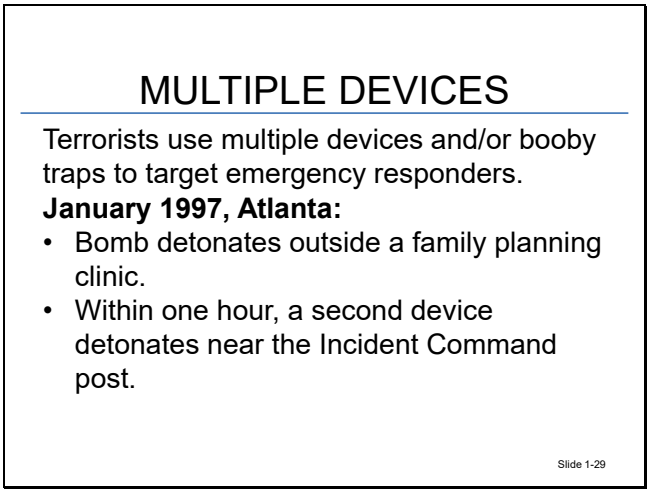
4. Determining the threat or hazard: The components to be evaluated are product, container, environment and cause.

   a. The product can be broken into its chemical and physical properties and its hazards, including CBRNE.

   b. The container includes size, shape, construction features, and condition and stressors.

   c. The environment includes weather, location of the incident, cause of the incident and other external factors.

   d. The cause of an incident can affect the threat to responders. Cause is categorized as accidental, malfeasance, illicit or intentional.



E. Terrorists have utilized multiple devices, such as booby traps, to target emergency responders. In January 1997, a bomb went off outside of a family planning clinic in Atlanta. One hour after the initial detonation, a second bomb went off close to the point at which the Incident Command post had been established. It resulted in several injuries to responders and, if parked automobiles had not absorbed some of the blast, several deaths could have occurred.

VIDEO PRESENTATION

"BOMBING OF SANDY SPRINGS DOCUMENTARY"

https://www.youtube.com/watch?v=KbfoJXbg9hk

Slide 1-30

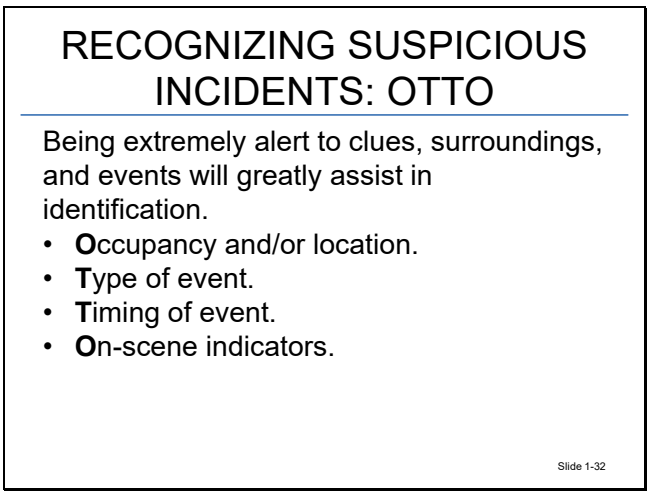
EMERGENCY RESPONSE CHALLENGE

- If the incident is a potential act of terrorism, it is also a crime scene.
- Responders should remain focused on reducing the impact of the event as efficiently and safely as possible.
- Responders should follow established operating guidelines that are pertinent to their respective agency, mainly Incident Command System (ICS) and personnel accountability.

Slide 1-31

F. If the incident is a potential act of terrorism, it is also a crime scene until proven otherwise. While there will be similarities between terrorist and non-terrorist events, the crime scene considerations of mass-casualty incidents (e.g., major transportation and hazardous materials accidents) add a complicating factor to response operations.

G. Responders must focus on reducing the impact of the event as efficiently and safely as possible and follow established guidelines of their respective agencies, including Incident Command System (ICS) and personnel accountability.



H. Recognizing suspicious incidents may be difficult, but being extremely alert to clues, surroundings and events will greatly assist in identification. Clues such as occupancy location, type of event, the timing of the event and on-scene warning signs will help with this process.

I. Indicators of a terrorism incident — **OTTO**.

1. **O**ccupancy and/or location.

   a. Symbolic and historical targets (statues or sentimental locations).

   b. Public buildings or large assembly areas (courthouses, colosseums).

   c. Controversial businesses (family planning clinics, fur stores, etc.).

   d. Infrastructure systems (public safety, transportation, communications, food, water).

2. **T**ype of incident.

   a. Explosions and/or incendiaries.

   b. Incidents involving firearms.

   c. Non-trauma mass-casualty incident.

3. **T**iming — date and/or time.

   a. Historically significant days.

   b. Day of the week (occupied or not).

c. Time of day (occupied or not).

4. **O**n-scene indicators.

a. Unexplained, sudden onset of mass illnesses or deaths, including insects and wildlife.

b. Unusual odors, tastes and sounds.

c. Unexplained signs and symptoms (S/S) of skin, eye or airway irritation.

d. Unexplained vapor clouds, mists and plumes.

e. Chemical containers, spray devices or lab equipment in unusual locations.

f. Items or containers that appear out of place may indicate multiple devices.

g. Spot fires in several locations.

h. Fires of unusual behavior or intensity.

i. Anything that appears abnormal; also referred to as the “sixth sense” or a “gut feeling.”

ACTIVITY 1.1

Recognizing Suspicious Incidents

Purpose

Assist students in making quick decisions concerning the possibility of criminal or terroristic activity at an incident and justifying their decisions.

Directions

1. You will have 10 minutes to work on the scenario and discuss it as a group.

2. You will determine what outward warning signs and indicators, if any, would signal the possibility of criminal or terroristic activity.

3. You will justify the determination of the scenario being either a criminal or terrorism incident, if possible.

4. You will determine any special challenges that will face the responders in this scenario.

5. You will record responses on an easel pad and prepare to report to the class.

6. Each group will have **five minutes** to report their findings to the class. You should be prepared to provide a justification for each one of your group's conclusions.

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ACTIVITY 1.1 (cont'd)

Scenarios

Scenario 1: Hazardous Materials in the Emergency Room

It's 2:00 p.m. on a hot summer day. You are called to University Hospital to assist the hospital staff with a group of five individuals exhibiting nausea, weakness, lacrimation and nasal discharge. One of the five is losing consciousness and is lying down. They entered the emergency room (ER) asking for help. They appear to be foreign and speak poor English. All claim the same address in your city. Their clothes appear soaked in places and are tattered, and some are wearing T-shirts with vulgar messages about the current U.S. president and depictions of a desecrated American flag. The ER has been evacuated, and the five victims are waiting in the ambulance port. From a distance outside, there is a pungent odor.

Scenario 2: Explosion at Valley Reproductive Health Clinic

It's 9:15 a.m. on a cool spring morning. You are called to an apparent explosion and an injured person down at Valley Reproductive Health Clinic. The victim was retrieving a package from the entrance to the facility when the explosion occurred.

Scenario 3: Law Enforcement Assist at Illicit Lab

It's 1:30 a.m. on a cold night. Police detectives, following leads, discover an illicit lab in the garage of a home on a residential street. The occupant is currently detained but uncooperative. Your team is requested to tell investigators what they have and what additional resources may be needed to assist. The detained suspect has no immediate S/S.

Scenario 4: Department of Transportation (DOT) 406 Tanker Truck Parked Downtown

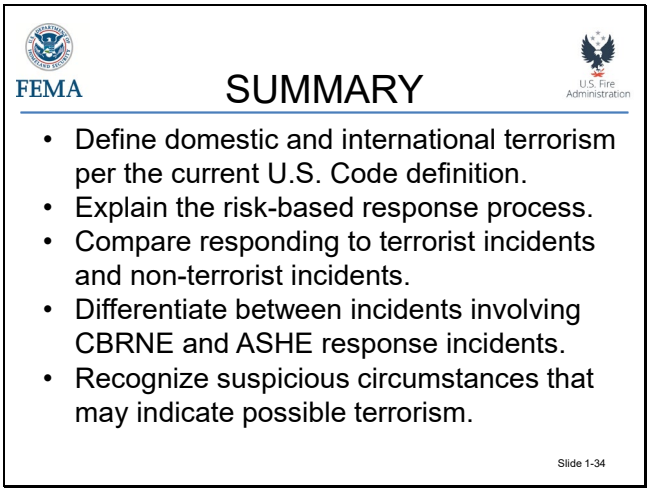
It's 3:00 a.m. on a warm Sunday morning. Fire and police are dispatched to what has been reported by an early morning jogger as a large "fuel truck" parked outside the National Petroleum Building in the heart of downtown. Dispatch information states the truck driver has a "tube" pushed into a sewer manhole, and the reporting party states it looks "suspicious." They also report they witnessed the driver spray painting "Stop the Wiki Pipeline" on the side of the building.

Scenario 5: Civil Unrest

It's 11:50 p.m. Fire resources are being used to assist and support law enforcement during civil unrest in the downtown area that has attracted national attention and media. Anti-fascist groups and anti-law enforcement groups, wearing protective gear and all-black clothing, have joined forces against the police department. Fire engine companies are operating at various burning storefronts, and ambulance crews are treating police department officers who are injured. Officers are being sprayed with irritant liquids using large squirt guns. Fire and EMS officers now report hearing shots fired and are taking rounds to the apparatus.

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V. SUMMARY


FEMA
SUMMARY
U.S. Fire Administration
• Define domestic and international terrorism per the current U.S. Code definition.
• Explain the risk-based response process.
• Compare responding to terrorist incidents and non-terrorist incidents.
• Differentiate between incidents involving CBRNE and ASHE response incidents.
• Recognize suspicious circumstances that may indicate possible terrorism.
Slide 1-34

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APPENDIX A

SIGNIFICANT DOMESTIC TERRORISM INCIDENTS IN THE UNITED STATES FROM 2020 AND 2021

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Significant Domestic Terrorism Incidents in the United States From 2020 and 2021

Purpose

To provide expanded information on recent terrorist events in the United States as referenced during the course introduction.

Key terms (As defined by the FBI and U.S. Department of Homeland Security)

- **Anarchist violent extremism:** Anarchist violent extremism encompasses the potentially unlawful use or threat of force or violence in furtherance of an anti-government or anti-authority violent extremist ideology that considers capitalism and centralized government to be unnecessary and oppressive.

- **Domestic terrorism:** See "Domestic violent extremism."

- **Domestic violent extremism:** An individual based and operating primarily within the United States or its territories without direction or inspiration from a foreign terrorist group or other foreign power who seeks to further political or social goals wholly or in part through unlawful acts of force or violence. The mere advocacy of political or social positions, political activism, use of strong rhetoric, or generalized philosophic embrace of violent tactics may not constitute extremism and may be constitutionally protected.

- **Militia violent extremism:** Militia violent extremism encompasses the potentially unlawful use or threat of force or violence in furtherance of an anti-government or anti-authority violent extremist ideology in response to perceived abuses of power by the government, especially in regard to suspected infringements on gun rights; excessive use of force by law enforcement; or bureaucratic incompetence in attending to critical tasks.

- **Racially or ethnically motivated violent extremism:** Racially or ethnically motivated violent extremism encompasses the potentially unlawful use or threat of force or violence in furtherance of ideological agendas derived from bias, often related to race or ethnicity, held by the actor against others or a given population group. Racially or ethnically motivated violent extremists (RMVEs) purport to use both political and religious justifications to support their racially — or ethnically — based ideological objectives and criminal activities.

January 2020: Georgia

Three RMVEs who advocated for the superiority of the white race were arrested and charged with violations, including conspiracy to commit murder and participation in a criminal gang. The individuals, all members of The Base, a self-identified racially or ethnically motivated violent extremism organization, conspired in a plot to murder individuals they perceived to be "anti-fascists." In November 2021, all three subjects pleaded guilty. One subject was sentenced to 40

years, with 20 years to serve in prison; another subject was sentenced to 30 years, with eight to 15 years to serve in prison; and the third subject was sentenced to 25 years, with six years to serve in prison.

January 2020: Delaware, Maryland

Three RMVEs who advocated for the superiority of the white race, one of whom is a Canadian national, were arrested in Delaware and Maryland and charged with violations related to harboring an undocumented immigrant and firearms. In December 2020, one subject pleaded guilty and was sentenced to five years in prison. In June 2021, the other two subjects pleaded guilty, and in October 2021, they were each sentenced to nine years in prison.

January 2020: Wisconsin

An RMVE who advocated for the superiority of the white race was arrested and charged with violations for his alleged role in vandalizing a synagogue in Racine, Wisconsin. The individual's arrest was part of a broader law enforcement campaign to disrupt domestic terrorism acts planned by subjects associated with The Base, a self-identified racially or ethnically motivated violent extremism organization. In July 2020, the subject pleaded guilty.

February 2020: Arizona, Florida, Texas, Washington

Four RMVEs who advocated for the superiority of the white race and who were associated with the Atomwaffen Division, a self-identified racially or ethnically motivated violent extremism organization, were arrested and charged with violations related to their roles in a coordinated operation to intimidate and threaten journalists and activists through the targeted distribution of threatening posters to their victims in-person or through the mail. In September 2020, one subject pleaded guilty and, in December 2020, was sentenced to 16 months in prison. In September 2020, a second subject pleaded guilty, and, in March 2021, the subject was sentenced to time served. In April 2021, a third subject pleaded guilty, and, in August 2021, the subject was sentenced to three years in prison. In September 2021, the fourth subject was tried and convicted, and, in January 2022, the subject was sentenced to seven years in prison.

February 2020: Texas

An RMVE who advocated for the superiority of the white race was arrested and charged with violations related to his participation in a conspiracy involving "swatting," a harassment tactic in which emergency services are dispatched to an unwitting person's location. The individual's targets included at least one news office and journalist. In July 2020, the subject pleaded guilty, and, in May 2021, the subject was sentenced to 41 months in prison.

March 2020: Missouri

The FBI attempted to arrest an RMVE who advocated for the superiority of the white race on one charge related to providing material support to terrorists, based on the subject's plot to carry out a mass-casualty attack targeting a Missouri hospital. The individual succumbed to injuries after a shooting incident during the attempted arrest. The subject's attack plot included using a vehicle-based improvised explosive device (IED) and came after approximately seven months of planning and preparation, which included the acquisition of bomb-making materials.

May 2020: New York

Following a local law enforcement vehicle pursuit, local deputies and a militia violent extremist (MVE) exchanged gun fire, and the MVE died as a result of the interaction. The investigation recovered pipe bombs, explosives manuals, a large amount of cash and several firearms.

May 2020: Nevada

Three Las Vegas-based domestic violent extremists (DVEs) with personalized ideologies were arrested and charged for violations related to conspiring to cause destruction during protests and possession of an unregistered destructive device. The subjects plotted to damage and destroy buildings and property owned by the U.S. government, as well as a public utility installation. The subjects self-identified as part of the boogaloo movement.

June 2020: Texas

An MVE was arrested and charged with violations related to conspiracy to distribute controlled substances. The court ordered the subject to be detained pending trial due to the threat the subject posed to the community. The subject used his social media accounts to advocate vigilante guerrilla warfare against National Guardsmen patrolling protests, to claim the subject was "hunting Antifa," and to threaten to kill looters. In April 2021, the subject pleaded guilty, and, in November 2021, the subject was sentenced to 37 months in prison.

June 2020: California

An MVE was arrested by local law enforcement and charged with violations related to the killing of a Santa Cruz County Sheriff's Office sergeant and wounding a deputy. The subject was later federally indicted and charged with violations related to the murder and attempted murder of a person assisting an officer or employee of the U.S. government. Investigation identified the MVE and an accomplice as the alleged perpetrators of the May 29, 2020, shootings of two federal protective security officers in Oakland, California, which resulted in the death of one of the officers. In June 2022, the subject pleaded guilty and was sentenced to 41 years in prison.

August 2020: California

An MVE was arrested by local law enforcement and charged with violations related to stalking and harassing a public official. The MVE allegedly sent 24 threatening letters to a county public health officer after a shelter-in-place order in response to COVID-19.

August 2020: Oregon

A now-deceased anarchist violent extremist (AVE), who self-identified as Antifa, shot and killed an individual in Portland, Oregon, during an event attended by individuals of opposing ideologies. The subject died during law enforcement's attempted arrest of the subject.

September 2020: Minnesota

Two Minnesota-based DVEs with personalized ideologies were arrested and charged with conspiring to provide material support and resources to Hamas, a designated foreign terrorist organization, for use against Israeli and U.S. military personnel overseas. The subjects proposed assisting the individuals they believed were members of Hamas, including discussing potentially destroying a courthouse in Minnesota and attacking a police station and other targets, as a means to advance the boogaloo cause. In May 2022, one subject pleaded guilty and was sentenced to three years in prison. In June 2022, the second subject pleaded guilty and was sentenced to four years in prison.

September 2020: Ohio

An MVE was arrested and charged with violations related to the possession of a machine gun. Investigation revealed the subject expressed the desire to commit violence against perceived ideological opponents and sought to manufacture ricin from castor bean plants to place in the tips of hollow point rounds to do as much harm as possible to potential victims. In August 2021, the subject pleaded guilty and, in December 2021, the subject was sentenced to time served.

September 2020: California

An MVE was arrested and charged with firearms-related violations. Local police had also previously arrested the subject in May 2020 for allegedly driving his truck into a crowd of protesters. In May 2021, the subject pleaded guilty, and in October 2021, the subject was sentenced to one year and one day in prison.

October 2020: Michigan

During the attempted arrest of an MVE on firearms-related charges, the MVE fired upon law enforcement and died as a result of the interaction. The subject previously expressed his willingness to die for his cause and engage violently with law enforcement, for example, during a traffic stop or a law enforcement visit to his property.

October 2020: Delaware; Michigan; South Carolina

Thirteen MVEs, some of whom self-identified as the Wolverine Watchmen, were arrested and charged with violations related to an alleged conspiracy to kidnap the governor of Michigan before the November 2020 general election because of perceived abuses of power pertaining to her response to the COVID-19 pandemic. Of the 13 subjects, six were arrested and charged federally, and the remaining seven were arrested and charged by state/local authorities. Of the six subjects charged federally:

- January 2021, one subject pleaded guilty, and, in August 2021, the subject was sentenced to 75 months in prison.
- February 2022, a second subject pleaded guilty, and, in October 2022, the subject was sentenced to 48 months in prison.
- April 2022, a jury acquitted two of the individuals.
- August 2022, a jury convicted the remaining two individuals.

November 2020: New York

An MVE was arrested and charged with violations related to threatening to kill politicians, members of law enforcement and protesters in retaliation for the 2020 U.S. presidential election. In April 2021, the subject pleaded guilty. In May 2022, the MVE was sentenced to 36 months in prison for being a convicted felon in possession of a firearm.

November 2020: Ohio

The FBI attempted to arrest an RMVE motivated by racial injustice in American society, the desire for a separate Black homeland and/or violent interpretations of religious teachings, on charges related to kidnapping a woman, murdering another and transporting the woman across state lines. During the attempted arrest, the subject fired upon law enforcement and was fatally wounded during the interaction. Investigation identified the subject's social media postings, which revealed his violent interpretation of religious teachings, including content questioning the identity of the true followers of Judaism and claiming that white Christians had historically forced their religion upon enslaved Africans.

Summer and Early Fall 2020: Nationwide

Multiple threat actors — including DVEs adhering to various domestic terrorism (DT) ideologies and criminal actors — primarily targeted businesses and law enforcement as part of violence and criminal activity surrounding lawful protests held nationwide during the summer and early fall of 2020. The FBI and its law enforcement partners arrested hundreds of individuals on a variety of charges, primarily related to property crimes against businesses, violence against law enforcement and law enforcement property, and criminal activity targeting government buildings and property.

January 2021: Washington, D.C.

On Jan. 5, 2021, an unidentified subject(s) with an unidentified motivation placed two pipe bombs in Washington, D.C. The subject(s) placed one device in an alley behind the Republican National Committee Headquarters and another device next to a park bench near the Democratic National Committee Headquarters. Law enforcement officers identified the devices and secured the area without any detonation.

January 2021: Washington, D.C.

Multiple threat actors — including DVEs adhering to various DT ideologies and criminal actors — participated in the Jan. 6, 2021, siege on the U.S. Capitol, disrupting a joint session of the U.S. Congress in the process of affirming the presidential election results. During the attack, approximately 140 police officers were assaulted, and, according to a May 2021 estimate by the Architect of the Capitol, the attack caused approximately $1.5 million worth of damage to the U.S. Capitol building. During 2021, more than 725 individuals were arrested in nearly all 50 states and Washington, D.C., for their criminal actions related to the siege on the U.S. Capitol. As of the end of 2021, of the more than 725 subjects arrested:

- More than 225 subjects were charged with assaulting, resisting or impeding officers or employees.
- Approximately 640 subjects were charged with entering or remaining in a restricted federal building or grounds.
- Dozens of subjects were charged with conspiracy, either to obstruct a congressional proceeding, obstruct law enforcement during a civil disorder, injure an officer, or some combination of the three.
- Approximately 165 subjects pleaded guilty to a variety of federal charges, from misdemeanors to felony obstruction.
- Approximately 70 subjects received a variety of sentences for their criminal activity, from probation to periods of incarceration in prison.

January 2021: Florida

An AVE was arrested and charged with violations related to interstate threats after the subject issued a call to arms for like-minded individuals to violently confront protesters that might gather at the Florida Capitol in the wake of the Jan. 6, 2021, siege on the U.S. Capitol. In May 2021, a jury found the subject guilty, and, in October 2021, the subject was sentenced to 45 months in prison.

February 2021: Illinois

An MVE was arrested and charged with firearms-related violations. The subject sought to recruit like-minded individuals to execute militant and random attacks and expressed a desire to violently take over a television station to broadcast the subject's own message.

March 2021: Georgia

A DVE with a personalized ideology related to his claimed sex addiction was arrested and charged with violations relating to the subject's execution of fatal shootings at spas near Atlanta, killing eight individuals and injuring others. He targeted the spas in an attempt to eliminate "temptation" and allegedly plotted a subsequent attack against a pornography-related target in Florida. In July 2021, the subject pleaded guilty to state/local charges of murder and was sentenced to life in prison.

April 2021: Texas

An MVE was arrested and charged with violations related to the subject's plot to blow up an Amazon data center, which the subject hoped would provoke a reaction that would convince the American people to take action against what he perceived to be a "dictatorship." In June 2021, the subject pleaded guilty, and, in October 2021, the subject was sentenced to 10 years in prison.

May 2021: Georgia

Three MVEs were arrested and charged with violations related to their plot to target mobile COVID-19 vaccination sites. In January 2022, one subject pleaded guilty, and, in June 2022, the subject was sentenced to 18 months in prison. In February 2022, a second subject pleaded guilty, and, in May 2022, the subject was sentenced to 21 months in prison. In February 2022, the third subject pleaded guilty, and, in May 2022, the subject was sentenced to three years in prison.

June 2021: Colorado

A now-deceased DVE with a personalized ideology shot and killed an Arvada Police Department officer who was responding to a suspicious activity call. A nearby civilian responded to the area of the shooting and engaged the subject; both the civilian and the subject were killed during the interaction. During the shootings, two police vehicles were also struck by gunfire. Investigation indicates the subject had a personalized ideology and was targeting law enforcement.

June 2021: Florida

An RMVE motivated by racial injustice in American society, the desire for a separate Black homeland, and/or violent interpretations of religious teachings, allegedly shot and killed a Daytona Beach Police Department officer after the officer approached the subject's vehicle with the subject inside. The subject fled the scene and was later arrested in Georgia on June 26, 2021, and charged by state/local authorities with first-degree murder of a law enforcement officer with a firearm.

June 2021: Massachusetts

A now-deceased RMVE who advocated for the superiority of the white race stole a box truck and drove it into a vehicle with two occupants and then crashed the truck into a residence. The subject exited the truck and shot and killed two African American individuals. The subject fired at responding law enforcement, who returned fire, and the subject died as a result of the interaction. Investigation revealed the subject left behind writings indicating he conducted the attack based on racially or ethnically motivated violent extremism ideologies.

July 2021: Ohio

An incel (involuntary celibate) violent extremist was arrested and charged with hate crime and firearms-related violations related to the subject's alleged plot to attack a sorority.

July 2021: California

Two MVEs were arrested and charged with violations related to their alleged plot to bomb the Democratic Party headquarters in Sacramento, California. Investigation revealed evidence that the subjects had multiple pipe bombs and dozens of firearms. In November 2021, one of the two subjects pleaded guilty.

September 2021: Alaska

A DVE with a personalized ideology was arrested and charged with violations related to threatening interstate communications, cyberstalking and making a bomb threat. The arrest and

charges were based on the subject allegedly making threats of violence against multiple law enforcement departments.

September 2021: Texas

A DVE with a personalized ideology was arrested and charged with arson-related violations for throwing a Molotov cocktail through the window of a political party office in Austin, Texas, causing a fire. In January 2022, the subject pleaded guilty, and, in May 2022, the subject was sentenced to six years in prison.

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APPENDIX B

COMPLEX COORDINATED ATTACKS — SECURITY AWARENESS FOR SOFT TARGETS AND CROWDED PLACES

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ACTION GUIDE



CISA
CYBER+INFRASTRUCTURE

Complex Coordinated Attacks

Security Awareness for Soft Targets and Crowded Places

A Complex Coordinated Attack (CCA), also known as a Complex Coordinated Terrorist Attack, is a violent assault or series of assaults by one or more individuals or groups using one or more type of weapons with the intent to inflict harm on large numbers of people. While these type of attacks often result from various motives including terrorist ideology, the continued proliferation of CCAs overseas and domestically demonstrates that CCAs remain a concern for the conceivable future.

Potential Indicators

Complex coordinated attacks are an evolving and dynamic threat, shifting from symbolic, well-planned attacks on high-visibility targets to attacks that are more dispersed and difficult to detect. Like other attack vectors, specific behaviors or circumstances may be observed in perpetrators before a CCA occurs. These potential indicators may include, but are not limited to:

- Attempting to elicit information regarding a facility or building's purpose, operations, security procedures that is beyond mere curiosity and potentially suspicious.
- Unattended or unauthorized vehicles in unusual or restricted areas.
- Overt testing of security measures or emergency response.
- Procurement or purchase of unusual quantities of possible improvised explosive device (IED) materials, such as cellphones, pagers, or timers, and/or explosive precursors, such as fertilizers, fuels, or acids.
- Unauthorized personnel attempting to enter or actually entering a restricted area or protected site through impersonation of authorized personnel (e.g., police/security, janitor).
- Seeking additional access to or encountered within restricted or controlled areas.
- Misrepresent one's affiliation to cover possible illicit activity by presenting false documentation, identification, or insignia.
- Taking photos or videos of facilities, buildings, or infrastructure's seldomly used access points; personnel performing security functions (patrols, badge/vehicle checking); or security-related equipment (perimeter fencing, security cameras).

FACTS & EVENTS

The occurrence of CCAs have increased in recent years around the world, including several notable incidents:

- In April 2019, three churches, three luxury hotels, a housing complex, and a guest house in and around Colombo, Sri Lanka were targeted in a coordinated suicide bombing attack. These attacks killed 259 people and at least 500 were wounded.
- In August 2017, attackers in Barcelona, Spain drove vehicles into pedestrians and stabbed bystanders while attempting to escape, killing 16 people and injuring more than 130 others.
- In March 2016, suicide bombers detonated three devices in Brussels, Belgium, two at Zaventem International Airport and one at the Maelbeek Metro Station. The blasts killed 32 people and injured more than 330.
- On April 15, 2013, two brothers perpetrated an attack on people in the crowds during the annual Boston Marathon using a couple of homemade pressure cooker bombs detonated 12 seconds and 210 yards apart, near the finish line of the race. The attack, with retribution for US military action in Afghanistan and Iraq as motive, killed three people and injured several hundred patrons.
- On July 20, 2012, a mass shooting occurred inside a movie theater in Aurora, Colorado, during a midnight screening of a film. The perpetrator set off tear gas grenades and shot into the audience with multiple firearms. The attack killed 12 and wounded 70 patrons. The day following the attack, police, bomb squads and federal agents found a large number of explosive devices and trip wires at the perpetrators apartment.



CISA

Complex Coordinated Attacks
Action Guide

Adversarial Tactics and Techniques

Attackers may employ the following tactics, which differentiate a CCA from other types of incidents:

- Use of well-armed, well-trained individuals in small teams employing military or law enforcement style tactics;
- Strike multiple targets simultaneously or in close succession;
- Strike quickly and move to another location before law enforcement can interdict and disrupt;
- Delay or deny entry and exit to victims and first responders by blocking exits and/or chaining/rigging doors with explosives, using tear gas, and/or using fire/smoke to delay law enforcement response efforts and potentially prolong the incident;
- Deploy diversions to slow public safety response, consume responder resources, or draw responders toward or away from specific locations;
- Coordinate timing and methods (e.g., firearms, improvised explosive devices, hazardous materials) with other attackers and accomplices providing assistance to the attackers; and
- Conduct secondary attacks on first responders, evacuation routes, and/or additional sites, such as medical facilities, that are part of the response.

Mitigation Strategies and Protective Measures

Implementing comprehensive planning and preparedness considerations into an organization's security practices are key to saving lives while defending against a potential CCA. The majority of the below protective actions are options for consideration when developing emergency action plans and equipping personnel to execute those plans.

Prevention/Planning

- Apply layered security concepts (physical, procedural, intelligence) to recognize and manage threats early.
- Expect a potentially significant delay in help arriving as first responders will be overwhelmed during a CCA.
- Review existing plans to see if current actions may put people at increased risk for secondary attacks.
- Address how to implement support plans for survivors and families of the deceased.
- Ensure plans Include how to provide mental health assistance and support in recovery support efforts.

Training/Equipping

- Ensure that personnel are comfortable with emergency procedures to ensure proper implementation.
- Train personnel to recognize and report suspicious behavior.
- Train personnel for self and buddy-care to mitigate delayed first response.
- Equip shelter and safe-haven areas with medical supplies, food, and water for an extended period of time.

Additional Resources for Owners and Operators

For direct regional support, visit www.dhs.gov/hometown-security.

For additional resources, products, and information regarding the security of soft targets and crowded places, visit www.dhs.gov/securing-soft-targets-and-crowded-places.

For additional resources, products, and information regarding active shooter preparedness, visit www.dhs.gov/active-shooter-preparedness.

For additional Complex Coordinated Terrorist Attack resources, training, and FEMA grant information, visit www.fema.gov.

For life saving response training, visit www.dhs.gov/stopthebleed.

UNIT 2: IMPLEMENTING SELF-PROTECTIVE AND SCENE CONTROL MEASURES

TERMINAL OBJECTIVE

The students will be able to:

2.1 Determine the appropriate self-protective and scene control measures for a given scenario using the risk-based response process.

ENABLING OBJECTIVES

The students will be able to:

2.1 Determine the appropriate use of shielding at chemical, biological, radiological, nuclear and explosives (CBRNE) events and active shooter/hostile events (ASHE).

2.2 Explain the use of time and distance as protective measures at CBRNE events and ASHE.

2.3 Consider the use of emergency decontamination and routine post-exposure decontamination as a self-protective measure.

2.4 Identify unique challenges that may confront responders when attempting to implement scene control.

2.5 Explain the factors that influence public protection considerations.

2.6 Describe what resources should be used to maintain perimeter security at a terrorist incident.

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FEMA

U.S. Fire Administration

UNIT 2: IMPLEMENTING SELF-PROTECTIVE AND SCENE CONTROL MEASURES

Slide 2-1

TERMINAL OBJECTIVE

Determine the appropriate self-protective and scene control measures for a given scenario using the risk-based response process.

Slide 2-2

ENABLING OBJECTIVES

- Determine the appropriate use of shielding at chemical, biological, radiological, nuclear and explosives (CBRNE) events and active shooter/hostile events (ASHE).
- Explain the use of time and distance as protective measures at CBRNE events and ASHE.
- Consider the use of emergency decontamination and routine post-exposure decontamination as a self-protective measure.

Slide 2-3

ENABLING OBJECTIVES (cont'd)

- Identify unique challenges that may confront responders when attempting to implement scene control.
- Explain the factors that influence public protection considerations.
- Describe what resources should be used to maintain perimeter security at a terrorist incident.

Slide 2-4

I. THE RELATIONSHIP BETWEEN HAZARD/THREAT AND HARM

RELATIONSHIP BETWEEN HAZARD/THREAT AND HARM

- Cause-and-effect relationship.
- **Example:** If a Molotov cocktail is used as the weapon, the hazard is fire, and the resulting harm is a thermal burn and respiratory distress.



Photo courtesy of iStock.

Slide 2-5

A. The relationship between any hazard or threat and harm is a cause-and-effect relationship. Any hazard or threat that can be identified has a resulting type of harm or harms.

Example: If a Molotov cocktail is used as the weapon, the hazard is fire, and the resulting harm is a thermal burn and respiratory distress from both smoke and thermal injury. If the threat is an active shooter, the hazards include being shot, crush injury from those fleeing the threat and being injured from debris such as broken glass; the harm is mechanical trauma caused by the transfer of energy from the bullet striking the body. Explosives may produce several hazards, including thermal and mechanical injury. First, a thermal wave, followed by a pressure wave, with injury resulting in burns, trauma to air-filled organs (such as the lungs) and the body from pressure, and penetrating trauma from fragments and shrapnel. Mechanical damage may produce the hazard of being exposed to body fluids, due to bleeding and loss of body functions, which can transmit disease.

B. The risk-based response process involves analyzing the incident and quickly identifying the problem (cause, hazards, harm). If you understand what the hazard is, you will know the resulting harm and can then take the necessary steps to protect responders and the public from the harm using principles of limiting the **time** of exposure, increasing the **distance** between yourself and the hazard, and **shielding** yourself from the hazard.

II. INITIAL CONSIDERATIONS FOR SCENE CONTROL AFTER THE THREAT OR HAZARD IS IDENTIFIED

INITIAL CONSIDERATIONS FOR SCENE CONTROL

- Conduct scene size-up.
- Establish command and request resources.
- Establish zones.
- Determine strategies and tactics.

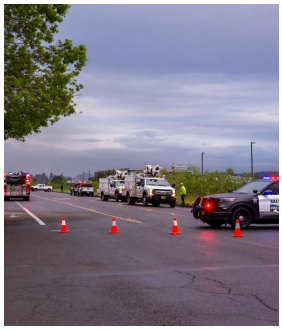


Photo courtesy of iStock.

Slide 2-6

CONDUCT SCENE SIZE-UP

- Scene safety.
- Anticipate multiple hazards.

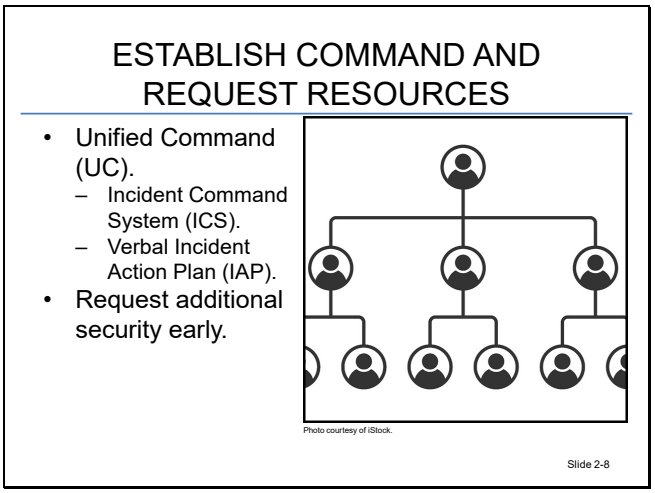


Slide 2-7

A. Conduct scene size-up: To effectively implement scene control and ensure public safety, emergency responders must quickly and accurately evaluate the incident area and determine the severity of danger. A criminal incident that has been created by an act of terrorism presents unique challenges to the responder.

1. Scene safety: Evaluate the area and analyze the size and scope of incidents, hazards and threats, victims, and escalation potential.

2. Anticipate multiple hazards: Anticipate the potential for multiple hazard locations. Responders may have to define outer and inner operational perimeters. There may exist several hazards within the outer perimeter that must be isolated, especially when victims are scattered throughout the boundaries of the incident or when multiple targets contain dangers.



B. Establish command and request resources.

1. Unified Command (UC)/Incident Command System (ICS)/Verbal Incident Action Plan (IAP). UC is a team effort, allowing all agencies with geographical or functional responsibility for an incident to assign an Incident Commander (IC) to a UC organization.

2. UC.

a. Creates a common set of incident objectives and strategies to which all parties agree. This is accomplished without surrendering agency authority, responsibility or accountability.

b. Increases the effectiveness of multijurisdictional or multiagency incidents. As incidents become more complex and involve more agencies, the need for UC is increased.

3. Request additional security early.

a. Controlling the scene, isolating hazards and attempting to conduct controlled evacuations will be resource-intensive. Inordinate security may be needed for the event, so responders should request additional assistance early.

b. Resources should be requested based on immediate needs as well as planned tactics.

TIME, DISTANCE AND SHIELDING CONCEPTS

- **Time:** Spend the shortest amount of time possible in the hazard area or exposed to the threat.
- **Distance:** The farther you are away from a hazard or threat, the less the concentration, exposure or dose you will receive.
- **Shielding:** Place mass or protective materials between the responder and the threat.

Slide 2-9

C. Time, distance and shielding (T/D/S) concepts: Protection of the first responder is based on avoiding or minimizing exposure through the principles of T/D/S. These principles can also be applied to public protective actions.

VIDEO PRESENTATION

"THE LIA RADIOLOGICAL ACCIDENT – NUCLEAR BONFIRE"

https://www.youtube.com/watch?v=e3GYg7Y_W7s

Slide 2-10

1. **Time.** Decreasing the time responders are exposed to hazards, decreasing the amount of harm from hazards that are time-based, such as decreasing the number of bullets you will be exposed to, or decreasing the amount of chemical contamination. You should try to spend the shortest amount of time possible in the hazard area or exposed to the threat.

   Example: Rapid entry, short work times and rapid exit from hazard areas are conducted with minimizing time on target for the hazard.

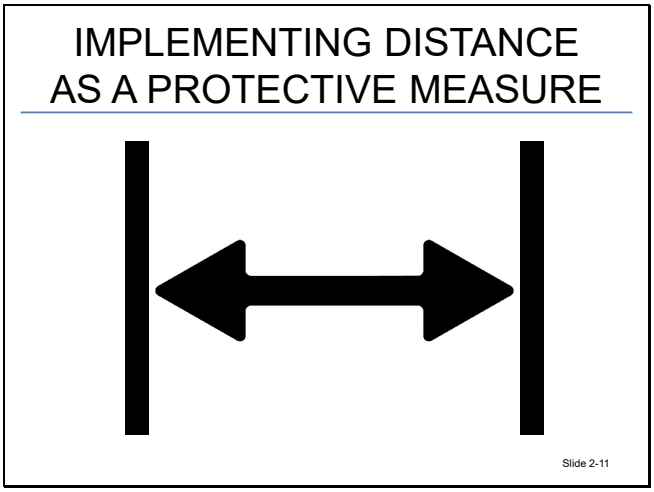
2. **Distance.** Greater distances from hazards or threats reduce concentration, exposure or dose you will receive. Increasing distance makes targeting responders difficult; reduces the effects of blast pressure, heat and fragmentation from explosives; and limits the effectiveness of firearms.

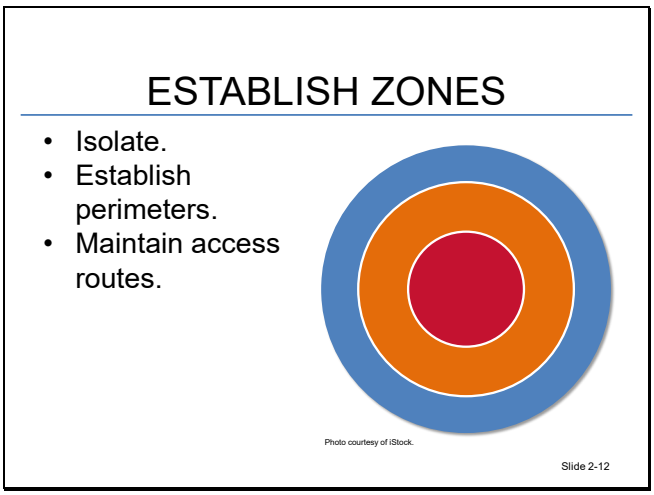
Example: The best example of using distance as a self-protective measure is through the use of perimeter and control zones.

3. **Shielding.** Placing mass, or protective, materials between the responder and the threat is called "cover," whereas "concealment" hides the responder but provides little-to-no physical protection. The denser the mass, the greater the protection. Sheltering the public in place may be a form of shielding as a protective measure.

   Example: Any barrier placed between responders or the public and the hazard or threat is considered shielding. Shielding can be vehicles, buildings, walls, terrain, physical protection (body armor) and chemical protective clothing (CPC).

III. IMPLEMENTING DISTANCE AS A PROTECTIVE MEASURE





A. Establish zones.

1. Isolate: Once the magnitude of the incident is realized, attempts to isolate the hazard begin.

2. Establish perimeters.

   a. To isolate, establish a perimeter, identify and isolate contaminated victims, deny entry into the initial perimeter, establish control zones, and enforce access control.

   b. Establishing control (work) zones (i.e., active shooter response (ASR), entry/exit, decontamination, victim holding) early will enhance public protection efforts and better facilitate medical treatment efforts.

3. Maintain access routes: After a bombing, access to the scene may be limited due to rubble or debris. Note that police activity may also interfere with establishing access and exit avenues for operations.

CONSIDERATIONS WHEN DETERMINING STRATEGIES AND TACTICS

- Life safety.
- Incident stabilization.
- Property, environment and evidence protection.



Photo courtesy of iStock.

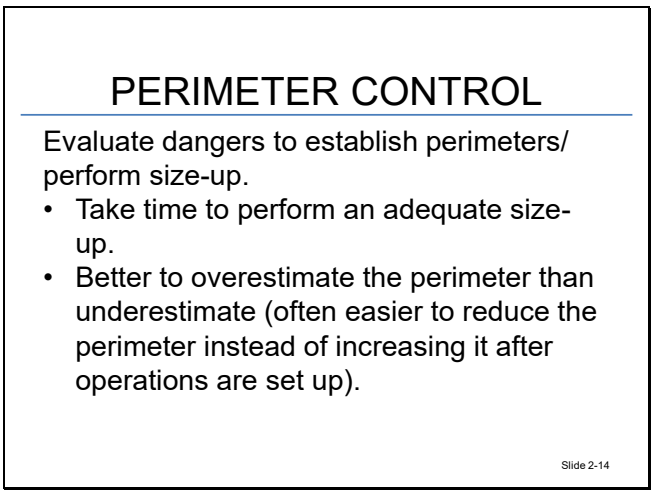
Slide 2-13

B. Considerations when determining strategies and tactics.

1. Life safety.

2. Incident stabilization.

3. Property, environment and evidence protection.



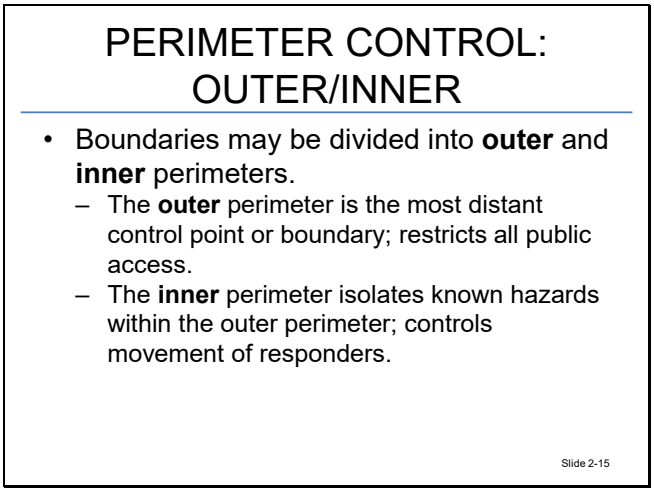
C. Perimeter control.

1. Evaluate dangers to establish perimeters/perform size-up.

   a. Recognizing and evaluating dangers is critical to implementing perimeter control. Evaluating potential harm will guide decisions and considerations for protective action distances and establishing "work zones."

   b. Take time to perform an adequate size-up and ensure that it remains a continuous process throughout the incident.

2. It may be better to overestimate the size of the perimeter than underestimate it because it is easier to reduce the perimeter instead of increasing it.



PERIMETER CONTROL: OUTER/INNER (cont'd)

- Types of terrorist incidents that may require these:
  - Improvised explosive devices (IEDs).
  - Chemical or biological dispersion devices.
  - Radioactive contamination.

Slide 2-16

D. Outer perimeter/inner perimeter: There may be a need for multiple control zones. The boundaries may need to be divided into two zones, commonly identified as the "outer" and "inner" perimeters.

1. The outer perimeter is the most distant control point or boundary of the incident. It is used to restrict all public access to the incident.

2. Measures were taken during the 2013 Boston Marathon bombing to preserve the crime scene as soon as possible after the injured were cleared from the scene. An initial 15-block crime-scene area was cordoned off, centered on the area of Boylston Street where the bombs had been detonated.

3. The inner perimeter isolates known hazards. It is often used to control the movement of responders in areas of increased danger.

4. All incidents may require the use of inner and outer perimeters.

PERIMETER CONTROL: CONTROL ZONES

- Control zones are established for multiple reasons.
- All zones specify:
  - Type of operations that will occur in each zone.
  - Degree of hazard at different locations within the release site.
  - Areas at the site that should be avoided by unauthorized or unprotected employees.

Slide 2-17

E. Control zones are established for multiple reasons.

1. It may be to reduce the accidental spread of hazardous substances by workers or equipment from contaminated areas to clean areas.

2. It also may be a crime-scene zone used to secure the integrity of the crime scene.

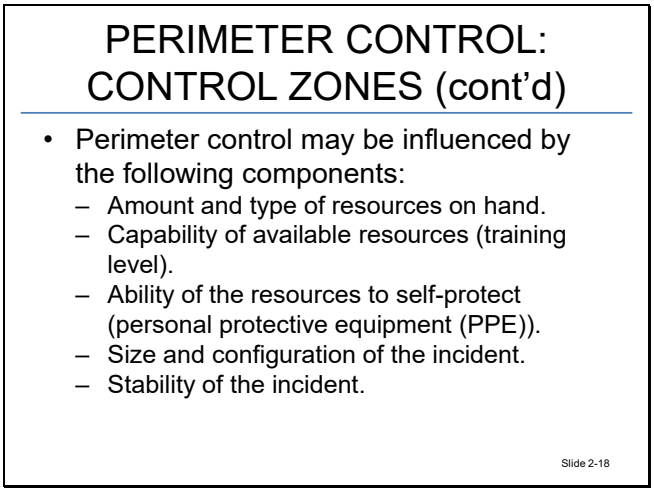
3. There are also safety zones that are established to protect responders and the public.

4. All zones specify:

a. The type of operations that will occur in each zone.

b. The degree of hazard at different locations within the release site.

c. The areas at the site that should be avoided by unauthorized or unprotected employees.



F. Perimeter control may be influenced by the following:

1. Amount and type of resources on hand.

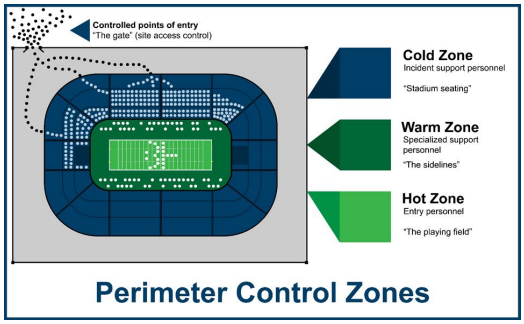
2. Capability of available resources (training level).

3. Ability of the resources to self-protect (personal protective equipment (PPE)).

4. Size and configuration of the incident.

5. Stability of the incident.

CONTROL ZONES ILLUSTRATION



Slide 2-19

G. Establish the standard control zones within the outer perimeter. These zones include the:

1. Cold Zone: incident support personnel.

2. Warm Zone: specialized support personnel.

3. Hot Zone: entry personnel.

PERIMETER CONTROL: DETECTION EQUIPMENT

- Responders must attempt to identify "clean" areas as well as hazardous areas by using detection and monitoring equipment (if available).
- Utilize trained hazardous materials personnel to conduct the area survey.

Slide 2-20

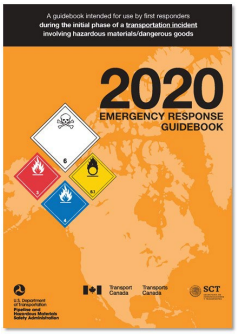
H. Detection equipment: Using detection and monitoring equipment may support perimeter and work zone boundaries. Isolation/stand-off distance considerations include:

1. Identifying "clean" and hazardous areas; this may be accomplished by using detection and monitoring equipment or using reference material.

2. Utilize trained hazardous materials personnel to conduct the area survey.

FIRST RESPONSE REFERENCES

- Department of Transportation (DOT) Emergency Response Guide (ERG).
- Federal Emergency Management Agency (FEMA) Field Operations Guide (FOG) (ICS 420-1).



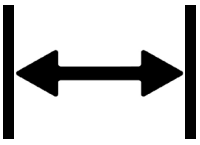
Slide 2-21

I. First response references.

1. Department of Transportation (DOT) Emergency Response Guide (ERG).

2. Federal Emergency Management Agency (FEMA) Field Operations Guide (FOG) (ICS 420-1).

IMPLEMENTING PROTECTIVE MEASURES

TIME	DISTANCE	SHIELDING
		

Slide 2-22

J. Implementing self-protective measures for chemical, biological, radiological, nuclear and explosives (CBRNE) events and active shooter/hostile events (ASHE), by type.

1. Chemical incidents.

a. **Time:** Minimize the amount of time downrange in dangerous concentrations.

b. **Distance:** Isolate, deny entry and establish adequate control zones and perimeters. Operate from a safe distance uphill and upwind. Evacuate the public.

c. **Shielding:** Wear appropriate PPE. Shelter the public in place.

2. Biological incidents.

   a. **Time:** Minimize the amount of time in contaminated areas.

   b. **Distance:** Isolate, deny entry and establish adequate control zones and perimeters. Operate from a safe distance uphill and upwind. Evacuate the public.

   c. **Shielding:** Wear appropriate PPE. Shelter the public in place.

3. Radiological incidents.

   a. **Time:** Minimize the amount of time exposed to radiation.

   b. **Distance:** Isolate, deny entry and establish adequate control zones and perimeters. Operate from a safe distance uphill and upwind. Evacuate the public. Utilize the inverse square rule to determine safe distances.

   c. **Shielding:** Place material between you and the radioactive source. Materials such as vehicles, water and concrete provide levels of protection. Wear appropriate PPE. Shelter the public in place.

   d. **Reference:** Quick Reference Guide: Radiation Risk Information for Responders Following a Nuclear Detonation.



4. Nuclear incidents.

   a. **Time:** Minimize the amount of time exposed to radiation and secondary hazards such as fires and collapsing buildings.

   b. **Distance:** Isolate, deny entry and establish adequate control zones and perimeters. Operate uphill and upwind from a safe distance. Evacuate the public. Apply the inverse square rule to help determine areas of lower radiation concentration.

   c. **Shielding:** Wear appropriate PPE. Utilize solid materials placed between the radiation and yourself. Shelter the public in place.

5. Explosive incidents.

   a. **Time:** Minimize the amount of time exposed to unexploded devices and post-explosive scenes.

   b. **Distance:** Isolate, deny entry and establish adequate control zones and perimeters. Operate upwind and uphill and from a safe distance. Evacuate the public if safe; however, never move the public in the line of sight of a potential device.

   c. **Shielding:** Never be in the line of sight of an explosive device. To supplement distance, use mass as a shield between responders, the public and the devices. Wear appropriate PPE. Shelter the public in place if safe.

6. Incendiary incidents — fire as a weapon.

   a. **Time:** Minimize the amount of time in dangerous thermal conditions or conditions that have the potential to ignite.

   b. **Distance:** Isolate, deny entry and establish adequate control zones and perimeters. Operate upwind and uphill and from a safe distance. Evacuate the public if necessary; however, limit exposing the public to thermal hazards.

   c. **Shielding:** Wear appropriate PPE. Shelter the public in place if safe.

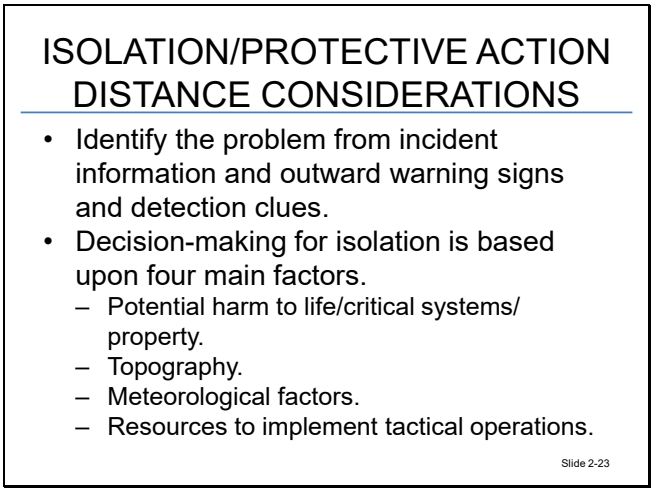
7. Active shooter incidents.

   a. **Time:** Minimize the amount of time exposed to the shooter.

   b. **Distance:** Isolate, deny entry and establish adequate control zones and perimeters. Operate in support of law enforcement officers attempting to neutralize the threat. Evacuate the public if law enforcement deems it necessary.

   c. **Shielding:** Wear appropriate PPE. Shelter the public in place if safe.

IV. ISOLATION/PROTECTIVE ACTION DISTANCE CONSIDERATIONS



A. The first consideration is to gain situational awareness by identifying the problem using incident information and outward warning signs and detection clues.

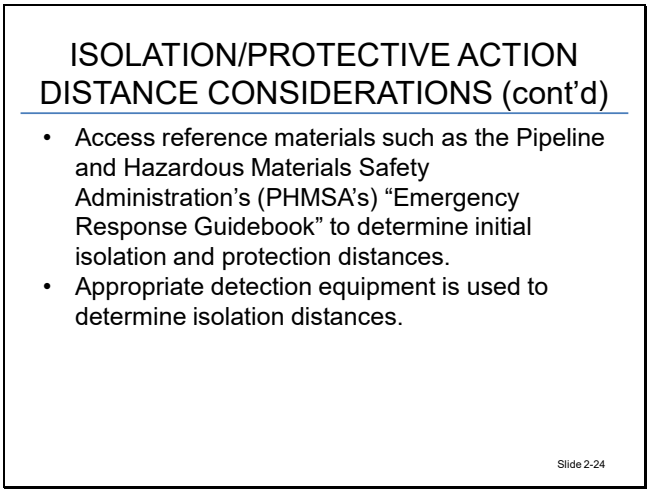
B. Decision-making for isolation is based upon four main factors.

1. Potential harm to life, critical systems and property.

2. Topography.

3. Meteorological factors.

4. Resources available to implement tactical operations.



C. Access reference materials such as the Pipeline and Hazardous Materials Safety Administration's (PHMSA's) "Emergency Response Guidebook" to determine initial isolation and protection distances.

D. When responders suspect radioactive materials, appropriate detection equipment is used to determine isolation distances. Monitoring for radioactive materials should be done at a bombing incident.

V. PUBLIC PROTECTION CONSIDERATIONS

PUBLIC PROTECTION CONSIDERATIONS

- Public safety will largely depend on the ability of responders to effectively conduct a hazard and risk analysis of the affected population.
- Responders will need to base decisions on information gathered during the primary size-up.



Slide 2-25

A. Public protection considerations.

1. Public safety will largely depend on the ability of responders to effectively conduct a hazard and risk analysis of the affected population. The same basic strategies used by responders to protect the public during a hazardous materials incident can be applied to a terrorist event.

2. First-arriving responders may be required to make rapid decisions because of escalating dangers. Decisions are based on information gathered during the primary size-up.

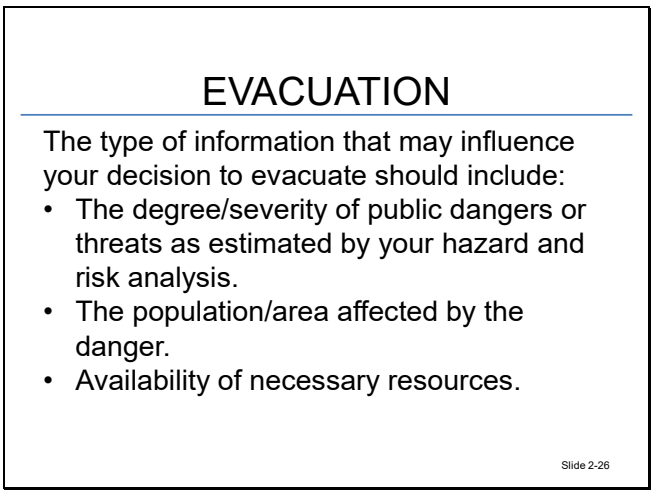
3. Remember that size-up is a continuous process of gathering information and factoring that information into making the best decision for a particular point in time.

4. During a large-scale CBRNE/ASHE incident, consider these options in defining your approach to protecting the public.

   a. Evacuation.

   b. Protect-in-place.

   c. Combination of evacuation and shelter-in-place.



B. Evacuating the public from danger is based on the public being at greater risk by remaining in or near the event area. Information that may influence your decision to evacuate may include:

1. The degree or severity of public dangers or threats from your hazard and risk analysis.

2. The population in the danger area. (This can be determined by using the recommended isolation distances found in the PHMSA ERG.)

3. Availability of the resources needed to evacuate the affected population may include:

   a. Additional fire/emergency medical services (EMS)/police personnel.

   b. Transportation resources such as school buses, privately owned vehicles or mass transit.

   c. Ability to notify the public and provide instructions before and during the evacuation may include the use of:

      - Public Information Officer (PIO).

      - Reverse 911 system.

      - Integrated Public Alert Warning System (IPAWS).

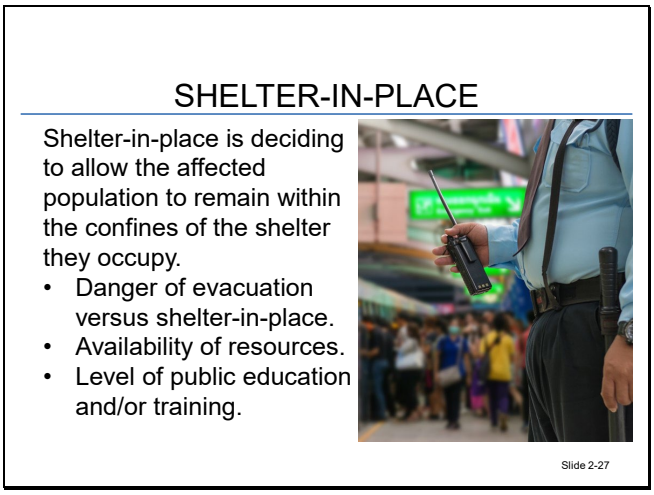
      - Social media.

      - Local media, radio and television.

- Door-to-door contact.

d. Safe passage and refuge areas for the evacuees, including:

- Evacuation route security.
- The appropriate opportunity to conduct the evacuation.
- Anticipated delays when planning the evacuation.
- Special needs of the evacuees.
- Care of animals.



C. Shelter-in-place.

1. Shelter-in-place keeps the affected population within the shelter where they are. The decision to do so is based upon the hazard and risk analysis of the incident. If the anticipated dangers to the public are determined to be less by having them remain in place rather than evacuate, then do so.

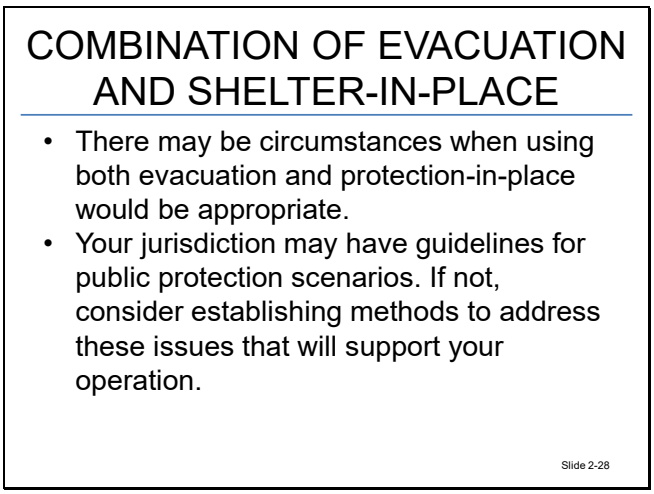
2. In certain situations (like airborne chemical hazards or line of sight exposure to explosives), the best decision may be to allow the public to remain in place. Hazards and risks must be continuously evaluated.

3. Consider the following.

a. Danger of evacuation versus shelter-in-place.

b. Availability of resources.

c. Level of public education and/or training.

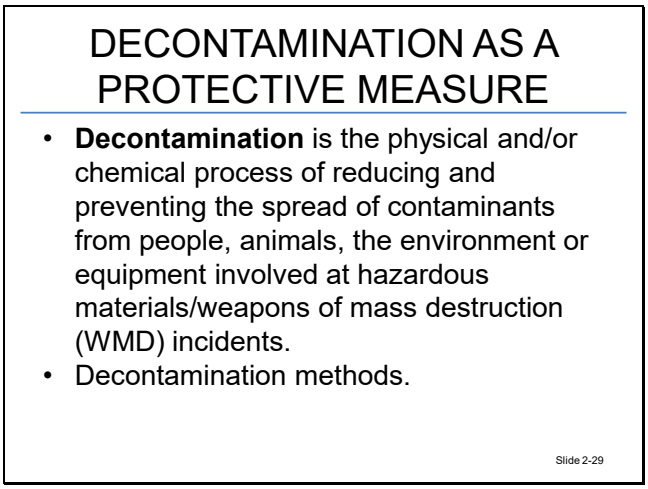


D. Combination of evacuation and shelter-in-place.

1. There may be circumstances when using both evacuation and protection-in-place would be appropriate. For example, if there are not enough response resources to support a large area evacuation, people more distant from the dangers may shelter-in-place, while those closer to the danger are systematically evacuated using available resources.

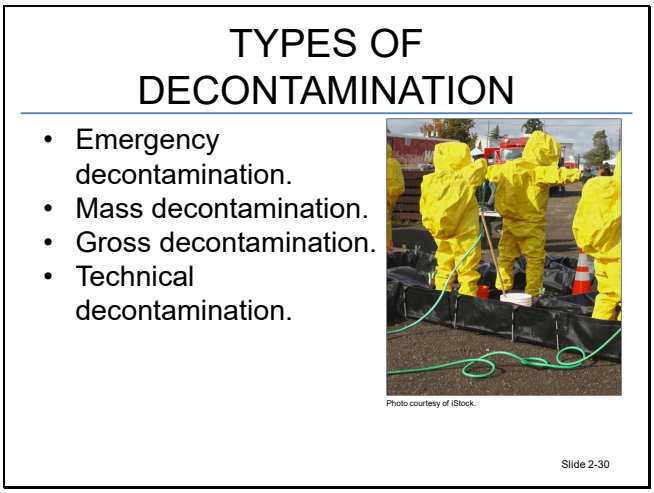
2. If they exist, follow your jurisdiction's guidelines or procedures relating to public protection scenarios.

VI. DECONTAMINATION AS A PROTECTIVE MEASURE



A. Decontamination is vital to reduce or remove contamination from responders, vital equipment, animals, victims and the public. Decontamination is the physical and/or chemical process of reducing and preventing the spread of contaminants from people, animals, the environment or equipment involved at hazardous materials/weapons of mass destruction (WMD) incidents.

B. Decontamination methods continue to change and develop.



C. Types of decontamination.

1. **Emergency decontamination** is the physical process of immediately reducing contamination of individuals in potentially life-threatening situations with or without the formal establishment of a decontamination corridor. First responders most often perform emergency decontamination at emergency incidents. Usually, this procedure involves immediately flushing the victim, stripping off the clothing or PPE, flushing the victim again, and covering them up, followed by immediate assessment and medical treatment.

2. **Mass decontamination** is the physical process of reducing or removing surface contaminants from large numbers of victims in potentially life-threatening situations in the fastest way possible.

3. **Gross decontamination** is the phase of the decontamination process during which the amount of surface contaminants is significantly reduced. This may occur inside the Hot Zone prior to continuing through a technical decontamination process.

4. **Technical decontamination** is the planned and systematic process of reducing contamination to a level that is as low as reasonably achievable (ALARA). Usually performed by a hazardous materials team with special equipment. PPE must be disposed of or decontaminated and recertified for future use. Apparatus may be decontaminated at the incident and/or off-site, depending on the level of contamination.

VII. SCENE SECURITY CONSIDERATIONS

SCENE SECURITY CONSIDERATIONS

- Once the Incident Commander (IC) has assumed site control responsibilities, all entry and exit routes from hazardous areas must be effectively controlled.



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Slide 2-31

A. Once the IC has assumed site control responsibilities, all entry and exit routes from hazardous areas must be effectively controlled. Isolating unstable conditions, designating access points and establishing contamination reduction corridors should all be considered essential functions under site control and security responsibilities.

SCENE SECURITY CONSIDERATIONS (cont'd)

- Effectively manage entry and exit routes.
- Isolate unstable conditions.
- Designate access points.
- Establish contamination reduction corridors.
- Organize evacuation.

Slide 2-32

B. Effectively manage entry and exit routes: Whenever someone crosses a control zone (i.e., entry or exit), there must be some accounting of that crossing. Site access accountability is the process by which these movements are tracked and recorded. This is accomplished with:

1. Scene assignments (i.e., dedicated personnel).

2. Scene discipline (i.e., training and obedience).

3. Detailed record-keeping methods (i.e., ICS 214).

C. Isolate unstable conditions.

1. Any time there is potential criminal activity, law enforcement officials should oversee scene control security measures.

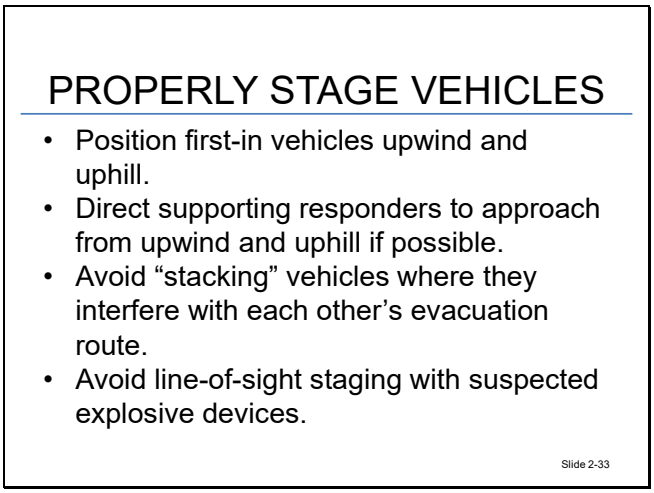
2. As sufficient incident resources become available, perimeter control shifts from a combination of police and fire personnel to strictly law enforcement.

3. If the incident is so large that response activities may continue for days, the use of National Guard units may be considered for perimeter security and control.

D. Designate access points and credentialing for those passing through them.

E. Establish contamination reduction corridors for victims, evacuees, animals and response personnel.

F. Organize evacuation.



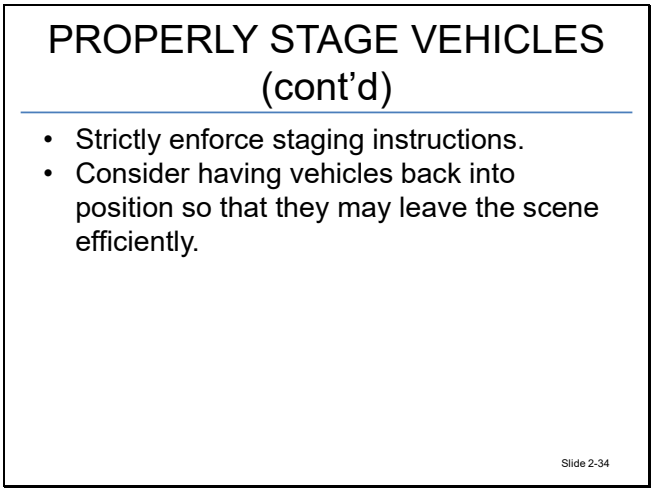
G. Properly stage vehicles. When possible:

1. Position first-in vehicles and responders upwind and uphill.

2. Direct supporting responders to approach from upwind and uphill if possible.

3. Avoid "stacking" vehicles where they interfere with each other's evacuation route.

4. Avoid line-of-sight staging with suspected explosive devices.



5. Strictly enforce staging instructions.

6. Consider having vehicles back into position so that they may leave the scene efficiently.

7. Spread out personnel and apparatuses.

8. Avoid parking or staging in predesignated locations or where you have previously parked during other incidents.

9. Conduct a search of staging and parking areas.

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ACTIVITY 2.1

Self-Protective Measures and Scene Control

Purpose

Identify and then list the potential harm(s) associated with a given scenario, and identify possible protective measures for responders and the public using T/D/S.

Directions

1. You will have **30 minutes** to work on the scenario and discuss it as a group.

2. Determine what the potential harm(s) is to responders.

3. If additional scenario information is given, what are your responder challenges now?

4. Determine the protective measures required to keep responders and the public safe from that harm(s), considering the principles of T/D/S.

5. Identify unique challenges to implementing scene control.

6. Explain factors that influence public/responder protection considerations.

7. Determine what resources should be utilized to maintain perimeter security.

8. Record your responses on an easel pad and prepare to report out to the class.

9. Each group will have **five minutes** to report their findings to the class. Be prepared to provide a justification for each one of your group's conclusions.

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ACTIVITY 2.1 (cont'd)

Scenarios

Scenario 1: Hazardous Materials in the Emergency Room

It's 2:00 p.m. on a hot summer day. You are called to University Hospital to assist the hospital staff with a group of five individuals exhibiting nausea, weakness, lacrimation and nasal discharge. One of the five is losing consciousness and is lying down. They entered the emergency room (ER) asking for help. They appear to be foreign and speak poor English. All claim the same address in your city. Their clothes appear soaked in places and are tattered, and some are wearing T-shirts with vulgar messages about the current U.S. president and depictions of a desecrated American flag. The ER has been evacuated, and the five victims are waiting in the ambulance port. From a distance outside, there is a pungent odor.

Scenario 2: Explosion at Valley Reproductive Health Clinic

It's 9:15 a.m. on a cool spring morning. You are called to an apparent explosion and an injured person down at Valley Reproductive Health Clinic. The victim was retrieving a package from the entrance to the facility when the explosion occurred.

Scenario 3: Law Enforcement Assist at Illicit Lab

It's 1:30 a.m. on a cold night. Police detectives, following leads, discover an illicit lab in the garage of a home on a residential street after detaining the occupant. Your team is requested to tell investigators what they have and what additional resources may be needed to assist. Warm refrigerators with petri dishes and racks of large plastic tubes filled with dark liquids are found. Miscellaneous laboratory equipment and chemical containers are in plain sight on several benches and tables. The detained suspect has no signs and symptoms (S/S).

Scenario 4: DOT 406 Tanker Truck Parked Downtown

It's 3:00 a.m. on a warm Sunday morning. Fire and police are dispatched to what has been reported by an early morning jogger as a large "fuel truck" parked outside the National Petroleum Building in the heart of downtown. Dispatch information states the truck driver has a "tube" pushed into a sewer manhole, and the reporting party states it looks "suspicious." They also report they witnessed the driver spray-painting "Environmental Liberation Front (ELF)" on the side of the building.

Scenario 5: Civil Unrest

It's 11:50 p.m. Fire resources are being used to assist and support law enforcement during civil unrest in the downtown area that has attracted national attention and media. Anti-fascist groups and anti-law enforcement groups, wearing protective gear and all-black clothing, have joined forces against the police department. Fire engine companies are operating at various burning storefronts, and ambulance crews are treating police department officers who are injured. Officers are being sprayed with irritant liquids using large squirt guns. Fire and EMS officers now report hearing shots fired and are taking rounds to the apparatus.

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VIII. SUMMARY

FEMA

SUMMARY

U.S. Fire Administration

- Determine the appropriate use of shielding at CBRNE events and ASHE.
- Explain the use of time and distance as protective measures at CBRNE events and ASHE.
- Consider the use of emergency decontamination and routine post-exposure decontamination as a self-protective measure.

Slide 2-36

FEMA

SUMMARY (cont'd)

U.S. Fire Administration

- Identify unique challenges that may confront responders when attempting to implement scene control.
- Explain the factors that influence public protection considerations.
- Describe what resources should be used to maintain perimeter security at a terrorist incident.

Slide 2-37

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APPENDIX

GUIDELINES FOR CONTROL OF EMERGENCY EXPOSURES

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Guidelines for Control of Emergency Exposures

Guidelines for Control of Emergency Exposures		Adapted from: EPA-400/R-17/001
Dose Limit	**Activity Performed**	**Condition**
5 rem	All occupational exposures	All reasonably achievable actions have been taken to minimize dose
10 rem	Protecting critical infrastructure	Exceeding 5 rem unavoidable and all appropriate actions taken to reduce dose. Monitoring available to project or measure dose.
25 rem	Lifesaving or protection of large populations	Exceeding 5 rem unavoidable and all appropriate actions taken to reduce dose. Monitoring available to project or measure dose.
>25 rem	Lifesaving or protection of large populations	All conditions above and only for people fully aware of the risks involved

Stay Time to Receive Radiation Doses

Gamma radiation dose rate/hour	Stay time 1 rem	Stay time 5 rem	Stay time 10 rem	Stay time 25 rem	Stay time 100 rem
1 mR/hour	6 weeks	30 weeks	1 year		
5 mR/hour	200 hours	6 weeks	12 weeks	30 weeks	2 years
100 mR/hour	10 hours	50 hours	100 hours	250 hours	6 weeks
1 R/hour	1 hour	5 hours	10 hours	25 hours	100 hours
10 R/hour	6 minutes	30 minutes	1 hour	2.5 hours	10 hours
100 R/hour	36 seconds	3 minutes	6 minutes	15 minutes	1 hour
200 R/hour	18 seconds	1.5 minutes	3 minutes	7.5 minutes	30 minutes
500 R/hour	7 seconds	36 seconds	72 seconds	3 minutes	12 minutes

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UNIT 3: TACTICAL CONSIDERATIONS

TERMINAL OBJECTIVE

The students will be able to:

3.1. Justify tactical objectives for chemical, biological, radiological, nuclear and explosive events (CBRNE) and active shooter/hostile events (ASHE) using the risk-based response process.

ENABLING OBJECTIVES

The students will be able to:

3.1. Explain tactical considerations associated with acts of terrorism involving CBRNE events and ASHE.

3.2. Describe specialized equipment needed to support tactical operations involving CBRNE events and ASHE.

3.3. Identify tactical considerations for each incident category, given a scenario.

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FEMA

U.S. Fire Administration

UNIT 3:
TACTICAL CONSIDERATIONS

Slide 3-1

TERMINAL OBJECTIVE

Justify tactical objectives for chemical, biological, radiological, nuclear and explosive events (CBRNE) and active shooter/hostile events (ASHE) using the risk-based response process.

Slide 3-2

ENABLING OBJECTIVES

- Explain tactical considerations associated with acts of terrorism involving CBRNE events and ASHE.
- Describe specialized equipment needed to support tactical operations involving CBRNE events and ASHE.
- Identify tactical considerations for each incident category, given a scenario.

Slide 3-3

I. BIOLOGICAL WARFARE AGENTS

BIOLOGICAL WARFARE AGENTS

Biological agents can be either disease-causing organisms or toxins produced by living organisms:

- Bacteria and rickettsia.
- Viruses.
- Toxins.

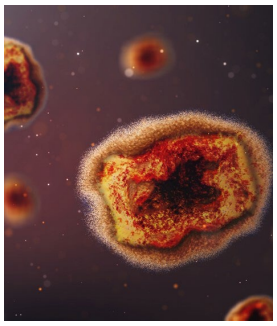


Photo courtesy of iStock.

Slide 3-4

A. Introduction to biological agents: Biological agents can be either disease-causing organisms (bacteria, rickettsia or viruses) or toxins produced by living organisms.

B. Biological agents may be split into three groups.

1. Bacteria and rickettsia: single-celled organisms that may cause diseases in animals, plants and humans. They may also produce extremely potent toxins inside the human body. Rickettsia lives inside individual cells.

2. Viruses: much smaller than bacteria; use the reproductive mechanism of host cells to create more viruses.

3. Toxins: potent poisons produced by living organisms, including bacteria, plants and animals. Biological toxins are some of the most toxic substances known. Ricin is 10,000 times more toxic than the sarin nerve agent used in the Tokyo subway attack.

WHAT MAKES A BIOLOGICAL AGENT EFFECTIVE?

- The ability to compete with other organisms and live longer in soil and host tissue.
- The ability to colonize and multiply.
- A long shelf life after production.
- The agent's full expression must be allowed during delivery and application.
- The agent must be easily deployable.
- The agent must be environmentally stable/compatible.

Slide 3-5

C. What makes a biological agent effective?

Biological agents must meet several requirements to be effective, including:

1. The ability to compete with other organisms and live longer in soil and host tissue.

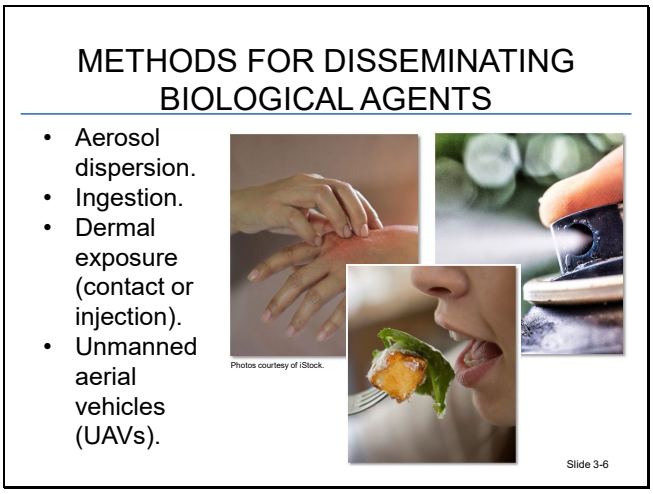
2. The ability to colonize and multiply.

3. A long shelf life after production.

4. The agent's full expression must be allowed during delivery and application.

5. The agent must be easily deployable.

6. The agent must be environmentally stable/compatible (e.g., outside environment or internal (host) environment).



D. Methods of disseminating biological agents: There is a wide variety of means to disseminate biological agents. We will look at a few examples here.

1. Aerosol dispersion to produce an airborne hazard.

a. An agricultural sprayer can be used to spray just about anything. A typical commercial unit has dozens of nozzles, which produce a particle size between 2 and 6 microns.

b. This is an ideal size for spreading biological agents such as anthrax spores. There are no restrictions on sale or purchase of this type of unit, and it is sold all over the world for agricultural use.

c. Unmanned aerial vehicles (UAVs) are commonplace and an often welcome sight nowadays. Commercial UAVs are produced with aerosol dispersion equipment for farming applications. Other UAVs can be easily adapted to carry this equipment. This equipment can then be used/weaponized to introduce chemical/biological/ radiological agents onto facilities, gatherings of people or other targets.

2. Ingestion via contamination of food, water or medicine.

a. "In 1984, 751 people suffered food poisoning in The Dalles, Oregon, United States, due to the deliberate contamination of salad bars at ten local restaurants with Salmonella. A group of prominent followers of Rajneesh (later known as Osho) led by Ma Anand Sheela had hoped to incapacitate the voting population of the city so that their own candidates would win the 1984 Wasco County elections. The incident was the first and is still the single largest bioterrorist attack in U.S. history."

b. "Rajneesh's followers had previously gained political control of Antelope, Oregon, as they were based in the nearby intentional community of Rajneeshpuram, and they now sought election to two of the three seats on the Wasco County Circuit Court that were up for election in November 1984. Some Rajneeshpuram officials feared that they would not get enough votes, so they decided to incapacitate voters in The Dalles, the largest population center in Wasco County. The chosen biological agent was Salmonella enterica Typhimurium, which was first delivered through glasses of water to two county commissioners and then at salad bars and in salad dressing."

c. "As a result of the attack, 751 people contracted salmonellosis, 45 of whom were hospitalized, but none died. An initial investigation by the Oregon Health Authority and the Centers for Disease Control did not rule out deliberate contamination, and the agents and contamination were confirmed a year later, on February 28, 1985." ("1984 Rajneeshee bioterror attack," 2023)

3. Dermal exposure by direct contact or injection.

FOCUSED RESPONSE AND PUBLIC HEALTH EMERGENCIES

- **A focused response incident involves a single, known point/source of contamination.** An example would be an individual in a restaurant or theater announcing that a glass vial contains anthrax before breaking it.
- The results of spraying salmonella on salad bars across the Northwestern U.S. is an example of a **public health emergency**.

Slide 3-7

E. Focused response and public health emergencies are two types of incidents that may indicate a biological agent. Outward warning signs and detection clues include:

1. A focused response incident involves a single known point/source of contamination. One example of this would be an individual standing up in a restaurant or theater and announcing that the glass vial in their hand contained anthrax, then breaking the vial.

2. Public health emergency: The COVID-19 pandemic represented the most significant public health emergency faced by the U.S. and the world in nearly a century. It ranks among the deadliest pandemics in recorded history.

POTENTIAL BACTERIA OR RICKETTSIA

- Anthrax.
- Plague.
- Tularemia.
- Q fever.



Photo courtesy of iStock.

Slide 3-8

F. Potential bacteria or rickettsia.

1. Anthrax.

a. Anthrax is a bacteriological disease that can manifest itself as a skin infection contagious by direct skin contact, gastrointestinal disease or only as an inhalational form. The skin infection starts with gradual itching and then gradually turns into a depressed lesion, which becomes black. This lesion may turn septic and spread throughout the body via the bloodstream and lymph nodes. Untreated cutaneous anthrax has a fatality rate of 5% to 20%.

b. Inhalational anthrax has two phases.

- Symptoms normally occur within seven days of exposure, but there have been cases where the incubation period has been as long as two months. Symptoms include malaise, fever, fatigue, non-productive cough and chest discomfort.

- The second phase develops suddenly after the relatively mild initial symptoms, with the development of severe shortness of breath and cyanosis. This phase typically lasts less than 24 hours, with a 90% to 95% fatality rate despite therapy.

c. Gastrointestinal anthrax has an incubation period of one to seven days. It most commonly occurs when a person eats raw or undercooked meat from an animal infected with anthrax. Once ingested, anthrax spores can affect the upper gastrointestinal tract (throat and esophagus), stomach and intestines, causing a wide variety of symptoms including:

- Fever and chills.

- Swelling of neck or neck glands.

- Sore throat.

- Painful swallowing.

- Hoarseness.

- Nausea and vomiting, especially bloody vomiting.

- Diarrhea or bloody diarrhea.

- Headache.

- Flushing (red face) and red eyes.

- Stomach pain.

- Fainting.
- Swelling of abdomen (stomach).
- Without treatment, more than half of patients with gastrointestinal anthrax die. However, with proper treatment, 60% of patients survive.

2. Plague.

   a. Pneumonic plague occurs when Yersinia pestis infects the lungs. This type of plague can spread from person to person through the air. Transmission can take place if someone breathes in aerosolized bacteria, which could happen in a bioterrorist attack. Pneumonic plague is also spread by breathing in Y. pestis suspended in respiratory droplets from a person (or animal) with pneumonic plague. Becoming infected in this way usually requires direct and close contact with the ill person or animal. Pneumonic plague may also occur if a person with bubonic or septicemic plague is untreated, and the bacteria has spread to the lungs.

   b. Bubonic plague is the most common form of plague. This occurs when an infected flea bites a person or when materials contaminated with Y. pestis enter through a break in a person's skin.

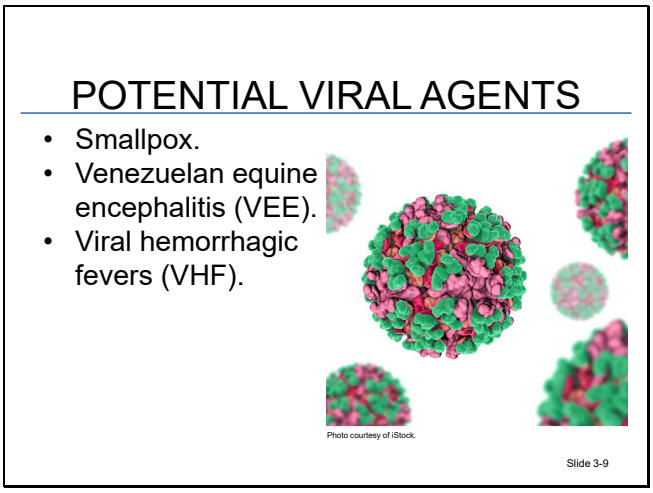
   c. Patients develop swollen, tender lymph glands (called buboes, hence bubonic plague), fever, headache, chills and weakness. Bubonic plague does not spread from person to person.

   d. Untreated septicemic and pneumonic plague are always fatal.

3. Tularemia, also known as "rabbit fever," is a disease caused by the bacterium Francisella tularensis. Tularemia is typically found in animals, especially rodents, rabbits and hares. Tularemia is usually a rural disease and has been reported in all U.S. states except Hawaii. About 200 human cases of tularemia are reported each year in the United States. Most cases occur in the South Central and Western states. Nearly all cases occur in rural areas and are caused by the bites of ticks and biting flies or from handling infected rodents, rabbits or hares. Cases also resulted from inhaling airborne bacteria and from laboratory accidents.

   Three to five days after exposure to aerosolized tularemia, there is an abrupt onset of fever, chills, headaches, muscular pain (myalgia), etc., with non-productive cough. It is not considered contagious but can be fatal.

4. Q fever is caused by a rickettsia-type organism and is rarely contagious. Symptoms include those commonly associated with the flu, acute hepatitis and pneumonia. Other symptoms are inflammation of the brain and the three membranes or meninges surrounding the brain and spinal cord (meningoencephalitis), inflammation of the membranes surrounding the heart (pericarditis), and inflammation of the myocardium or muscular middle layer of the heart (myocarditis). It is normally not fatal.



G. Potential viral agents.

Viruses are different from bacteria in that they grow and reproduce by forcing host cells to produce additional viruses.

1. Smallpox.

a. Smallpox is infectious as an aerosol. It is highly contagious and has a high mortality rate.

b. The incubation period can last anywhere from seven to 19 days. The first symptoms include:

- High fever.

- Head and body aches.

- Sometimes vomiting.

c. At this time, people are usually too sick to carry on their normal activities.

d. Next, a rash starts as small red spots on the tongue and in the mouth. These spots change into sores that break open and spread large amounts of the virus into the mouth and throat. The person continues to have a fever. This stage lasts about four days. Once the sores in the mouth start breaking down, a rash appears on the skin, starting on the face and spreading to the arms and legs, and then to the hands and feet. Usually, it spreads to all parts of the body within 24 hours. As this rash appears, the fever begins to decline, and the person may start to feel better.

e. By the fourth day, the skin sores fill with a thick, opaque fluid and often have a dent in the center. The sores become pustules (sharply raised, usually round and firm to the touch, like peas under the skin).

f. After about five days, the pustules begin to form a crust and then scab.

g. By the end of the second week after the rash appears, most of the sores have scabbed over.

h. By the end of the third week, the scabs begin to fall off, leaving marks on the skin. Once all the scabs have fallen off approximately one week later, the person is no longer contagious.

i. Thanks to the success of vaccination, the last natural outbreak of smallpox in the United States occurred in 1949. In 1980, the World Health Assembly declared smallpox eradicated (eliminated), and no cases of naturally occurring smallpox have happened since (Centers for Disease Control and Prevention (CDC), 2017).

j. Smallpox research in the United States continues and focuses on the development of vaccines, drugs and diagnostic tests to protect people against smallpox in the event that it is used as an agent of bioterrorism.

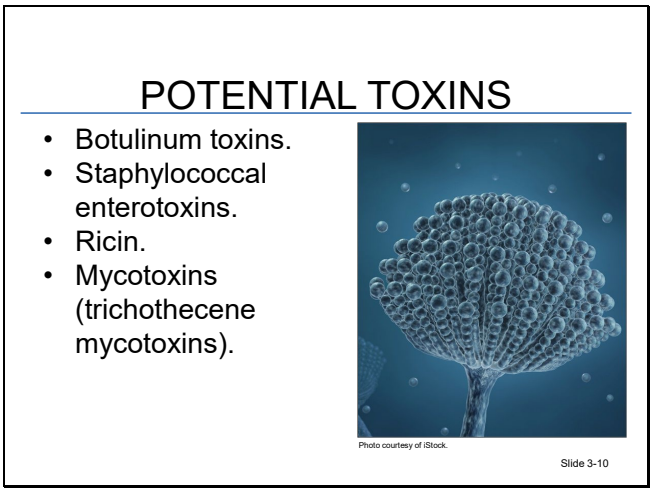
2. Venezuelan equine encephalitis (VEE) is a mildly contagious disease with an incubation period of one to four days. Symptoms usually include fever, headaches, myalgia and vomiting. They may also include drowsiness, chills, sore throat and diarrhea. It can be fatal.

3. Viral hemorrhagic fevers (VHF).

a. Hemorrhagic viruses include Ebola, yellow fever, dengue fever, Crimean-Congo hemorrhagic fever, the hantaviruses and several others. Symptoms include fever, myalgia, headaches, prostration, hemorrhage, capillary leaks, hypotension and shock. They are generally moderately contagious and often fatal.

b. Agents such as these are of concern because they are highly infectious and relatively easy to produce. Dispersion, however, is extremely difficult.

c. There is also the possibility of using people as disease carriers, like suicide bombers. This methodology is even less likely as: 1) individuals would have to be convinced to be infected, and 2) their ability to infect others is unpredictable and extremely low due to a host of issues. Although the risk of large-scale bioterrorism using viral agents is small, public health programs and health care providers must be prepared for this potentially devastating impact on public health.



H. Potential toxins: Toxic substances are produced by almost every major category of living organism known. Many of the deadliest are produced by fungi, flowering plants and bacteria.

1. Botulinum toxins.

a. The Clostridium botulinum bacteria produce seven related neurotoxins. They are some of the most potent toxins known and cause life-threatening paralysis, leading to progressive weakness of extremities and respiratory muscles, which leads to respiratory failure. Symptoms can occur as quickly as 24 hours after ingestion.

b. The botulinum toxin has been found in a variety of foods, including low-acid preserved vegetables, such as green beans, spinach, mushrooms and beets; fish, including canned tuna, fermented, salted and smoked fish; and meat products, such as ham and sausage. When people eat these foods, they can become seriously ill or even die if they do not get proper medical treatment quickly.

c. In nature, contaminated soils and sediments are primary environments for spores and serve as an incubation area. Fish are carriers of C. botulinum, but botulism outbreaks in fish populations may lead to the death of fish on a large scale. Avian botulism is also a common cause of death among waterfowl.

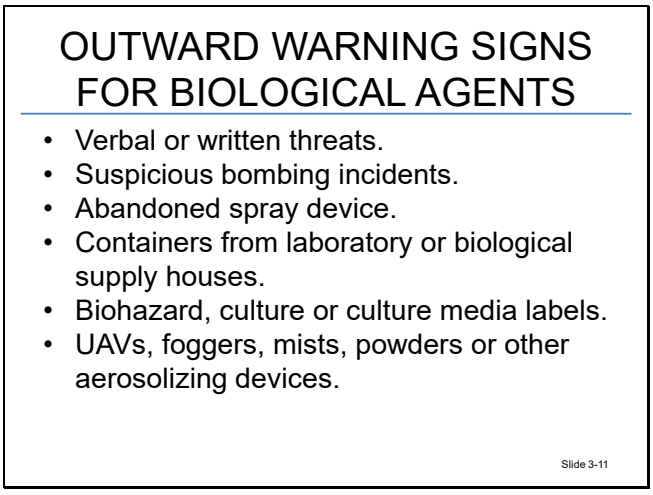
2. Staphylococcal enterotoxins.

a. These toxins commonly cause food poisoning after the toxin is produced in and ingested from improperly handled foods. Inhalation of aerosolized toxins can lead to septic shock and death.

b. Staphylococcal enterotoxin B (SEB) is a bacterium that is carried by about one-third of the general population and is responsible for common and serious diseases. These diseases include food poisoning and toxic shock syndrome. The proteins produced are highly resistant to denaturation, which allows them to remain intact in contaminated food despite the cooking process and which triggers disease outbreaks.

3. Ricin is a water-soluble constituent of castor beans. The wash from preparing castor oil contains up to 5% ricin. As little as a milligram (1/1000 of a gram) can kill an individual. Symptoms from inhalation of ricin include necrotizing (tissue-killing) lesions (injury or abnormality) of upper and lower airway, necrotizing pneumonia, and pulmonary edema (accumulation of fluid in the lungs). Symptoms from ingestion or intramuscular injection include gastric bleeding, liver necrosis (death), lymphoid necrosis, splenitis (inflammation of the spleen), and pulmonary congestion.

4. Mycotoxins (trichothecene mycotoxins): These include more than 40 toxins produced by various fungi. Symptoms can include weight loss, vomiting, bloody diarrhea, diffuse hemorrhage and skin inflammation. Some may cause death.



I. There are several outward warning signs and detection clues that can alert the responder to the possible presence of biological agents, both prior to an incident and at the incident scene:

1. Verbal or written threats.

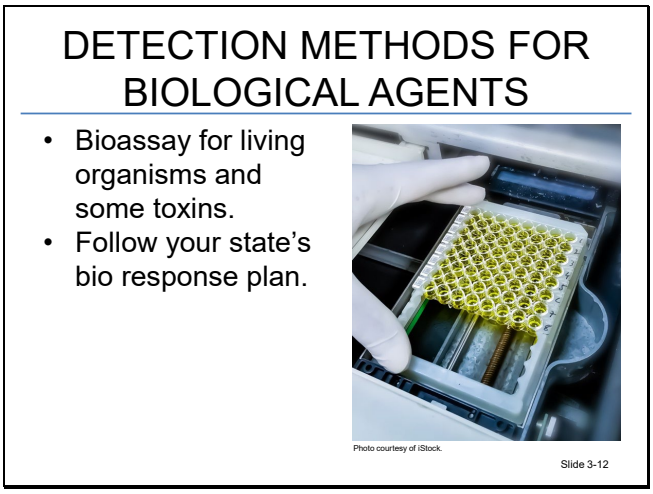
2. Suspicious bombing incidents that do not cause much blast or fire damage.

3. Abandoned spray device out of place for the environment.

4. Containers from laboratory or biological supply houses.

5. Biohazard, culture or culture media labels.

6. Use of UAVs, foggers, mists, powders or other aerosolizing devices.



J. Detection methods for biological agents: On-site detection of biological agents is currently not practical for most first responders. Typically, samples are collected using various techniques including bioassay, mass spectrometry, gas chromatography and culture of living organisms.

1. Bioassay for living organisms and some toxins.

2. Follow your state's bio response plan.

PROPER SELF-PROTECTION TECHNIQUES

- Respiratory protection.
- Appropriate personal protective equipment (PPE) for the hazard.
- Emergency medical service (EMS) universal precautions.



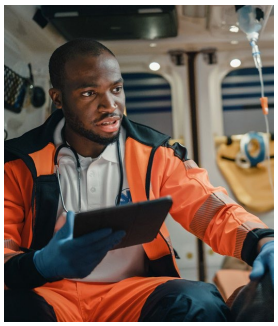
Slide 3-13

K. Proper self-protection techniques.

1. Respiratory protection.
2. Appropriate personal protective equipment (PPE) for the hazard.
3. Emergency medical service (EMS) universal precautions.

TREATMENT SEQUENCE

- Decontamination.
- Patient triage.
- Transport to medical facilities (hospital).
- Definitive care from medical field.



Slide 3-14

L. Treatment sequence.

1. Decontamination.
2. Patient triage.
3. Transport to medical facilities (hospital).
4. Definitive care from medical field.

AVAILABLE TECHNICAL RESOURCES

- Local and state resources.
- U.S. Public Health Service or the Centers for Disease Control and Prevention (CDC).
- FBI.
- National Guard weapons of mass destruction civil support teams (WMD-CSTs).

Slide 3-15

M. Available technical resources.

1. Local and state resources as indicated in your plan.

2. U.S. Public Health Service or the CDC.

3. FBI.

4. National Guard weapons of mass destruction civil support teams (WMD-CSTs).

N. Make appropriate notifications as indicated in your local emergency plan.

II. NUCLEAR TERRORISM

NUCLEAR TERRORISM

- Detonation of a fission device: atomic bomb.
- Dispersal of nuclear materials packed around conventional explosive device: radiological dispersion device (RDD).
- Large-scale conventional explosive detonated near large amounts of nuclear materials.



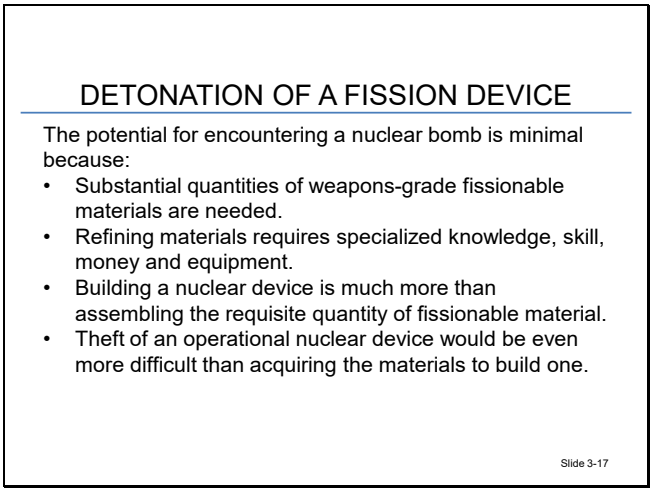
Slide 3-16

A. Introduction to nuclear terrorism.

1. Detonation of a fission or fusion device (atomic bomb).

2. Radiological dispersion devices (RDDs) that release and disperse nuclear materials by packing the nuclear material around a conventional explosive device.

3. Large-scale conventional explosive device detonated in proximity to a target containing large amounts of nuclear materials (power plant or similar facility).



B. Detonation of a fission or fusion device.

The potential for encountering a nuclear bomb is minimal. Terrorists would find it extremely difficult to build or acquire and use such a device because:

1. To build a device, substantial quantities of weapons-grade fissionable materials are needed. There are three potential sources of fissionable materials:

   a. Hijacking shipments of spent nuclear fuel.

   b. Acquisition through illegal markets.

   c. Theft from secured facilities.

2. Materials acquired from the first two are unlikely to be pure weapons-grade and will need further refining, which requires specialized knowledge, skill, money and equipment.

   a. The largest seizure of weapons-grade uranium, as of 1995, was 2.72 kilograms (about 6 pounds), which should not be enough to build a fission bomb.

b. Similar seizure incidents in the nation of Georgia in 2001 and 2006 (involving 1.7 kilograms and 79.5 grams respectively) illustrate this continues to be a potential, if improbable, threat.

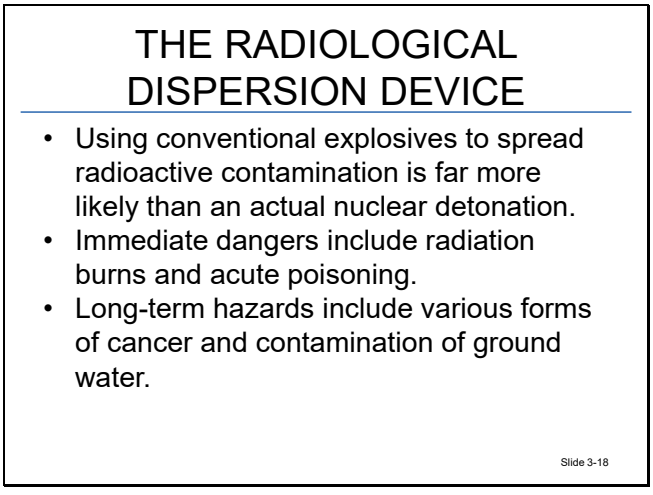
c. Fissionable materials are difficult to transport. A given volume of uranium weighs about 18.7 times as much as water. Therefore, a gallon jug filled with powdered uranium would weigh about 156 lb., not counting the shielding required for safe transport!

3. Building a nuclear device is much more than assembling the requisite quantity of fissionable material. The purified material must be machined into precise shapes, with exact quantities of explosives packed around the fissionable material in a geometry that ensures the proper creation of a critical mass for the short time necessary for the reaction to occur. If this is not done, the device will simply scatter the fissionable material over the area instead of detonating.

4. Theft of an operational nuclear device would be even more difficult than acquiring the materials to build one.

a. Strict national and international security measures make it very unlikely that an entire bomb could be acquired.

b. Even if such a device was stolen, all Western and former Soviet nuclear devices incorporate the Permissible Action Link (PAL) security system, which will render the weapon safe unless the correct multidigit code is entered.



C. The RDD.

1. Using conventional explosives or other means (including UAV, balloon, sprayers, etc.) to spread radioactive contamination is far more likely than an actual nuclear detonation.

2. In this scenario, radioactive materials are packed around conventional explosives. When the explosive device detonates, it disperses the radioactive material over a wide area. Depending upon the material, both long-term and short-term hazards can be generated with such a device.

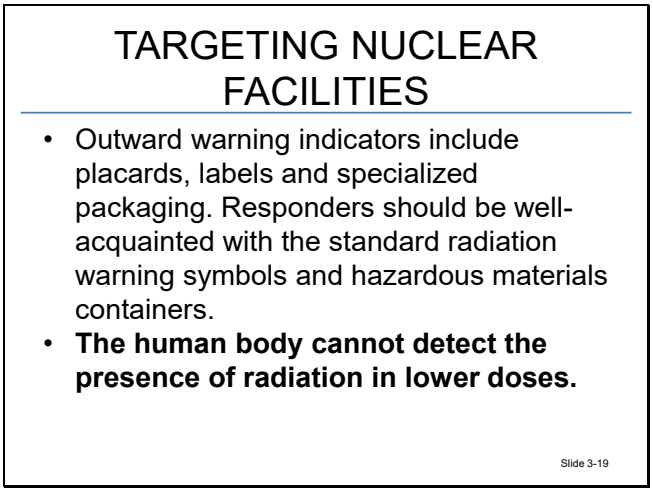
3. Immediate dangers include radiation burns and acute poisoning. Long-term hazards include various forms of cancer and contamination of groundwater. This can lead to forced abandonment of large areas or even entire towns.

4. The New York Times reported that on Nov. 23, 1995, the Russian Independent Television Network was contacted by a Chechen Separatist organization and told of the location of a package in Izmailovsky Park in Moscow. The 30-pound package contained radioactive cesium (a gamma ray source) and explosives.

5. One reason that this is a far more likely scenario is that weapons-grade fissionable materials are not required for this type of device. Significant amounts of radioactive materials are used in a variety of industrial products, such as radiographic units used to test bridges, buildings and other structures.

6. A source of anxiety is the amount of radioactive material that may not be under proper control. This includes the remains of nuclear power plants, such as in the Chernobyl disaster. The materials still present in the vicinity of that incident could provide a source of radioactive materials for dispersion devices.

D. A third possible form of nuclear terrorism is to target a facility containing nuclear materials.



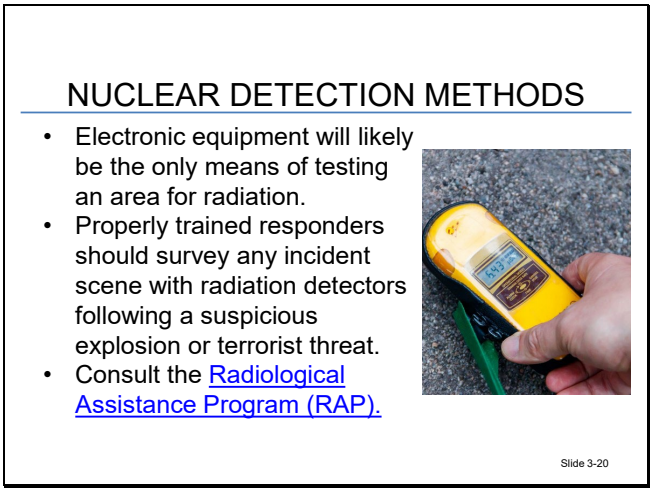
E. Outward warning signs and detection clues.

1. Outward warning indicators include placards, labels and specialized packaging. Responders should be well-acquainted with the standard radiation warning symbols and hazardous materials containers. Other clues can be small — yet very heavy — packaging.

2. Detection equipment is essential. **The human body cannot detect the presence of radiation in lower doses. Only an electronic device is capable of this.** It is for this reason that the deployment of these devices and the knowledge to operate and decipher their readings is of utmost importance.

3. Example: Alexander Litvinenko was a former officer of the Russian Federal Security Service (FSB) and the Russian Committee for State Security (KGB). He fled to the United Kingdom, where he criticized Russian President Vladimir Putin and the Russian government. On Nov. 1, 2006, Litvinenko was poisoned and later hospitalized. He died 22 days later from acute radiation poisoning.

   Shortly after his death it was announced that tests had established that Litvinenko had significant amounts of polonium-210, a radioactive isotope, throughout his body. It was later discovered that the poison was in a teapot at the Millennium Hotel's Pine Bar from which Litvinenko drank some green tea on Nov. 1 ("Poisoning of Alexander Litvinenko," 2023).

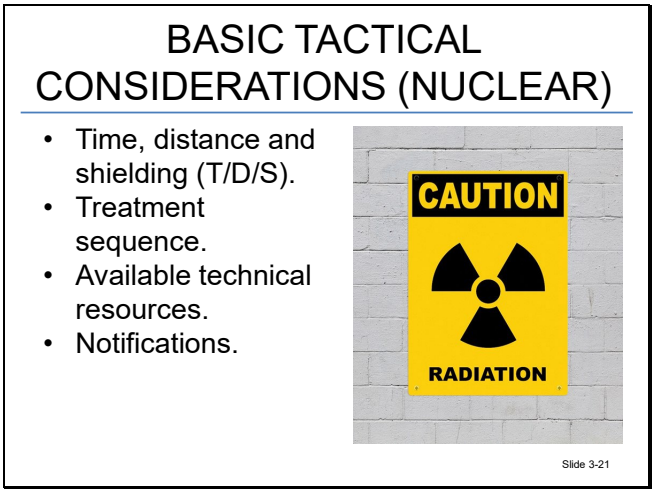


F. Nuclear detection methods.

1. Electronic detection equipment will be the only means of testing an area for radiation. Properly trained responders should survey any incident scene with radiation detectors.

2. Consult the Radiological Assistance Program (RAP).





G. Basic tactical considerations.

1. As discussed in Unit 2, Implementing Self-Protective and Scene Control Measures, implement personal protection through time, distance and shielding (T/D/S).

2. Treatment sequence.

   a. Move victims away from the source, if possible.

   b. Decontamination.

   c. Patient triage.

   d. Transport to medical facilities (hospital).

   e. Definitive care from medical field.

3. Available technical resources.

   a. Local and state resources as indicated in your plan.

   b. Department of Energy (DOE).

c. FBI.

d. Department of Defense (DoD).

e. Civil support teams (CSTs).

4. Make appropriate notifications as indicated in your local emergency plan:

a. State warning point.

b. Nuclear Regulatory Commission (NRC).

5. Resource. https://www.ready.gov/sites/default/files/2020-11/ready_nuclear-explosion_fact-sheet_0.pdf.

III. FIRE AS A WEAPON

FIRE AS A WEAPON

- **Incendiary devices** have been used by terrorists for many years. Fire is a flexible tool that can cause property damage and loss of life, and spark panic among the public.
- The use of incendiary devices has a long history in the United States and is on the rise.

Slide 3-22

A. Introduction to fire as a weapon.

1. Incendiary devices have been used by terrorists for many years. Fire is a flexible tool that can cause property damage and loss of life. It will also continue to spread and do damage until all available fuel is consumed or the fire is extinguished.

2. African American churches have a long-documented history of being targeted by these terrorist acts, spanning from the 19th century into the present (https://en.wikipedia.org/wiki/List_of_attacks_against_African-American_churches).



CYBERSECURITY & INFRASTRUCTURE SECURITY AGENCY DATA

Incidents related to arson or fire as a weapon in the U.S. (2019-2020):

- 56.9% increase in cities with over 1 million residents.
- 11.3% increase in towns with populations under 10,000.

Slide 3-23

3. According to the Cybersecurity & Infrastructure Security Agency (CISA), incidents related to arson or fire as a weapon in the U.S. increased by 56.9% in cities with populations over 1 million between 2019 and 2020 and 11.3% in towns with populations under 10,000 (U.S. Bomb Data Center (USBDC), 2020).

4. For additional information, consult the USBDC Arson Incident Report.



CLASSIFICATION OF INCENDIARY DEVICES

- Triggering methodology:
  - Chemical reaction.
  - Electronic ignition.
  - Mechanical ignition.
- Delivery methodology:
  - Stationary.
  - Hand-thrown.
  - Self-propelled.
  - Remote.



Slide 3-24

B. Classification of incendiary devices: Incendiary devices can be classified in several ways, such as by triggering and delivery methods.

1. Classification by triggering methodology.

   a. Chemical reaction (including burning fuse).

   b. Electronic ignition.

   c. Mechanical ignition.

2. Classification by delivery methodology.

   a. Stationary (planted).

   b. Hand-thrown (Molotov cocktail).

   c. Self-propelled (rocket, etc.).

   d. Remote (UAV/drone, etc.).

COMPONENTS OF INCENDIARY DEVICES

Incendiary device components	**Ignition source**
	Combustible filler
	Housing/container

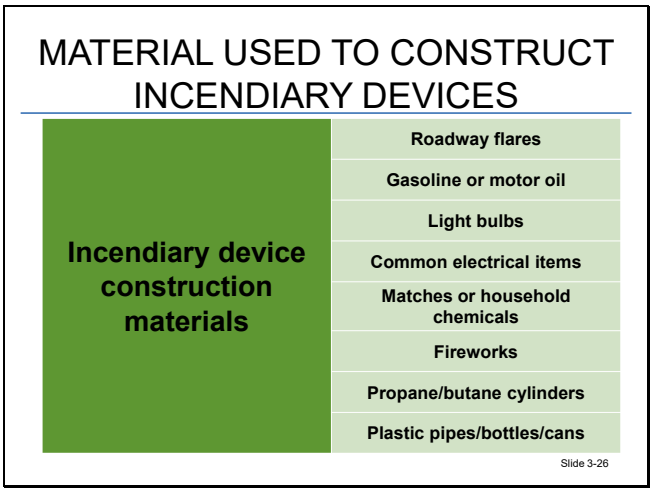
Slide 3-25

C. Components of incendiary devices.

1. Ignition source.

2. Combustible filler material.

3. Housing or container to hold the filler.



D. Examples of materials used to construct incendiary devices.

1. Roadway flares.

2. Gasoline and motor oil.

3. Light bulbs.

4. Common electrical components and devices.

5. Matches and other household chemicals.

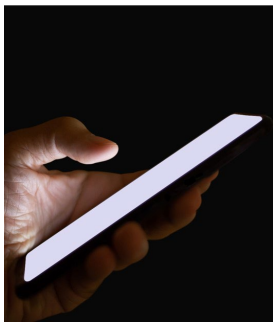
6. Fireworks.

7. Propane and butane cylinders.

8. Plastic pipes, bottles and cans.

WARNING SIGNS OF INCENDIARY USE

- Prior warning (phone calls).
- Multiple fire locations.
- Signs of accelerants.
- Containers from flammable liquids.
- Fusing residue.



Slide 3-27

E. Outward warning signs and indicators of incendiary use.

1. These are like the detection clues for arson investigations and include:

   a. Prior warning (phone calls).

   b. Multiple fire locations.

   c. Signs of accelerants.

   d. Containers from flammable liquids.

   e. Fusing residue.

WARNING SIGNS OF INCENDIARY USE (cont'd)

- Signs of forced entry to the structure.
- Common appliances out of place for the environment.
- Reactions from applying extinguishing agents.
- Smoke color.
- Volume of fire.

Slide 3-28

   f. Signs of forced entry to the structure.

   g. Common appliances out of place for the environment.

h. Reactions from applying extinguishing agents.

i. Smoke color.

j. Volume of fire.

2. These clues should simply be a signal to take appropriate precautions to safeguard yourself and the public and to consider the incident as a potential crime scene.

DETECTION METHODS

Various methods of detecting chemical residue indicating incendiary use are available, including:

- Colorimetric tubes.
- Flammable gas indicators.
- Flame ionization detectors.
- Trained dogs.
- Photoionization detectors.

Slide 3-29

F. Detection methods: Various methods of detecting chemical residue indicating incendiary use are available, including colorimetric tubes, flammable gas indicators, flame ionization detectors, gas chromatography-mass spectrometry (GC-MS), trained dogs and photoionization detectors.

BASIC TACTICAL CONSIDERATIONS (INCENDIARY)

- Self-protection.
- Treatment sequence.
- Available technical resources.



Photo courtesy of iStock.

Slide 3-30

G. Basic tactical considerations.

1. Self-protection.

a. Approach the scene utilizing appropriate personal protective clothing and equipment.

b. Do not handle any suspicious device.

c. Avoid vapor clouds, mists and liquids.

d. Call for technical assistance.

e. Extinguish the fire if safe to do so.

2. Treatment sequence.

a. Consider decontamination.

b. Patient triage.

c. Transport to medical facilities (hospital).

d. Definitive care from medical field.

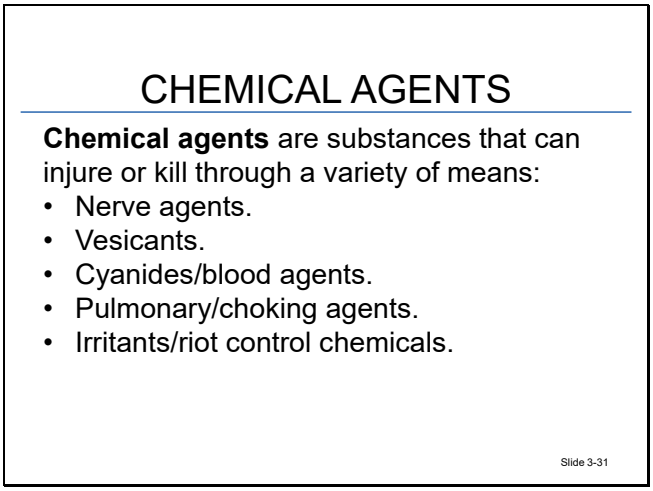
3. Available technical resources.

a. Local and state resources as indicated by your plan.

b. Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF).

c. FBI.

IV. CHEMICAL AGENTS



A. Chemical agents are substances that can injure or kill through a variety of means. The ones we will address in this section are also identified by military classification codes, which give field personnel a quick reference to their characteristics and hazards.

1. Nerve agents and pesticides are very toxic chemicals. They are hazardous in their liquid and vapor states and can cause death within minutes of exposure. Examples include military-grade nerve agents such as VX and sarin, as well as common pesticides such as organophosphates and carbamates that operate in the same manner.

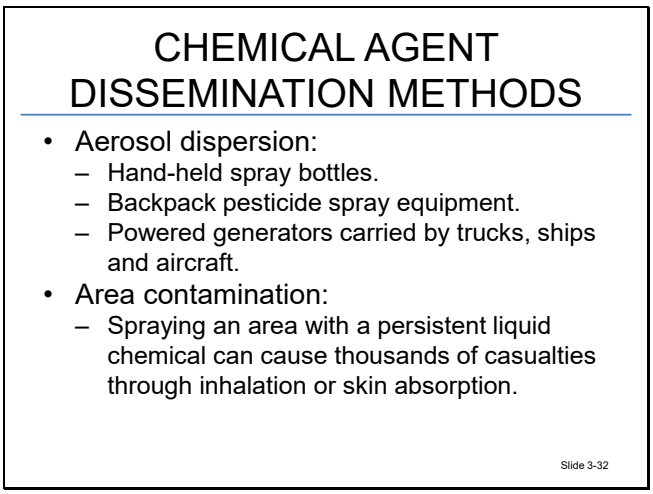
2. Nerve agents and pesticides inhibit acetylcholinesterase in tissue, and their effects are caused by the resulting excess acetylcholine. Essentially, these agents prevent nerves from resetting, causing the nerves to go into "overdrive." This results in muscles moving nonstop (i.e., twitching, seizures, etc.). Other muscles, such as those that move food through the digestive system, do so at equally rapid speed, leading to severe diarrhea. Pupils may also contract, preventing light from entering, while glands secrete excessive tears, saliva, etc.

3. Vesicants (blister agents) cause red skin (erythema), blisters, irritation, damage to the eyes, respiratory damage and gastrointestinal effects. Their effect on exposed tissue is somewhat like that of a corrosive chemical like lye or a strong acid. Toxic industrial chemicals (TICs) and toxic industrial materials (TIMs) include military-grade agents such as distilled mustard (HD), mustard gas (H), mustard/lewisite, mustard/T, nitrogen mustard, sesquimustard and sulfur mustard.

4. Cyanides or blood agents include common chemicals, such as potassium cyanide, methylene chloride and carbon monoxide, which can cause rapid respiratory arrest and death.

5. Pulmonary or choking agents include common industrial chemicals, such as chlorine, which can cause eye and airway irritation, dyspnea, chest tightness and delayed pulmonary edema.

6. Irritants or riot control chemicals, such as pepper spray, cause burning and pain on exposed mucous membranes and skin, eye pain and tearing, burning in the nostrils, respiratory discomfort, and tingling of the exposed skin.



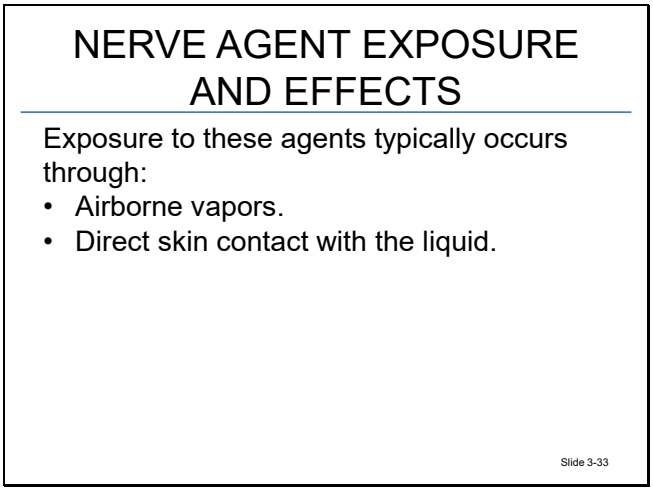
B. Chemical agent dissemination methods.

1. Aerosol dispersion:

a. An aerosol is defined as a suspension or dispersion of small particles (solids or liquids) in a gaseous medium.

b. Aerosol dissemination methods range from hand-held spray bottles and backpack pesticide spray equipment to powered generators carried by trucks, ships, aircraft, UAVs/drones and balloons.

2. Area contamination, such as spraying an area with a persistent liquid chemical, can cause thousands of casualties through inhalation or skin absorption.



3. Nerve agent exposure and effects.

a. Exposure to these agents typically occurs through airborne vapors or direct skin contact with the liquid.

b. **Note:** While liquid nerve and blister agents will produce vapors, it is important to understand that they are intended to be aerosolized to maximize their effect. This can be explained in terms of an agent's vapor pressure.

- The vapor pressure of a substance refers to the relative amount of vapor that will be released from a given substance to reach equilibrium with the liquid or solid form at normal conditions of air pressure and temperature.

- The higher the vapor pressure, the more vapor will be generated. This, of course, does not consider such factors as surface area and air currents. Increasing surface area (by aerosolizing) or temperature (by heating, as in a fogger) will increase the number of vapors generated.

- One atmosphere of air pressure is approximately 760 millimeters of mercury (mm Hg). Substances with a vapor pressure at or above this level are gases. An example of this is chlorine, with a vapor pressure of around 6,000 mm Hg (7.6 atmospheres). Sarin has a vapor pressure of 2.9 mm Hg; that of distilled mustard is less than 1.

- Nerve agents and vesicants are normally liquids and are classified as Hazard Class 6 by the Department of Transportation (DOT). To properly weaponize these products, they must be manipulated in a manner designed to maximize vapor release. By aerosolizing them, the terrorist maximizes surface area and provides the maximum amount of vapor and even a means of causing victims to inhale the actual liquid. Heating will also assist in this effort. The sarin used in the Tokyo subway incident was not properly weaponized, which accounts for the limited number of fatalities among the victims.

4. Inhalation of vapors.

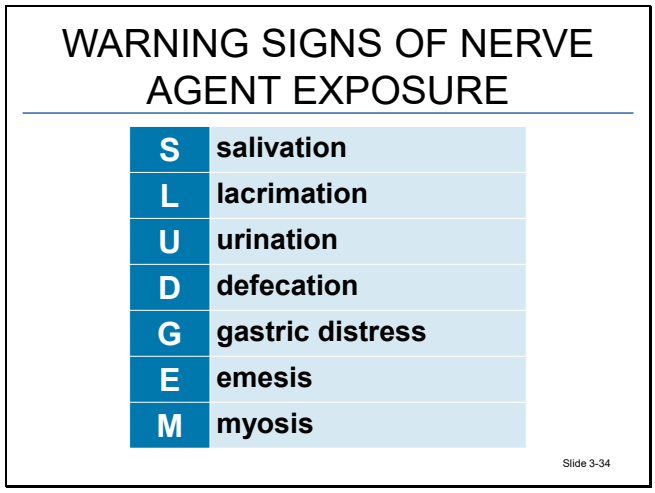
a. A small exposure to vapor can cause pinpoint pupils (miosis), runny nose (rhinorrhea) and mild difficulty breathing.

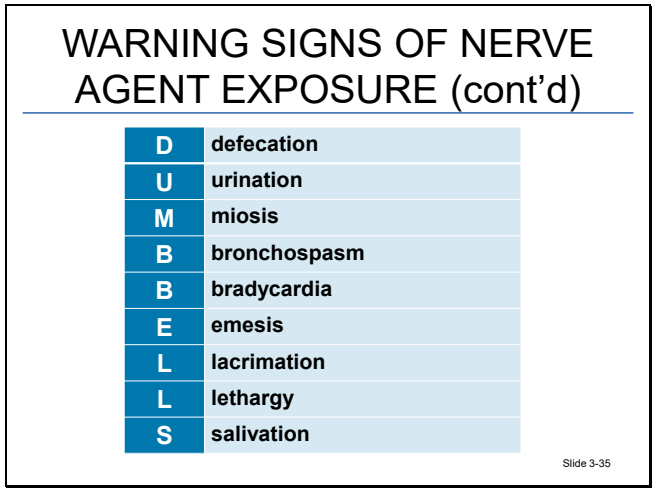
b. Large exposure can cause sudden loss of consciousness, convulsions, temporary breathing stoppage (apnea), flaccid paralysis, copious secretions and death.

5. Liquids on skin.

   a. Depending on the degree of exposure, symptoms can range from localized sweating to nausea, vomiting, and a feeling of weakness to sudden loss of consciousness, seizures, apnea, copious secretions, paralysis and death.

   b. VX is more persistent and harder to decontaminate from the skin than the other agents listed.





6. Outward warning signs.

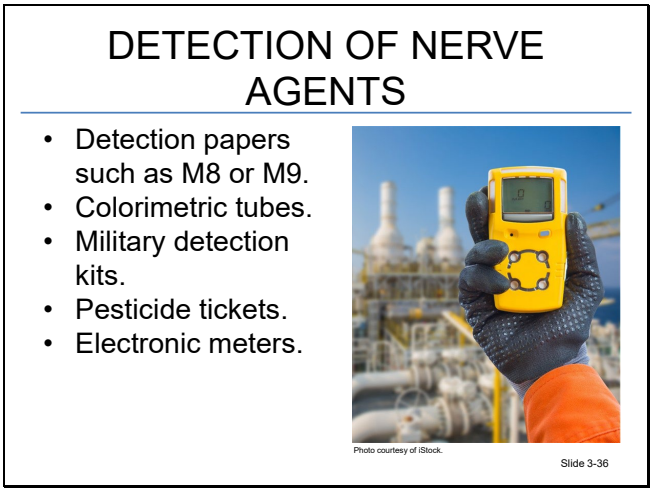
   a. Outward warning signs include observation of SLUDGEM (salivation, lacrimation, urination, defecation, gastric distress, emesis, miosis) or DUMBBELLS (defecation, urination, miosis, bronchospasm, bradycardia, emesis, lacrimation, lethargy, salivation) symptoms such as runny nose, difficulty breathing, and uncontrolled muscles and bodily functions. Victims may possibly report a fruity odor.

b. Example:

- On Feb. 13, 2017, Kim Jong Nam died after being exposed to VX nerve agent at Kuala Lumpur International Airport in Malaysia. It was widely believed that he was killed on the orders of his half-brother, Kim Jong Un of North Korea.

- Four North Korean suspects left the airport shortly after the attack, traveling back to Pyongyang. An Indonesian woman and a Vietnamese woman were charged with murder, but said they thought they were taking part in a TV prank. Each woman introduced a different chemical onto Kim Jong Nam's face which, when mixed, formed the deadly VX nerve agent.

- Kim stated that someone grabbed him from behind and splashed a liquid on his face. Then, a second person covered his face with a cloth laced with liquid. Kim died 15-20 minutes after the incident.



C. Detection.

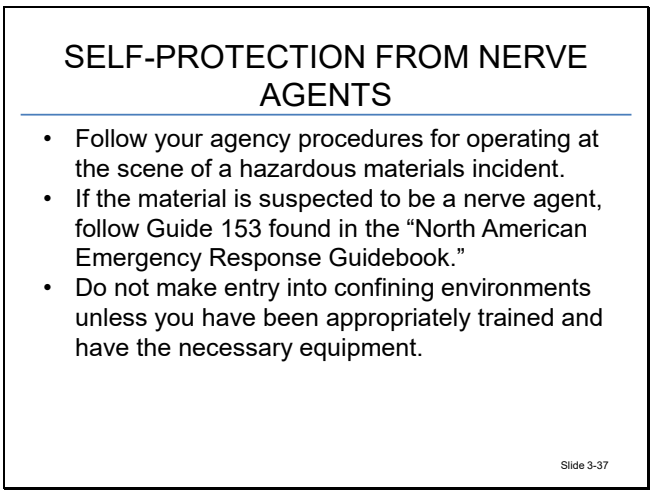
1. Detection papers, such as M8 or M9.

2. Colorimetric tubes.

3. Military detection kits.

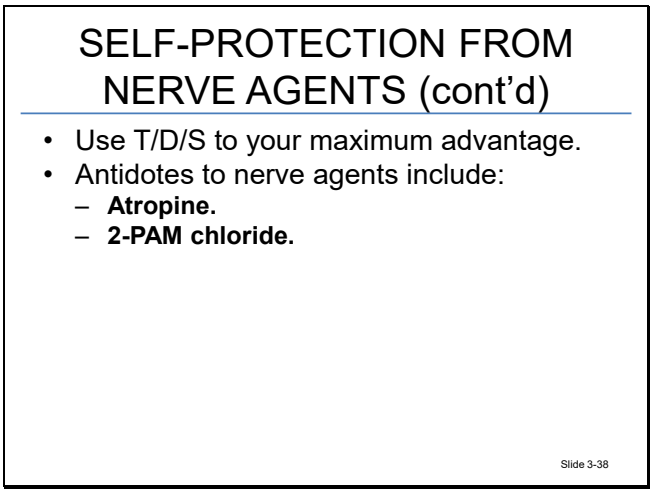
4. Pesticide tickets.

5. Electronic meters.



D. Self-protection.

1. Follow your agency procedures for operating at the scene of a hazardous materials incident. If the material has not been identified and is suspected to be a nerve agent, follow DOT Emergency Response Guide (ERG) 153. Do not make entry into confining environments such as buildings unless you have been appropriately trained and have the necessary equipment. Use T/D/S to your maximum advantage.



2. Antidotes to nerve agents include atropine and 2-PAM chloride.

BLISTER AGENTS (VESICANTS)

- Mustard (H).
- Distilled mustard (HD).
- Nitrogen mustard (HN1, HN2, HN3).
- Lewisite (L).

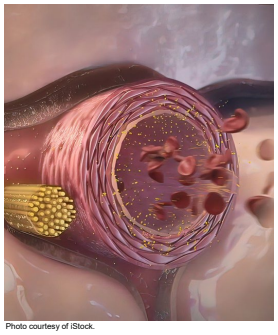


Photo courtesy of iStock.

Slide 3-39

E. Blister agents (vesicants).

1. Examples:

   a. Mustard gas (H).

   b. Distilled mustard (HD).

   c. Nitrogen mustard (HN1, HN2, HN3).

   d. Lewisite (L).

VESICANT EXPOSURE

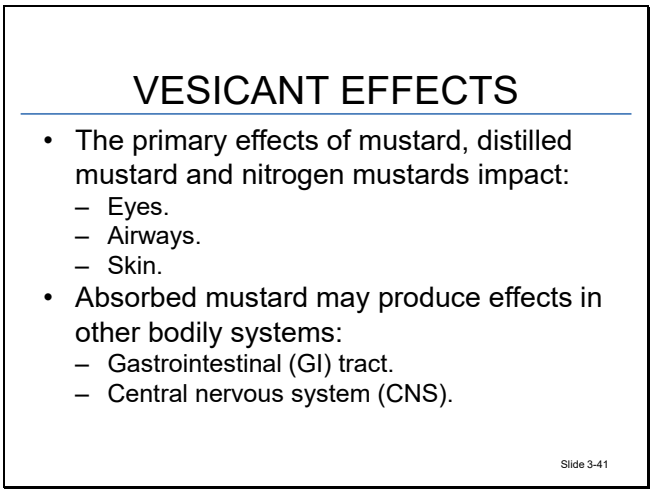
Exposure to these agents typically occurs through:

- Airborne vapors.
  - Warm climates are conducive to vapor production.
- Direct skin contact with the liquid.

Slide 3-40

2. Exposure and effects: Exposure to blister agents can be through contact with either the liquid or vapor. The warmer the climate, the more easily the vapors are produced.

a. Overview of effects: The primary effects of blister agents occur in the eyes, airways and skin. Absorbed blister agents may produce effects in other bodily systems.



b. Skin: Reddening (erythema) is the mildest and earliest form of skin injury appearing after exposure to mustard. It resembles sunburn and is associated with itching or a burning, stinging pain. Erythema begins to appear in two to 24 hours after vapor exposure.

c. Pulmonary system: The primary airway damage is necrosis (death) of the tissues if the inhalation exposure is large. The common cause of death is respiratory failure.

d. Eyes: The eyes are the organs most sensitive to mustard vapor injury. The time between exposure and visible injury (latent period) is shorter for eye injury than for skin injury.

e. The gastrointestinal (GI) tract is very susceptible to damage, either from systemic absorption or ingestion of the agent.

f. The central nervous system (CNS) effects are poorly defined. Animal studies demonstrated that mustards (particularly the nitrogen mustards) are convulsants. There are several human case reports describing people who were heavily exposed experiencing neurological effects just prior to death. Reports from WWI and Iran described people exposed to small amounts of mustard as appearing sluggish, apathetic and lethargic.

LEWISITE EFFECTS

- The effects of lewisite are like those of the mustards, but far more immediate, including pain or irritation of skin and mucous membranes.
- Delayed symptoms include erythema, blisters on the skin and eyes, and airway damage.
- **British anti-lewisite (BAL)** is the known antidote. Formerly a cream, now given via intramuscular injection.

Slide 3-42

3. Lewisite is a very potent arsenic-based chemical warfare agent:

   a. The effects of lewisite occur quicker than other blister agents.

   b. There is an antidote for lewisite called British anti-lewisite (BAL). This medication used to be applied as a cream, but it is now an intramuscular injection.

WARNING SIGNS OF VESICANT EXPOSURE

- Outward warning signs include observation of blistering and other external symptoms.
- Victims may report an odor of garlic.



Photos courtesy of iStock.

Slide 3-43

4. Outward warning signs include observation of blistering and other external symptoms. Victims may report an odor of garlic.

DETECTION OF VESICANTS

- Detection papers such as M8 or M9.
- Military detection kits.
- Colorimetric tubes.
- Electronic meters.

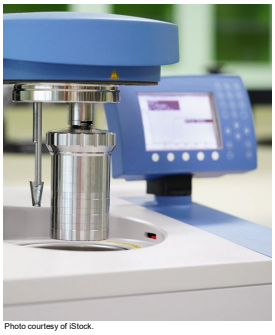


Photo courtesy of iStock.

Slide 3-44

5. Detection methods.

   a. Detection papers such as M8 and M9.

   b. Military detection kits.

   c. Colorimetric tubes.

   d. Electronic meters.

6. Self-protection: Follow your department procedures for operating at the scene of a hazardous materials incident. If the material has not been positively identified but vesicants are suspected, follow DOT ERG 153. Do not enter confined spaces unless you have been properly trained and have the necessary equipment. Use T/D/S to your maximum advantage.

CYANIDES (BLOOD AGENTS)

- Hydrogen cyanide (AC).
- Cyanogen chloride (CK).
- Potassium cyanide.
- Methylene chloride.
- Carbon monoxide.



Photo courtesy of iStock.

Slide 3-45

F. Cyanides (blood agents).

1. Examples:

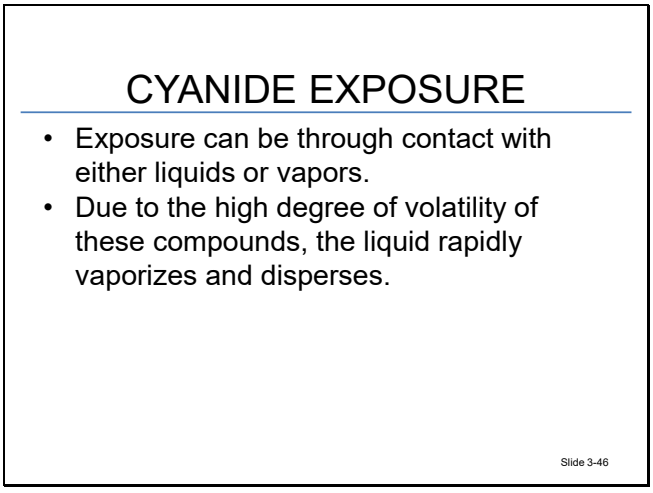
   a. Hydrogen cyanide (AC).

   b. Cyanogen chloride (CK).

   c. Potassium cyanide.

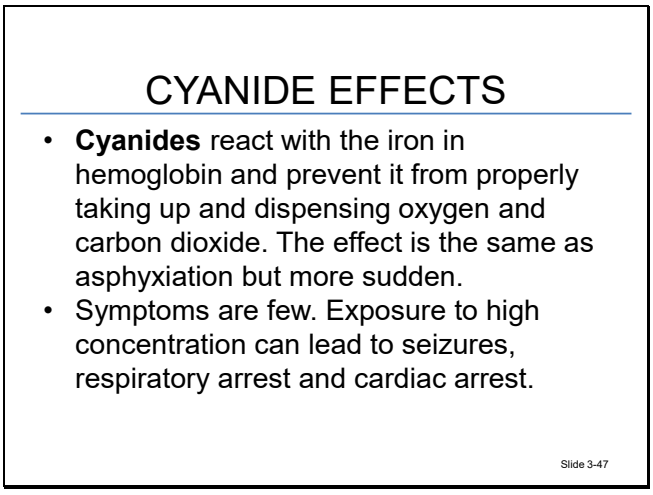
   d. Methylene chloride.

   e. Carbon monoxide.



2. Exposure and effects.

   a. Exposure can be through contact with either liquids or vapors. Due to the high degree of volatility of these compounds, the liquid rapidly vaporizes and disperses.

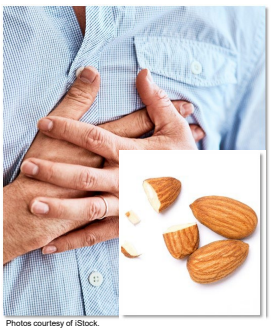


b. Hemoglobin carries oxygen to the cells and carbon dioxide back to the lungs for disposal. Cyanides react with the iron in hemoglobin and prevent it from properly taking up and dispensing oxygen and carbon dioxide. The effect is the same as asphyxiation, but more sudden.

c. Symptoms are few. Exposure to high concentration can lead to seizures and respiratory and cardiac arrest.

WARNING SIGNS OF CYANIDE EXPOSURE

- Outward warning signs include victims showing great difficulty in breathing and onset of cardiac symptoms.
- Some victims may report an odor of bitter or burnt almonds.



Photos courtesy of iStock.

Slide 3-48

3. Outward warning signs include victims showing great difficulty in breathing and onset of cardiac symptoms. Some victims may report an odor of bitter or burned almonds.

DETECTION OF CYANIDE

- Military detection kits.
- Colorimetric tubes.
- Electronic meters.



Photo courtesy of iStock.

Slide 3-49

4. Detection methods.

a. Military detection kits.

b. Colorimetric tubes.

c. Electronic meters.

SELF-PROTECTION FROM CYANIDE

- Follow your department procedures for operating at the scene of a hazardous materials incident.
- For cyanogen chloride, use Guide 125.
- For hydrogen cyanide, use Guide 117, 131, 152, 154.
- For suspected blood agent, use Guide 123.
- **Pasadena Cyanide Antidote.**

Slide 3-50

5. Self-protection.

a. Follow your department procedures for operating at the scene of a hazardous materials incident.

b. If you have positively identified the substance as cyanogen chloride, use DOT ERG 125.

c. If the material is positively identified as hydrogen cyanide, use DOT ERG 117, 131, 152, 154.

d. If a blood agent is suspected, but not positively identified, use DOT ERG 123.

e. There is an antidote kit for blood agents called the Pasadena Cyanide Antidote.

PULMONARY (CHOKING) AGENTS

- Chlorine (Cl).
- Phosgene (CG).

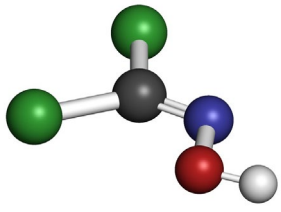


Photo courtesy of iStock.

Slide 3-51

G. Pulmonary (choking) agents.

1. Examples:

a. Chlorine (Cl).

b. Phosgene (CG).

PULMONARY AGENT EXPOSURE AND EFFECTS

- Exposure is through inhalation of vapors.
- The primary effect is pulmonary edema. The victim's lungs fill with fluid, and they develop severe pneumonia.
- Symptoms include eye and airway irritation, dyspnea, chest tightness and delayed pulmonary edema.

Slide 3-52

2. Exposure and effects: Chlorine was the first battlefield gas. It was used by Germany in WWI and was proposed for use during the Syrian civil war.

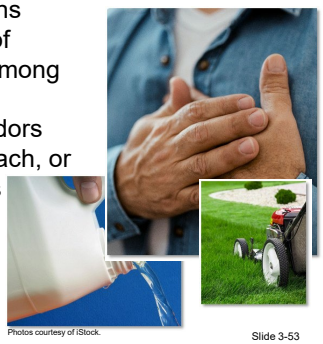
a. Exposure is through inhalation of vapor.

b. The primary effect is pulmonary edema. The victim's lungs fill with fluid, and they develop severe pneumonia.

c. Symptoms include eye and airway irritation, dyspnea, chest tightness and delayed pulmonary edema.

WARNING SIGNS OF PULMONARY AGENT EXPOSURE

- Outward warning signs include observation of pulmonary distress among victims.
- Victims may report odors such as chlorine, bleach, or swimming pool odors (chlorine) or the odor of newly mown hay or grass (phosgene).



Photos courtesy of iStock.

Slide 3-53

3. Outward warning signs include observation of pulmonary distress among victims. They may also report odors such as chlorine, bleach, or swimming pool odors (chlorine), and the odor of newly mown hay or grass (phosgene).

DETECTION OF PULMONARY AGENTS

- Military detection kits.
- Colorimetric tubes.
- Electronic meters.

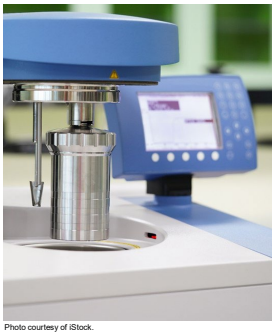


Photo courtesy of iStock.

Slide 3-54

4. Detection methods.

   a. Military detection kits.

   b. Colorimetric tubes.

   c. Electronic meters.

SELF-PROTECTION FROM PULMONARY AGENTS

- Follow your department procedures for operating at the scene of a hazardous materials incident.
- For chlorine, use Guide 124.
- For phosgene, use Guide 125.
- For suspected choking agents, use Guide 123.

Slide 3-55

5. Self-protection.

   a. Follow your department procedures for operating at the scene of a hazardous materials incident. If the material has been identified as chlorine, use DOT ERG 124.

b. If the material has been identified as phosgene, use DOT ERG 125. If you suspect a choking agent, but do not have positive identification, use DOT ERG 123.

IRRITANTS

- Tear gas (CS).
- Tear gas (CR).
- Mace (CN).
- Pepper spray (OC).

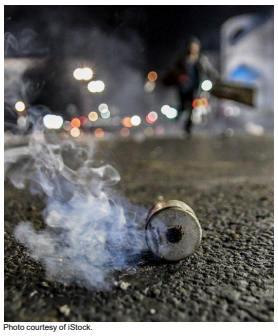


Photo courtesy of iStock.

Slide 3-56

H. Irritants.

1. Examples:

a. Tear gas (CS).

b. Tear gas (CR).

c. Mace (CN).

d. Pepper spray (OC).

2. Exposure and effects.

IRRITANT EXPOSURE AND EFFECTS

- **Irritants** (also known as riot control agents, lacrimators and tear gas) produce transient discomfort and eye closure to render the recipient temporarily incapable of fighting or resisting.
- Exposure is through inhalation and absorption of small smoke-like particles suspended in the air.
- Their major activity is to cause pain, burning or discomfort on exposed mucous membranes and skin.
- Effects occur within seconds and seldom persist more than a few minutes after exposure has ended.

Slide 3-57

a. Irritants, also called riot control agents, lacrimators and tear gas, produce transient discomfort and eye closure to render the recipient temporarily incapable of fighting or resisting. Exposure is through inhalation and absorption of small smoke-like particles suspended in the air. Despite the common names, these are not gases. They are micropulverized solids.

b. Their major activity is to cause pain, burning or discomfort on exposed mucous membranes and skin; these effects occur within seconds of exposure but seldom persist more than a few minutes after exposure has ended.

WARNING SIGNS OF IRRITANT EXPOSURE

- Outward warning signs include observation of classic "tear gas" symptoms among victims.
- Victims may report multiple odors, including hair spray and pepper.



Photos courtesy of iStock.

Slide 3-58

3. Outward warning signs include observation of classic “tear gas” symptoms among victims. They may report multiple odors, including hair spray and pepper, due to the variety of propellants used to dispense these agents.

DETECTION OF IRRITANTS

- There is no detector. The means of identification is by locating and collecting residue for laboratory analysis.
- Contact your state and local law enforcement agencies for additional information.

Slide 3-59

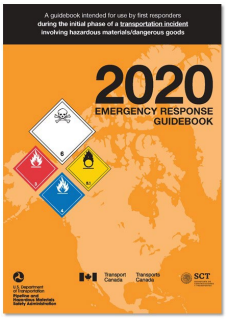
4. Detection.

a. There is no detector. The means of identification is locating and collecting residue for laboratory analysis. Contact your state and local law enforcement agencies for additional information.

b. It should be noted that, other than GC-MS, specific identification is impossible. The colorimetric tubes described in the Student Manual (SM) are detecting byproducts of mace and the binding agent for pepper spray. It is important that sampling with colorimetric tubes needs to occur very quickly. It is recommended that the building be evacuated and sealed. Upon arrival, detection equipment must be used where the suspected agent was released. Victim interviews, as well as signs and symptoms (S/S), are particularly important clues in determining the use of irritants.

SELF-PROTECTION FROM IRRITANTS

- Follow your department procedures for operating at the scene of a hazardous materials incident.
- For tear gas, pepper spray or unidentified irritants, use Guide 159.
- For mace, use Guide 153.

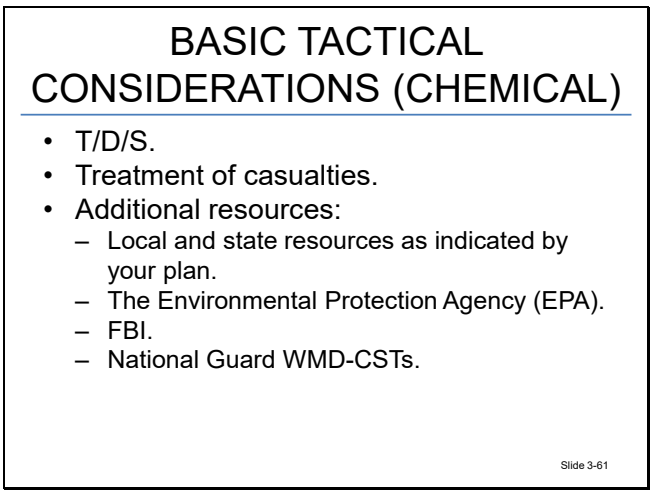


Slide 3-60

5. Self-protection.

a. Follow your department procedures for operating at the scene of a hazardous materials incident. For tear gas, pepper spray or unidentified irritants, use DOT ERG 159.

b. If mace is identified, use DOT ERG 153.



6. Basic tactical considerations with chemical incidents.

   a. Time: Keep exposure time and product contact to a minimum.

   b. Distance: Keep an appropriate distance from the hazardous environment. Stay upwind, uphill and away from contaminated areas.

      - Recommended initial isolation distances:

        -- Solids: 75 feet.

        -- Liquids: 150 feet.

        -- Gases: 330 feet.

      - These are starting points. The ERG can be consulted for more accurate distances when materials are identified.

   c. Shielding: Implement appropriate shielding in the form of respiratory protection and chemical protective clothing (CPC).

   d. Treatment of casualties: Casualty treatment follows a standard sequence:

      - Decontamination per your local protocol. Soap and water decontamination is normally the easiest to obtain and deploy. It can also be highly effective.

      - Patient triage.

      - Transport to medical facilities (hospital).

- Definitive care from medical field.

e. Additional resources.

- Local and state resources as indicated by your plan.
- Environmental Protection Agency (EPA).
- FBI.
- National Guard WMD-CSTs.

V. EXPLOSIVES

EXPLOSIVES

- ~70% of terrorist incidents involve explosives.
- Improvised explosives can cause harm and destruction while providing a vehicle for the dispersal of chemical, biological, incendiary and nuclear agents.
- From 2014-2018 U.S Bomb Data Center (USBDC):
  - 3,634 incidents.
  - 743 injuries.
  - 97 fatalities.

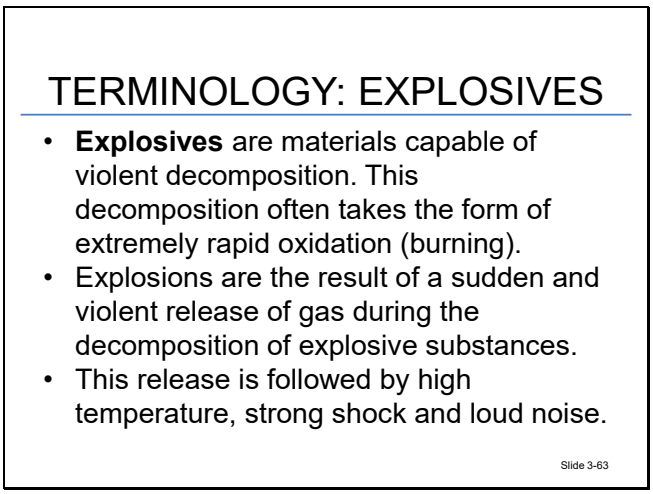
Slide 3-62

A. Introduction to explosives.

1. Approximately 70% of all terrorist incidents involve the use of explosives. Terrorists can design improvised explosives to deliver an assortment of harm and destruction and can also provide a vehicle for dispersal of chemical, biological, incendiary and nuclear agents.

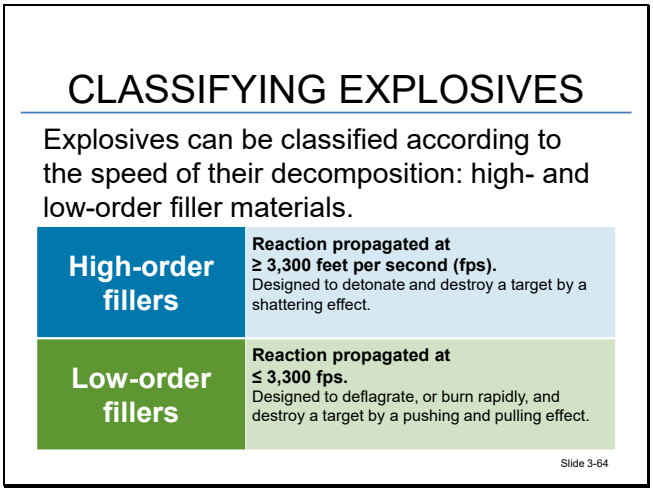
2. According to the USBDC, from 2014 through 2018, there were 3,634 incidents, 43 injuries and 97 fatalities.





B. Terminology.

1. Explosives are defined as materials capable of violent decomposition. This decomposition often takes the form of extremely rapid oxidation (burning). Explosions are the result of a sudden and violent release of gas during the decomposition of explosive substances. This release is followed by high temperature, strong shock and loud noise.

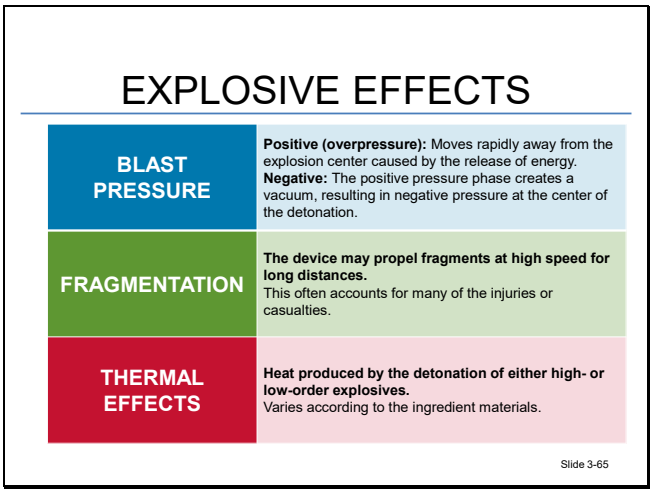


2. A common method of classifying explosives is by dividing them according to the speed of their decomposition. While the terms high and low explosive are understood by most people, the correct terminology is high- and low-order filler materials.

3. When high-order fillers are initiated, the reaction is propagated through the filler material at a speed at or above 3,300 feet per second (fps). These explosives are designed to detonate and destroy a target by a shattering effect. The USS Cole bombing employed high-order, plastic explosives.

4. When low-order fillers are initiated, the reaction is propagated through the filler material at a speed below 3,300 fps. These explosives are designed to deflagrate, or burn rapidly, and destroy a target by a pushing and pulling effect. Both the Oklahoma City and World Trade Center bombings used primarily high-order fillers to cause maximum damage.

5. Most vehicle-borne improvised explosive devices (VB-IEDs) employ low-order explosives. These materials are easier to obtain than high-order explosives, which are most commonly military-grade explosives and some commercial explosives.



C. Detonated explosives primary effects.

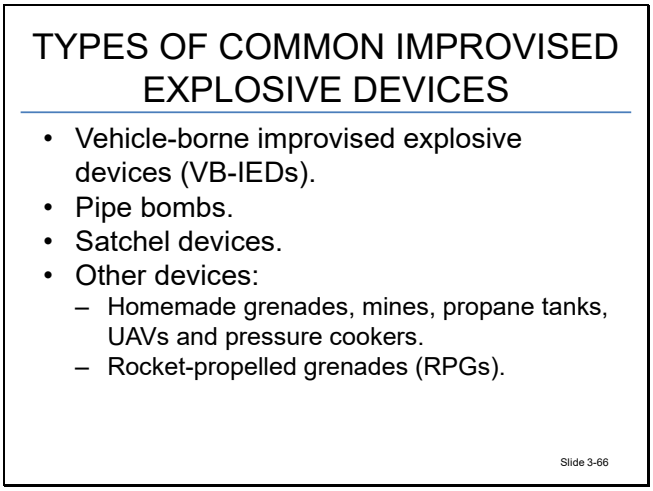
1. Blast pressure.

a. There are two different phases of blast pressure. Positive blast pressure (overpressure) moves rapidly away from the explosion center (ground zero) due to the expansion caused by the release of energy.

b. After the positive pressure phase, a vacuum is created at the explosion site. This creates a negative pressure, which moves toward the original center of the detonation at hurricane speed. It is less sudden but lasts approximately three times as long as the positive pressure wave.

2. Fragmentation: The explosive device may propel fragments at high speed for long distances. This often accounts for many of the injuries or casualties.

3. Thermal effects: Sometimes referred to as the incendiary effect, heat produced by the detonation of either high or low explosives varies according to the ingredient materials. High explosives generate greater temperatures than low explosives; however, the thermal effects from low explosives have a longer duration than those of high explosives' collateral incendiary effects.



D. Common improvised explosive devices (IEDs).

1. VB-IEDs are usually large, powerful devices that consist of a quantity of explosives fitted with a timed or remotely triggered detonator packed into a car or truck. The two most famous vehicle bombings on U.S. soil were the World Trade Center bombing in New York and the Alfred P. Murrah Federal Building bombing in Oklahoma City.

2. Pipe bombs are one of the most common explosive devices. They are at the opposite end of the scale from vehicle bombs in terms of size and destructive potential. Pipe bombs usually consist of a quantity of explosives sealed into a length of metal or plastic pipe. Detonation is usually controlled by a timing fuse. Other possible methods include electronic timers, remote triggers and motion sensors.

3. Satchel devices: The name comes from an old military term for an explosive device consisting of a canvas overpack containing explosives. It was far more powerful than a grenade but could still be thrown. The container may also be packed with antipersonnel materials such as nails and glass to inflict more casualties. The Centennial Park explosives incident in Atlanta is a clear example of this type of device.

4. Other IEDs may be used, including homemade grenades, mines, propane tanks, UAVs or even pressure cookers, as used in the Boston Marathon bombing in 2013 and a New York City bombing in 2016.

a. Explosive projectiles, like rocket-propelled grenades (RPGs), have been used in the past but have not been a common occurrence. In Fairfax County, Virginia, police confiscated homemade projectiles capable of exploding on contact along with tube-type launchers from a private home. This occurred after the individual who had apparently manufactured the devices was found dead in the home.

b. The obvious danger associated with such weapons is the ability of the terrorist to take the threat from a static to a dynamic environment. The possibility of drive-by bombings will certainly increase the operational risk to responders if they are included in the target scenario.

SIZE-UP CONSIDERATIONS FOR RESPONDER SAFETY

- Disposition of the threat on arrival.
- Bombs that are still intact and explosive materials that have not been consumed pose extremely dangerous circumstances.
- The disposition of a bomb threat to the initial responder is a matter of recognizing the presenting hazards.

Slide 3-67

E. Size-up issues related to responder safety during operations.

Bombs and explosive materials that are still intact are extremely dangerous. The adjudication of such an incident requires the response of a specially trained bomb squad/explosive ordnance disposal (EOD) unit. The safety of the first responder to a bomb threat is a matter of recognizing the hazards and potential hazards.

RESPONDER SAFETY ISSUES

- Pre-blast or post-blast conditions.
- Size of the explosive device.
- Proximity of exposures.
- Physical protection variables.
- Condition, location and number/status of casualties.



Slide 3-68

F. Responder safety issues.

1. Disposition of the threat on arrival.

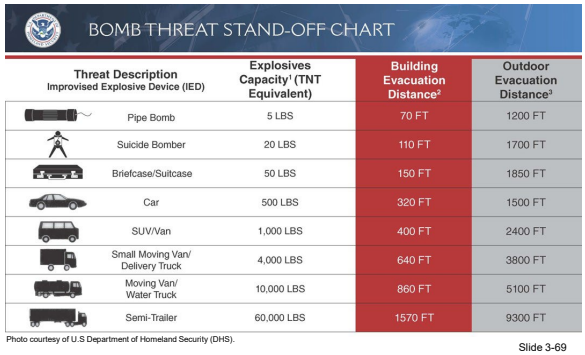
2. Pre-blast or post-blast conditions:

   a. Pre-blast conditions refer to the affected incident environment and/or activities prior to a bomb detonation. This may include activities such as building searches, evacuations and render-safe procedures.

   b. Post-blast conditions refer to the incident environment after a bomb has exploded. This will involve issues dealing with casualties, fires and structural instability, to name a few.

3. Size of the explosive device: The amount and type of ingredient materials will contribute to the power or strength of the potential blast. Responders should consider size as an element in determining threat levels.

BOMB THREAT STAND-OFF CHART



Threat Description Improvised Explosive Device (IED)	Explosives Capacity[1] (TNT Equivalent)	Building Evacuation Distance[2]	Outdoor Evacuation Distance[3]
Pipe Bomb	5 LBS	70 FT	1200 FT
Suicide Bomber	20 LBS	110 FT	1700 FT
Briefcase/Suitcase	50 LBS	150 FT	1850 FT
Car	500 LBS	320 FT	1500 FT
SUV/Van	1,000 LBS	400 FT	2400 FT
Small Moving Van/ Delivery Truck	4,000 LBS	640 FT	3800 FT
Moving Van/ Water Truck	10,000 LBS	860 FT	5100 FT
Semi-Trailer	60,000 LBS	1570 FT	9300 FT

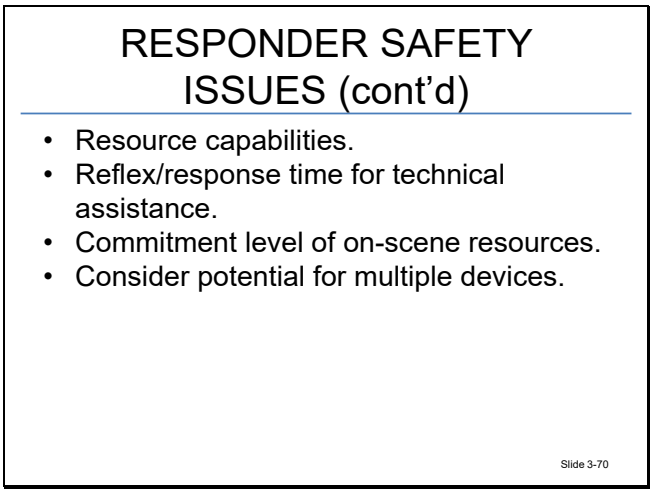
Photo courtesy of U.S Department of Homeland Security (DHS).

Slide 3-69

4. Proximity of exposures: The distance of exposures from the explosive device will likely influence operational objectives such as evacuations, staging locations, medical treatment areas and perimeter control points. Consult the Standoff Distances chart in the ERG or the Joint Counterterrorism Assessment Team (JCAT) Counterterrorism Guide for Public Safety Personnel for specific guidance.

5. Physical protection variables: Responders should consider using hardened structures, such as masonry walls and buildings (not glass) or even fire apparatus, to keep away line-of-sight blasts.

6. Condition, location, number and status of casualties: When responders arrive at the incident, operational priorities will be influenced by the number and severity of casualties on-site. Large numbers of victims may overwhelm initial resources. Also, many types of injuries will require special medical attention. If victims are still trapped beneath rubble, specialized rescue personnel and equipment will be required.



7. Capabilities of resources on hand: The degree or level of operational involvement of the responders may be predicated upon their training, equipment, and, in some cases, experience. Responders not trained to conduct render-safe procedures with explosive devices should not make any attempt to do so.

8. Reflex/response time for technical assistance: Operational decisions will be influenced by the reaction and response time it takes to get specialized resources.

9. Commitment level of on-scene resources: Responders should prepare for and anticipate difficult decisions early in the response pertaining to the level of operational engagement. Decisions that commit responders to dangerous areas must include the use of a hazard and risk assessment and prescribed (agency) operational procedures.

10. Consider potential for multiple devices: Responders should always be aware of the potential for multiple threats, hazards or devices at the incident.

WARNING SIGNS OF EXPLOSIVES

- Any abandoned container out of place for the surroundings.
- Obvious devices containing blasting caps, timers, booster charges, etc.
- Abandoned vehicles not clearly belonging in the immediate environment.

Slide 3-71

G. Outward warning signs: Responders must always remain alert for warning indicators when involved with suspected bombings. Warning signs include:

1. Any abandoned container out of place for the surroundings.

2. Obvious devices containing blasting caps, timers, booster charges, etc.

3. Abandoned vehicles not clearly belonging in the immediate environment.

WARNING SIGNS OF EXPLOSIVES (cont'd)

- Strong chemical odors with no apparent reason.
- Unusual or foreign devices attached to pressurized containers, bulk storage containers or supply pipes.
- Trip wires or other booby traps; suspicious mailing containers.
- An incident preceded by a written or verbal threat.

Slide 3-72

4. Strong chemical odors for no apparent reason.

5. Unusual or foreign devices attached to pressurized containers, bulk storage containers or supply pipes.

6. Trip wires or other booby traps; suspicious mailing containers.

7. An incident preceded by a written or verbal threat.

EXPLOSIVE DETECTION METHODS

- Detection methods are usually limited to outward warning signs for first responders.
- However, specialized resources will use techniques such as fluoroscopes, detection dogs and photoionization detectors.



Slide 3-73

H. Detection methods are usually limited to outward warning signs for first responders. However, specialized resources will use techniques such as fluoroscopes, detection dogs and photoionization detectors.

EXPLOSIVE SELF-PROTECTION METHODS

- **Time:** Work time in the affected area should be kept at a minimum until the area has been evaluated by specialized teams.
- **Distance:** Guide 112 provides some guidance when dealing with unexploded materials. It also suggests not permitting radio transmitters within 100 meters (330 feet) of any suspected device.
- **Shielding:** If practical, keep out of line-of-sight of any suspected devices. Buildings and vehicles may provide some protection.

Slide 3-74

I. Self-protection (T/D/S).

1. Time: Work time in the affected area should be kept at a minimum until the area has been evaluated by specialized teams. Teams will search the area for mechanical hazards, unexploded materials, radiological hazards, hazardous chemicals, biological hazards, multiple devices and booby traps.

2. Distance: DOT ERG 112 provides some guidance when dealing with unexploded materials. It also suggests not permitting radio transmitters (which include cellular phones) within 100 meters (330 feet) of any suspected device.

3. Shielding: If practical, keep out of line-of-sight of any suspected devices. Buildings and vehicles may provide some protection.

TREATMENT OF CASUALTIES

Follows a standard sequence:

- Decontamination.
- Patient triage.
- Transport to medical facilities.
- Definitive care from medical field.



Slide 3-75

J. Treatment of casualties follows a standard sequence:

1. Decontamination.
2. Patient triage.
3. Transport to medical facilities (hospital).
4. Definitive care from medical field.

ADDITIONAL RESOURCES FOR EXPLOSIVE INCIDENTS

- Local and state resources as identified in your plan.
- Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF).
- FBI.
- Department of Defense (DoD).

Slide 3-76

K. Additional resources.

1. Local and state resources as identified in your plan.
2. ATF.
3. FBI.

4. DoD.

VI. ACTIVE SHOOTER/HOSTILE EVENTS

ACTIVE SHOOTER/HOSTILE EVENTS

ASHE are incidents involving one or more individuals who are or have been actively engaged in harming, killing or attempting to kill people in a populated area by means such as:

- Firearms.
- Explosives.
- Toxic substances.
- Vehicles.
- Edged weapons.
- Fire.
- Any combination thereof.

Slide 3-77

A. Active shooter/hostile events (ASHE) are incidents involving one or more individuals who are or have been actively engaged in harming, killing or attempting to kill people in a populated area by means such as firearms, explosives, toxic substances, vehicles, edged weapons, fire or a combination thereof.

ACTIVE SHOOTER/HOSTILE EVENTS BASIC TACTICAL CONSIDERATIONS

- Pre-incident planning.
  - Rapid treatment and evacuation.
  - Protective gear.
  - Secondary fire hazards (for IEDs).
  - Secondary devices.
- Treatment sequence.
  - Consider decontamination.
  - Patient management.
  - Transport to medical facilities (hospital).
  - Definitive care from medical field.

Slide 3-78

B. Basic tactical considerations.

1. Pre-incident planning.

   a. Planning for and practicing rapid treatment and evacuation, including who, what, when, where and how it will be carried out.

b. Incorporating tactical emergency casualty care (TECC) into planning and training.

- Training must include hemorrhage control techniques, including use of tourniquets, pressure dressings and hemostatic agents.

- Training must also include assessment, triage and transport of victims with lethal internal hemorrhage and torso trauma to definitive trauma care.

- Providing appropriate protective gear to personnel exposed to risks.

- Considering fire hazards secondary to the initial blast if IEDs are used.

- Considering multiple devices at main and secondary scenes.

2. Treatment sequence.

a. Consider decontamination.

b. Patient triage.

c. Transport to medical facilities (hospital).

d. Definitive care from medical field.

e. Consult the U.S Fire Administration (USFA) "Fire/Emergency Medical Services Department Operational Considerations and Guide for Active Shooter and Mass Casualty Incidents" and National Fire Protection Association (NFPA) 3000: *Standard for an Active Shooter/Hostile Event Response (ASHER) Program* for detailed guidance.





3. Available technical resources.

   a. Local and state resources as indicated by your plan.

   b. ATF.

   c. FBI.

ACTIVITY 3.1

Tactical Considerations

Purpose

Synthesize material presented in the unit to apply to a given scenario. The students will identify and consider warning signs, tactical considerations, specialized support equipment and technical resource availability in support of a given incident.

Directions

1. Each group will be assigned a different scenario to analyze, determine tactical considerations and present their findings to the class. Scenarios and questions are found below.

2. The activity is worth 40% of your final grade.

3. You will have **15 minutes** to work on the scenario and discuss it as a group.

    a. Identify unique challenges to implementing scene control.

    b. Explain factors that influence public/responder protection considerations.

    c. Determine what resources should be utilized to maintain perimeter security.

4. Record your responses on an easel pad and prepare to report to the class.

5. Each group will have **five minutes** to report their findings to the class. Be prepared to provide a justification for each one of your group's conclusions.

6. Groups that are not presenting will conduct a peer review of each presentation using the **Activity 3.1 rubric.** Each group will receive a grade based on the average peer review scores.

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ACTIVITY 3.1 (cont'd)

Scenarios

Scenario 1: Cobalt 60 Radiological Exposure Device on Long-Haul Bus

A long-haul bus has diverted to a rest area and reported multiple passengers with symptoms. The bus traveled for two hours on its route from Washington, D.C., to New York City. People sitting in the rear of the bus are symptomatic, while those in front are not. Many are complaining of weakness, vision loss and fatigue. Mild symptoms began about an hour prior but have become more severe. While checking the rear of the bus, the driver notices a suspicious package above the passenger-side rear seat. The package has been cut open with metallic fragments spilling onto the overhead storage compartment and the rear seats.

Scenario 2: Vehicle as a Weapon/Chemical Bomb

A suspicious vehicle was reported to law enforcement prior to the Thanksgiving parade celebration. The vehicle was parked on a clearly marked "no parking/parade route" the morning of the event. Upon investigation, law enforcement found the vehicle to have multiple containers inside the passenger compartment, strapped to a mechanical device. A crowd has begun to gather in anticipation of the parade that runs directly through the middle of town on Main Street.

Scenario 3: Chemical Dispersion Via Drone

During a large regional sporting event, an unaccounted-for drone device was witnessed flying over the crowd and dispersing a mist during the opening ceremony. Numerous attendees are complaining of irritation to the eyes, nose, mouth and skin. Five others are experiencing respiratory distress. Witnesses claim the drone flew away from the event.

Scenario 4: Radiological Dispersion Device

An explosion has occurred during a free concert, killing a family of four that came to hear the rock music and injuring more than 100 others. Numerous concert attendees not near the explosion have burns on their skin. It was reported that an anonymous caller contacted police and warned of the bombing in advance, but the bomb, identified as a “dirty bomb,” exploded prior to police locating the device.

Scenario 5: White Powder

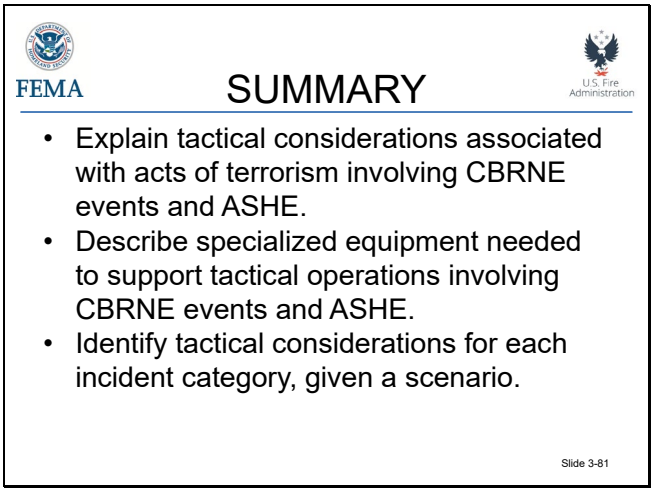
A male subject is on trial, accused of killing two girls, a 6-year-old and an 8-year-old. The media has been following this high-profile case and, on the third day of the trial, a new reporter enters the courtroom and is acting extremely suspicious. The bailiff requests to see the reporter's credentials, and she hands the bailiff an envelope. The bailiff opens the envelope, and a white powder is released. Immediately, the bailiff notices he has skin irritation, and the white powdery substance is airborne in the courtroom.

Scenario 6: Active Shooter

A mass shooting has occurred at a local mall during the holiday shopping season. Reports are being received that there are multiple people down and that there are still shots being fired from an active shooter.

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VII. SUMMARY


FEMA
SUMMARY
U.S. Fire Administration
• Explain tactical considerations associated with acts of terrorism involving CBRNE events and ASHE.
• Describe specialized equipment needed to support tactical operations involving CBRNE events and ASHE.
• Identify tactical considerations for each incident category, given a scenario.
Slide 3-81

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UNIT 4: CREATING AN ACTION PLAN: COMPLEX COORDINATED ATTACK

TERMINAL OBJECTIVE

The students will be able to:

4.1. Create an action plan for a given scenario using the risk-based response process.

ENABLING OBJECTIVES

The students will be able to:

4.1. Describe possible indicators of terrorism.

4.2. Implement appropriate self-protective measures.

4.3. Initiate appropriate scene control measures.

4.4. Describe basic tactical considerations.

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FEMA

U.S. Fire Administration

UNIT 4: CREATING AN ACTION PLAN: COMPLEX COORDINATED ATTACK

Slide 4-1

TERMINAL OBJECTIVE

Create an action plan for a given scenario using the risk-based response process.

Slide 4-2

ENABLING OBJECTIVES

- Describe possible indicators of terrorism.
- Implement appropriate self-protective measures.
- Initiate appropriate scene control measures.
- Describe basic tactical considerations.

Slide 4-3

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ACTIVITY 4.1

Creating an Action Plan: Complex Coordinated Attack

Purpose

Combine the elements of terrorism response presented throughout the course.

Directions

1. Review the background information concerning Centerville (see maps below).
2. In your small group, review the material presented on Sheet 1: Initial Response.
3. Record your full responses to each question and summarize the key points on the easel pad.
4. Review the material presented on Sheet 2: On-Scene Basic Tactical Operations.
5. Record your full responses to each question and summarize the key points on the easel pad.
6. You will have 20 minutes to complete both activity sheets.
7. Prepare to debrief with the class. Each group will be called upon to respond to at least one of the questions. All groups are required to participate and contribute during the discussion period.

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ACTIVITY 4.1 (cont'd)

Creating an Action Plan — Centerville, USA

Background Information

Population

Centerville has a permanent population of 40,000 and a transient student population of 10,000.

Law enforcement

Village department:

- Four patrol officers and one supervisor on duty.
- All personnel trained to the hazardous materials awareness level.

Hospital security:

- Three security guards on duty.
- All trained to the hazardous materials awareness level.

Court officers:

- Six court officers on duty at county courthouse.
- Eight court officers on duty at state courthouse.
- Court officer patrol unit (two court officers in vehicle).
- All trained to the hazardous materials awareness level.

Fire/emergency medical services (EMS) department

- Four stations:
  - **Station 1:** one engine, one ladder truck and one basic life support (BLS) ambulance.
    - -- Engine staffing: driver, officer, two firefighters.
    - -- Ladder staffing: driver, officer, one firefighter.
    - -- BLS ambulance staffing: two emergency medical technicians (EMTs).
  - **Station 2:** one engine and an advanced life support (ALS) ambulance.
    - -- Engine staffing: driver, officer, two firefighters.
    - -- ALS ambulance staffing: one paramedic, one EMT.
  - **Station 3:** one engine, one ALS ambulance, one hazardous materials unit and a chief.
    - -- Engine staffing: driver, officer, two firefighters.
    - -- ALS ambulance staffing: one paramedic, one EMT.
    - -- The hazardous materials unit is cross-staffed by the engine personnel.

- **Station 4:** one engine, one heavy rescue squad, and a BLS ambulance.
  - -- Heavy rescue staffing: driver, officer, two firefighters.
  - -- BLS ambulance staffing: two EMTs.

- One battalion chief on duty.
- All personnel trained to hazardous materials operations level.
- All chief officers trained in hazardous materials incident command.
- All Station 3 personnel trained to hazardous materials technician level.
- Heavy Rescue squad trained to hazardous materials technician level.
- One-hour recall for 54 off-shift personnel.

Medical/hospital services

Hospital:

- 100-bed capacity.
- Emergency room with 20-bed capacity.
- Decontamination plan in place.
- Properly trained decontamination personnel.

Additional Resources

Mutual aid and additional local assets: response time 30 minutes.

- 10 police units (single-person cars).
- Explosive ordnance disposal (EOD)/bomb squad (one supervisor, two bomb technicians).
- Six engines (staffing: driver, officer, two firefighters — each).
- Two ladder trucks (staffing: driver, officer, one firefighter — each).
- One hazardous materials unit with six technicians.
- 10 ambulances (six BLS, four ALS).
- BLS staffing: two EMTs.
- ALS staffing: one paramedic, one EMT.
- Two chief officers with chief's aides.

Additional resources: response time 60 minutes.

- 50 state police officers.
- State hazardous materials team with 20 technicians.
- State emergency management personnel.
- Local FBI office.
- Local public works assets (dump trucks, barricades, light towers).

Additional resources: response time four to six hours.

- National Guard civil support team (CST) unit.
- Specialized federal assets.

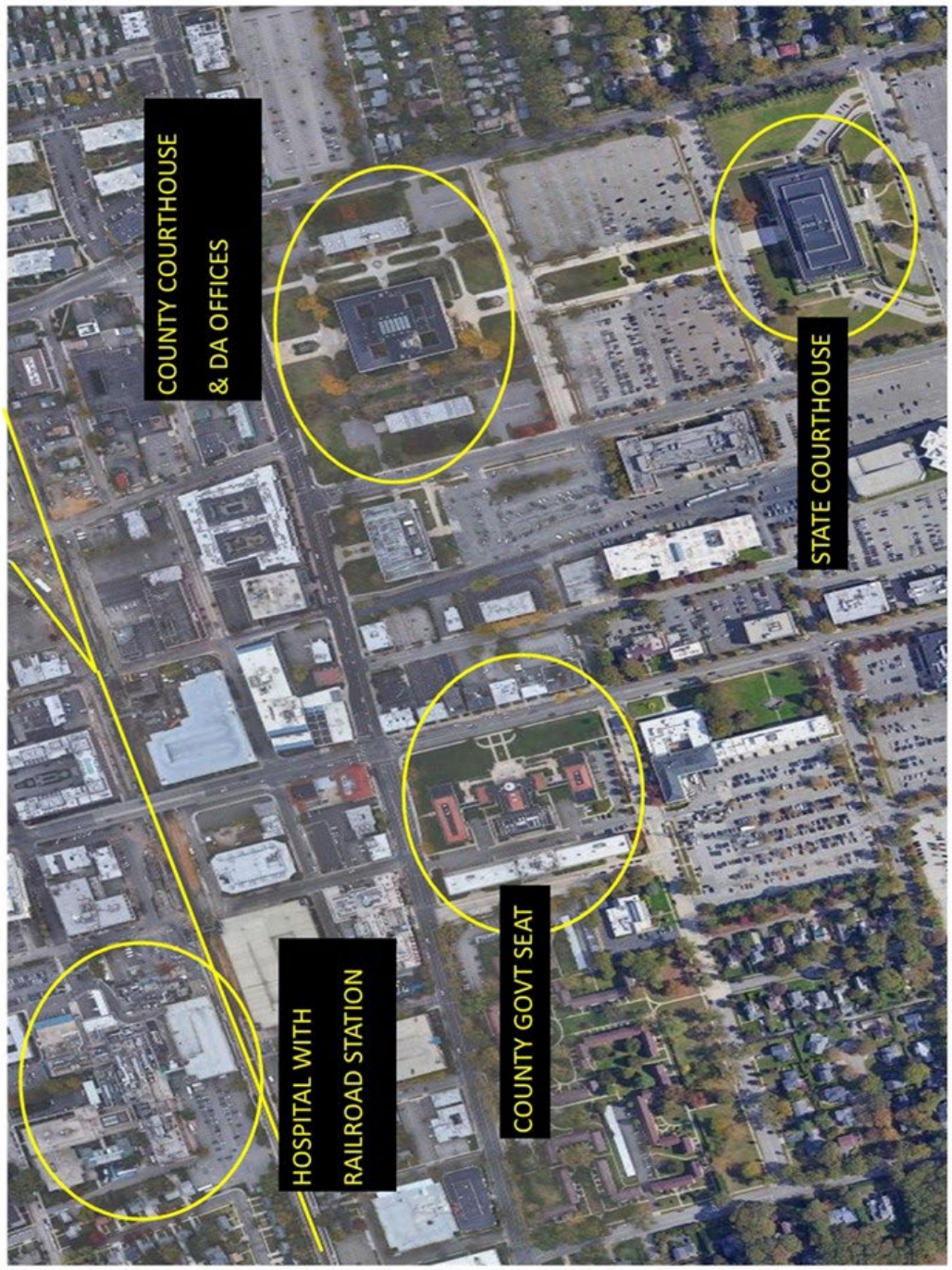
Activity 4.1 (cont'd)

Centerville Maps

Centerville, USA, city map



Centerville, USA, annotated city map

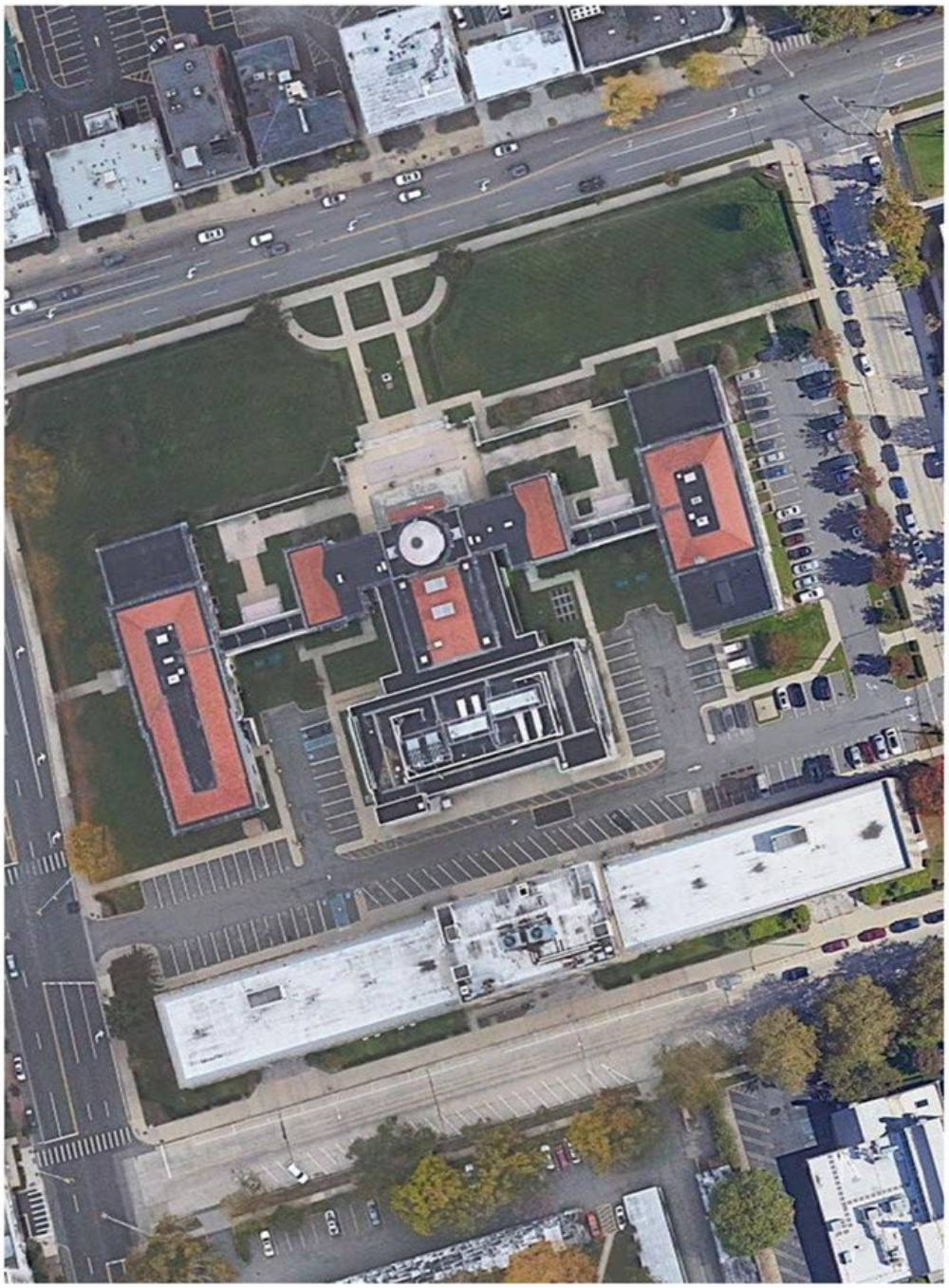


Hospital with railroad station



HOSPITAL WITH RAILROAD STATION

County government complex



COUNTY GOVERNMENT COMPLEX

County courthouse and district attorney offices



COUNTY COURTHOUSE & DISTRICT ATTORNEY (DA) OFFICES

State courthouse



Activity 4.1 (cont'd)

Creating an Action Plan — Sheet 1: Initial Response

Scenario

At 10:00 a.m. on a weekday, the Centerville 911 Center receives an emergency call reporting an explosion with injuries at the state courthouse. The explosion is reported to have occurred in the main jury room, where 300 prospective jurors had reported for jury duty.

While en route, additional emergency calls are received from the nearby county courthouse and DA offices reporting an unknown odor inside the building with multiple people sick.

The first arriving units report several hundred people fleeing the vicinity of the state courthouse building. Several victims have collapsed in the parking lots located to the north and south of the state courthouse. Units also report multiple victims on the steps of the county courthouse suffering from convulsions and/or seizures. There is no apparent structural damage to the state courthouse building and no sign of fire.

At 10:15 a.m., emergency calls are received from the county government complex reporting three exterior dumpster fires at that location. Information is received that the dumpsters are located against the building.

At 10:20 a.m., emergency calls are received reporting gunshots, with multiple people down at the railroad station adjacent to the hospital.

Questions

1. Identify the key indicators that this may be a terrorism event.

2. Identify potential threats and hazards to responders.

Activity 4.1 (cont'd)

Creating an Action Plan — Sheet 2: On-Scene Basic Tactical Operations

Scenario

It is now 45 minutes after the initial incident (state courthouse).

Questions

1. Identify appropriate scene-control measures.

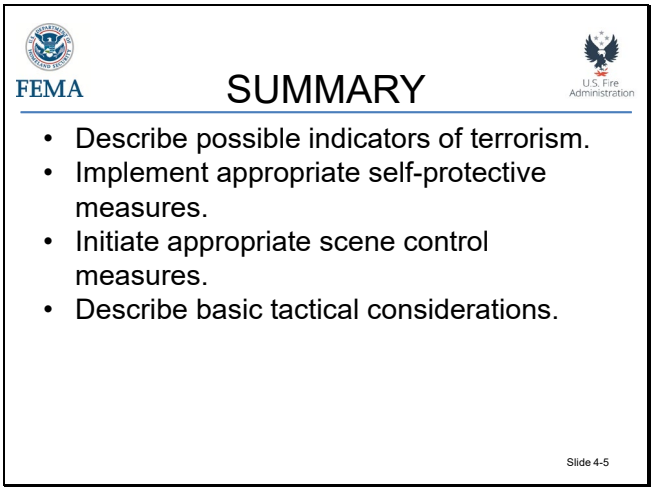
2. Indicate scene security measures taken.

3. Identify outward warning signs and detection clues.

4. Identify the type of event (chemical, biological, radiological, nuclear and explosives (CBRNE)).

5. List any other significant tactical considerations.

I. SUMMARY


FEMA
SUMMARY
U.S. Fire Administration
• Describe possible indicators of terrorism.
• Implement appropriate self-protective measures.
• Initiate appropriate scene control measures.
• Describe basic tactical considerations.
Slide 4-5

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UNIT 5: INCIDENT COMMAND OVERVIEW

TERMINAL OBJECTIVE

The students will be able to:

5.1 Describe command and control issues associated with responder operations at a crime scene using the risk-based response process.

ENABLING OBJECTIVES

The students will be able to:

5.1 Describe the authorities and responsibilities in Presidential Decision Directive 39 (PDD-39).

5.2 Identify crime scene/security issues that must be addressed when managing an incident involving potential criminal activities.

5.3 Define applicable resources referenced in the National Response Framework (NRF).

5.4 Identify the steps for transition from emergency phase to recovery and termination.

5.5 Describe incident termination procedures.

5.6 Describe the local, state and territorial government responsibilities during a terrorism event.

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FEMA

U.S. Fire Administration

UNIT 5: INCIDENT COMMAND OVERVIEW

Slide 5-1

TERMINAL OBJECTIVES

Describe command and control issues associated with responder operations at a crime scene using the risk-based response process.

Slide 5-2

ENABLING OBJECTIVES

- Describe the authorities and responsibilities in Presidential Decision Directive 39 (PDD-39).
- Identify crime scene/security issues that must be addressed when managing an incident involving potential criminal activities.
- Define applicable resources referenced in the National Response Framework (NRF).

Slide 5-3

ENABLING OBJECTIVES (cont'd)

- Identify the steps for transition from emergency phase to recovery and termination.
- Describe incident termination procedures.
- Describe the local, state and territorial government responsibilities during a terrorism event.

Slide 5-4

I. THE CHALLENGE FOR INCIDENT COMMAND

THE CHALLENGE FOR INCIDENT COMMAND

Terrorism, whether it involves biological, nuclear, incendiary, chemical, explosives, active shooting events or combinations of these elements, is more challenging to manage than most emergency events.



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Slide 5-5

A. Terrorism, whether it involves biological, nuclear, incendiary, chemical, explosives, active shooter events or combinations of these elements, is challenging.

COORDINATION OF MULTIPLE AGENCIES

- The **Incident Commander (IC)/Unified Command (UC)** must ensure that all participating agencies are effectively communicating within the designated command structure.
- Regular planning sessions should be conducted to review the progress of assigned tasks and to incorporate new resources as they engage or disengage from the incident(s).
- When multiple agencies are operating on-site, the IC must request or appoint a representative or liaison for each.

Slide 5-6

B. Coordination of multiple response agencies.

1. The Incident Commander (IC)/Unified Command (UC) must ensure that all participating agencies are effectively communicating within the designated command structure.

2. Regular planning sessions should be conducted to review the progress of assigned tasks and to incorporate new resources as they engage or disengage from the incident(s).

3. When multiple agencies are operating on-site, the IC must request or appoint a representative or liaison for each.

4. UC principles:

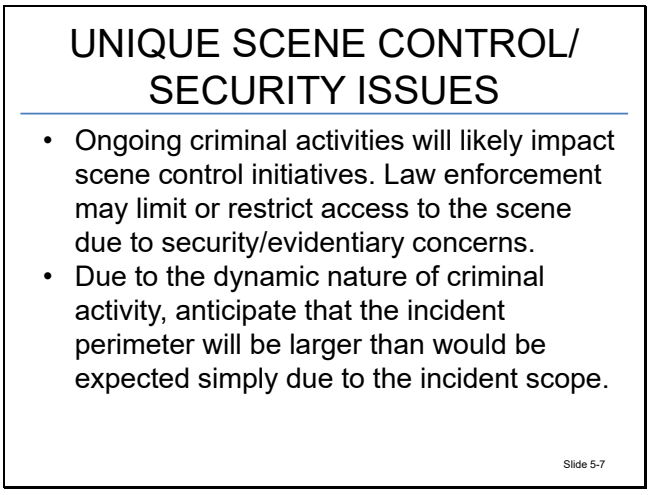
   a. One Incident Action Plan (IAP) (agreed-upon objectives).

   b. One Public Information Officer (PIO).

   c. All involved are agency decision-makers.

   d. All have a voice/input.

   e. Share facilities and resources.



C. Unique scene control/security issues.

1. Ongoing criminal activities will likely impact scene control initiatives. Law enforcement may limit or restrict access to the scene due to security/evidentiary concerns. For example, review the "After Action Report for the Response to the 2013 Boston Marathon Bombings."

2. Due to the dynamic nature of criminal activity, anticipate that the incident perimeter will be larger than would be expected simply due to the incident scope.

SPECIAL AWARENESS THAT RESPONDERS MAY BE TARGETS

- Consider that terrorists may still be on the scene, waiting for responders to arrive.
- **The intent could be to lure responders and add them to the list of victims.**



Slide 5-8

D. Special awareness that responders may be the intended target: Consider that terrorists may still be on the scene, waiting for responders to arrive. The intent could be to lure responders and add them to the list of victims.

SPECIALIZED RESOURCES

Terrorist events will generate responses from many agencies. Some response teams will provide personnel who are specially trained.

- FBI Hazardous Materials Response Unit.
- FBI Evidence Response Teams.
- National Guard weapons of mass destruction civil support teams (WMD-CSTs).
- Law enforcement explosive ordnance disposal (EOD)/bomb squads.

Slide 5-9

E. Specialized resources: Terrorist events will require response from many agencies. Examples include the FBI Hazardous Materials Response Unit, FBI Evidence Response Teams, National Guard weapons of mass destruction civil support teams (WMD-CSTs), and law enforcement explosive ordnance disposal (EOD)/bomb squads.

CRIME SCENE CONSIDERATIONS

- **All** responders working in the confines of a crime scene or potential crime scene must respect the mission of law enforcement investigators.
- **Assist that mission by identifying and preserving potential evidence whenever you encounter it.**



Slide 5-10

F. Crime scene considerations (evidence preservation): **All** responders working in the confines of a crime scene must respect the mission of law enforcement investigators. Assist that mission by identifying and preserving potential evidence whenever you encounter it.

II. THE ROLE OF THE INCIDENT COMMANDER AT TERRORIST EVENTS

THE ROLE OF THE INCIDENT COMMANDER AT TERRORIST INCIDENTS

- The IC must safely, effectively and efficiently manage response resources to achieve the most favorable incident outcomes possible.
- **SEE Principle:**
  - **S**afe.
  - **E**ffective.
  - **E**fficient.



Slide 5-11

A. The IC must safely, effectively and efficiently manage response resources to achieve the most favorable incident outcomes possible.

B. Follow the **SEE** Principle:

1. **S**afe: No one gets hurt.
2. **E**ffective: Everyone works toward stated objectives.
3. **E**fficient: All resources are used to maximum benefit.

C. Management of the incident is based on three components:

ESTABLISHING AND UPDATING PRIORITIES

- Life safety.
- Incident stabilization.
- Property and environmental conservation.
- Investigation.

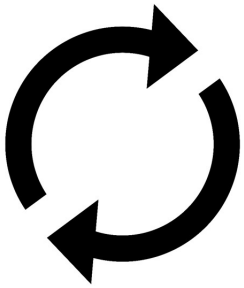


Slide 5-12

1. Establishing and updating priorities:
   a. Life safety.
   b. Incident stabilization.
   c. Property and environmental conservation.
   d. Investigation.

CONTINUAL SIZE-UP BASED ON AVAILABLE INFORMATION

- Present situation.
- Predicted behavior.
- Available resources.



Slide 5-13

2. Continual size-up based on all available information:

   a. Present situation.

   b. Predicted behavior.

   c. Available resources.

ESTABLISHING AND UPDATING INCIDENT PRIORITIES

- Strategic goals (what needs to be done).
- Tactical objectives (how it will be done).
- Task operations (who and when).



Slide 5-14

3. Establishing and updating incident priorities:

   a. Strategic goals (what needs to be done).

   b. Tactical objectives (how it will be done).

   c. Task operations (who and when).

INCIDENT COMMAND RESPONSIBILITIES WILL INCLUDE

- Establishing command.
- Hazard and risk assessment.
- Public protection.
- Developing and implementing integrated Incident Action Plans (IAPs).
- Controlling hazards.
- Resource management.
- Evaluating progress.
- Incident termination.

Slide 5-15

D. Incident Command responsibilities.

1. **Will** include:

   a. Establishing command.

   b. Hazard and risk assessment.

   c. Public protection.

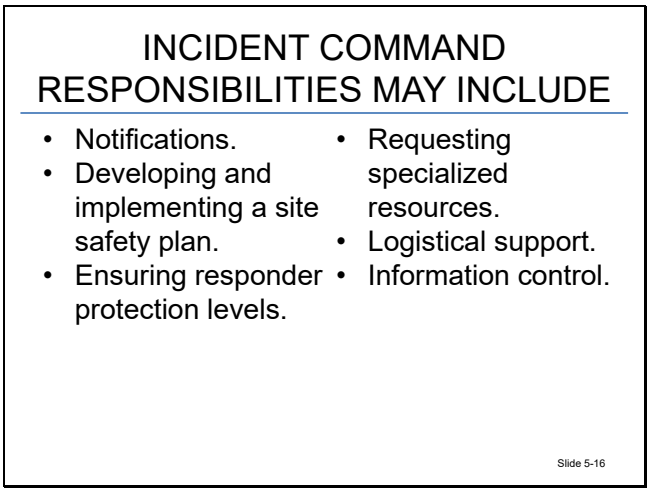
   d. Developing and implementing integrated IAPs.

   e. Controlling hazards.

   f. Resource management.

   g. Evaluating progress.

   h. Incident termination.



2. **May** include:

   a. Notifications.

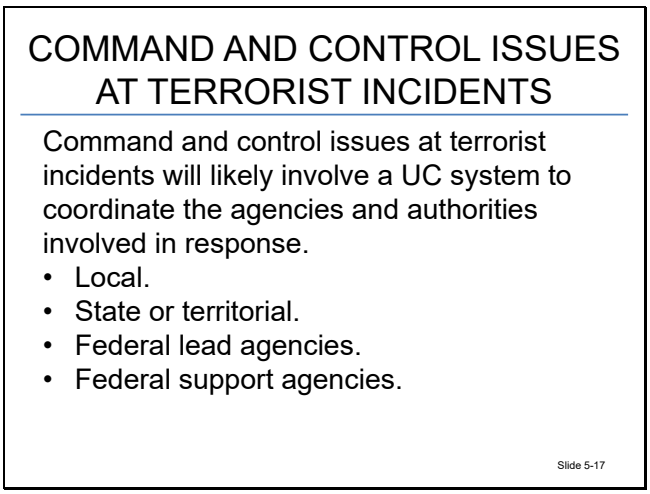
   b. Developing and implementing a site safety plan.

   c. Ensuring responder protection levels.

   d. Requesting specialized resources.

   e. Logistical support.

   f. Information control.



E. Command and control issues at terrorist incidents will involve UC to properly coordinate responding to the incident. Some key agencies may include:

1. Local:

   a. Fire/emergency medical services (EMS).

   b. Law enforcement.

   c. Emergency management.

   d. Health department.

2. State or territorial:

   a. Law enforcement.

   b. Emergency management.

   c. Health department.

   d. Environmental Protection Agency (EPA).

   e. Civil support team (CST).

3. Federal lead agencies:

   a. Federal Emergency Management Agency (FEMA).

   b. FBI.

4. Federal support agencies:

    a. U.S. Coast Guard (USCG).

    b. EPA.

    c. Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF).

    d. Drug Enforcement Agency (DEA).

    e. Department of Energy (DOE).

    f. Department of Transportation (DOT).

    g. Bureau of Indian Affairs (BIA).

    h. Department of Defense (DOD).

ACTIVITY 5.1

Terrorism Planning Research

Purpose

Engage in self-discovery and the sharing of information regarding various federal plans that have been developed that relate to terrorism response.

Directions

1. Review the factsheet information regarding your assigned topic. The topics include:

    a. Responsibilities as Outlined in Presidential Decision Directive 39 (PDD-39) (**Factsheet A**).

    b. The Focus of Local Government Response Plans (**Factsheet B**).

    c. State and Territorial Government Responsibilities (**Factsheet C**).

    d. National Response Framework (**Factsheet D**).

    e. Transitioning from the Emergency Phase to Recovery and Termination (**Factsheet E**).

2. In your small group, you will have **20 minutes** to review and discuss the information presented.

3. Prepare a **five- to 10-minute** presentation on the topic.

4. Select one or more individuals from your group to present your findings.

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ACTIVITY 5.1 (cont'd)

Factsheet A: Responsibilities as Outlined in Presidential Decision Directive 39 (PDD-39)

U.S. Policy on Counterterrorism

I. General.

Terrorism is both a threat to our national security as well as a criminal act. The White House has stated that it is the policy of the United States to use all appropriate means to deter, defeat and respond to all terrorist attacks on our territory and resources, both people and facilities, wherever they occur. In support of these efforts, the United States will:

- Employ efforts to deter, preempt, apprehend and prosecute terrorists.
- Work closely with other governments to carry out our counterterrorism policy and combat terrorist threats against them.
- Identify sponsors of terrorists, isolate them and ensure they pay for their actions.
- Make no concessions to terrorists.

II. Measures to combat terrorism.

To ensure that the United States is prepared to combat terrorism in all its forms, a number of measures have been directed. These include reducing vulnerabilities to terrorism, deterring and responding to terrorist acts, and having capabilities to prevent and manage the consequences of terrorist use of nuclear, biological and chemical (NBC) weapons, including those of mass destruction.

A. Reduce vulnerabilities.

To reduce our vulnerabilities to terrorism, both at home and abroad, all department/agency heads have been directed to ensure that their personnel and facilities are fully protected against terrorism. Specific efforts that will be conducted to ensure our security against terrorist acts include the following:

- Review the vulnerability of government facilities and critical national infrastructure.
- Expand the program of counterterrorism.
- Reduce vulnerabilities affecting civilian personnel/facilities abroad and military personnel/facilities.

- Reduce vulnerabilities affecting U.S. airports, aircraft/passengers and shipping, and provide appropriate security measures for other modes of transportation.

- Exclude/deport persons who pose a terrorist threat.

- Prevent unlawful traffic in firearms and explosives and protect the president and other officials against terrorist attacks.

- Reduce U.S. vulnerabilities to international terrorism through intelligence collection/analysis, counterintelligence and covert action.

B. Deter.

To deter terrorism, it is necessary to provide a clear public position that our policies will not be affected by terrorist acts, and we will vigorously deal with terrorists/sponsors to reduce terrorist capabilities and support. In this regard, we must make it clear that we will not allow terrorism to succeed and that the pursuit, arrest and prosecution of terrorists is of the highest priority. Our goals include the disruption of terrorist-sponsored activity including termination of financial support, arrest and punishment of terrorists as criminals, application of U.S. laws and new legislation to prevent terrorist groups from operating in the United States, and application of extraterritorial statutes to counter acts of terrorism and apprehend terrorists outside of the United States. Return of terrorists overseas, who are wanted for violation of U.S. law, is of the highest priority and a central issue in bilateral relations with any state that harbors or assists them.

C. Respond.

To respond to terrorism, we must have a rapid and decisive capability to protect Americans, defeat or arrest terrorists, respond against terrorist sponsors, and provide relief to the victims of terrorists. The goal during the immediate response phase of an incident is to terminate terrorist attacks so that the terrorists do not accomplish their objectives or maintain their freedom, while seeking to minimize damage and loss of life and provide emergency assistance. After an incident has occurred, a rapidly deployable interagency Emergency Support Team (EST) will provide required capabilities on scene: a Foreign Emergency Support Team (FEST) for foreign incidents and a Domestic Emergency Support Team (DEST) for domestic incidents. DEST membership will be limited to those agencies required to respond to the specific incident. Both teams will include elements for specific types of incidents such as NBC threats.

The director, FEMA, will ensure that the Federal Response Plan (FRP) is adequate for consequence management activities in response to terrorist attacks against large U.S. populations, including those where weapons of mass destruction (WMDs) are involved. FEMA will also ensure that state response plans and capabilities are adequate and tested. FEMA, supported by all FRP signatories, will assume the lead agency role for consequence management in Washington, D.C., and on scene. If large-scale casualties and infrastructure damage occur, the president may appoint a personal representative for consequence management as the on-scene federal authority during recovery. A roster of senior and former government officials willing to perform these functions will be created and the rostered individuals will be provided training and information necessary to allow them to be called upon on short notice.

Agencies will bear the costs of their participation in terrorist incidents and counterterrorist operations, unless otherwise directed.

D. NBC consequence management.

The development of effective capabilities for preventing and managing the consequences of terrorist use of NBC materials or weapons is of the highest priority. Terrorist acquisition of WMD is not acceptable and there is no higher priority than preventing the acquisition of such materials/weapons or removing this capability from terrorist groups. FEMA will review the FRP on an urgent basis, in coordination with supporting agencies, to determine its adequacy in responding to an NBC-related terrorist incident; identify and remedy any shortfalls in stockpiles, capabilities or training; and report on the status of these efforts in 180 days.

PDD-39, U.S. Policy on Counterterrorism:

- Identifies the FBI as the lead agency for crisis management during terrorist incidents involving NBC materials.
- Identifies FEMA as the lead agency for recovery and consequence management during terrorist incidents involving NBC materials.
- Supports either type of management activity (crisis/recovery), as well as UC operations when more than one agency shares the lead.

PDD-39 outlines technical support and response assistance in that it:

- Supplements both crisis and consequence activities.
- Complements product identification, detection, monitoring and assessment of the agent or material; also management and disposal of same.

The FRP is used as the vehicle to coordinate consequence management efforts under PDD-39. The plan directs other federal agencies to support the FBI and FEMA as needed.

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ACTIVITY 5.1 (cont'd)

Factsheet B: The Focus of Local Government Response Plans

State and local emergency management planners need:

- A framework for developing supplemental emergency operations plans adequate for addressing the consequences of a terrorist act involving WMD.

- A consistent planning approach that will foster efficient integration of state, local and federal terrorism consequence management activities.

- The most current information regarding the planning and operational challenges faced by communities that have dealt with terrorist events.

State and local planners should also consider the following elements:

- **Flexibility:**

  - Terrorists thrive on elements of surprise.

  - Planners must consider the unthinkable as possible — not simply plan for what has happened in the past.

- **Coordination:**

  - Regional approach to planning process.

  - Coordination of local plans with adjacent jurisdictions, state plans and federal plans.

  - Inclusion of nontraditional partners and organizations, such as occupational, health and safety organizations, the U.S. Postal Service, and others.

- **Communications:**

  - Use of interoperable, backbone communications systems that provide open but secure communication among all response elements.

- **Contingencies:**

  - Personnel protection.
  - Alternate emergency facilities.
  - Loss of emergency responders.
  - Loss of key leadership personnel.

- **Emergency public information and media relations procedures:**

  - Terrorist events are highly visible and attract large numbers of national and international media.

- **Integration of federal assets into local response:**

  - Systems and protocols for requesting federal assets.
  - Understanding the scope of federal assistance.
  - Strategies for incorporating federal assets.

- **Support services:**

  - Large influxes of volunteers.
  - Procedures for credentialing.
  - International visitors.
  - Family services.
  - Mental health issues.

Local plans should focus on public protection, emergency services such as search and/or rescue, basic life support (BLS) and advanced life support (ALS) medical care, hazard isolation/incident scene control, and the restoration of critical public systems, including electric/gas/water/sewer utility service and transportation corridors. These plans should also include field assessment capabilities to determine additional resource needs and the ability to declare a local disaster/emergency.

ACTIVITY 5.1 (cont'd)

Factsheet C: State and Territorial Government Responsibilities

Interjurisdictional responsibilities. The formal arrangements and agreements for emergency response to a terrorist incident among neighboring jurisdictions, state, tribal, local and neighboring states (and those jurisdictions physically located in those states) should be made **prior** to an incident. When coordinating and planning areas where potential multiple jurisdictions could overlap, interjurisdictional responsibilities should be readily identifiable. Federal response is already predisposed for interagency and interdepartmental coordination, particularly one involving WMDs.

State emergency responders. If requested by local officials, the state emergency management agency has capabilities to support local emergency management authorities and the IC.

Primary duties. The duties of all responding state agencies should be addressed in the State Emergency Operations Plan. Any special duties necessary to respond to a WMD incident should be set forth in the state's plan as well.

State and local public health authorities. State laws grant state and local public health authorities emergency powers to combat communicable disease. The powers available, diseases that trigger them, and procedures for enforcement vary from state to state. Typical powers include the power to isolate or quarantine persons and places and the power to compel vaccinations and other preventive measures, such as wearing of masks. In some states, these measures may be taken whenever there is a threat of communicable disease, but in other states, the powers apply to only one or more specific named disease. Also, there may be procedural restrictions whereby someone who objects to a quarantine or vaccination is entitled to a court hearing.

Primary duties. Emergency duties of public health agencies may be outlined in a state or local Emergency Operations Plan or in a separate public health plan/annex.

The state/territory is responsible for:

- Providing support personnel, equipment and supplies.
- Providing specialized resources.
- Providing National Guard support.
- Providing field assessment capabilities to determine additional resource needs.
- Issuing state declaration of emergency.
- Requesting federal assistance.

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ACTIVITY 5.1 (cont'd)

Factsheet D: National Response Framework

The NRF is a guide to how the nation responds to all types of disasters and emergencies. It is built on scalable, flexible and adaptable concepts identified in the National Incident Management System (NIMS) to align key roles and responsibilities.

The NRF is structured to help jurisdictions, citizens, nongovernmental organizations and businesses:

- Develop whole community plans.
- Integrate continuity plans.
- Build capabilities to respond to cascading failures among businesses, supply chains and infrastructure sectors.
- Collaborate to stabilize community lifelines and restore services.

The **NRF** includes:

- Emergency Support Functions (ESFs) that describe federal coordinating structures that group resources and capabilities into functional areas most frequently needed in a national response.

- Support annexes that describe how support is organized among private sector, nongovernmental organizations and federal partners.

ESFs:

ESFs provide the structure for coordinating federal interagency support for a federal response to an incident. They are a way to group functions that provide federal support to states and federal-to-federal support for all disasters and emergencies.

- ESF #1: Transportation.
- ESF #2: Communications.
- ESF #3: Public Works and Engineering.
- ESF #4: Firefighting.
- ESF #5: Information and Planning.
- ESF #6: Mass Care, Emergency Assistance, Temporary Housing, and Human Services.
- ESF #7: Logistics.

- ESF #8: Public Health and Medical Services.
- ESF #9: Search and Rescue.
- ESF #10: Oil and Hazardous Materials Response.
- ESF #11: Agriculture and Natural Resources Annex.
- ESF #12: Energy.
- ESF #13: Public Safety and Security.
- ESF #14: Cross-Sector Business and Infrastructure.
- ESF #15: External Affairs.

Support annexes:

The support annexes describe common essential processes and considerations for most incidents. Content in the support annexes is superseded by changes and updates to legislation. The support annexes include:

- Financial management.
- International coordination.
- Public affairs.
- Tribal relations.

ACTIVITY 5.1 (cont'd)

Factsheet E: Transitioning From the Emergency Phase to Recovery and Termination

Transitioning is determined by the stability of the incident or threat level, which includes:

1. Resolution of criminal activity.

2. Control of chemical agents, materials, devices and conditions that may harm responders and civilians and further impact the community.

3. Restoration of critical (community) systems to an acceptable operational level.

Recovery operations, including returning the affected community back to normalcy (pre-incident conditions), remain the primary focus. Unique challenges regarding terrorist incidents and recovery include who becomes responsible for directing this phase of operation. Ongoing crime scene investigations will likely place law enforcement as the responsible command lead.

Prior to recovery and termination, command authority falls under a "unified" structure. As emergency resources start to phase out of the incident, the command lead will be influenced by the remaining task at hand. Also, explain that recovery and incident termination efforts will be dictated by a planning group reporting to the IC.

Regardless of the command lead, resources involved in the recovery phase must establish regular planning sessions to address oversight of the affected operational area and restoring response resources to a state of readiness. Significant terrorist incidents will likely increase the duration of recovery operations. This is primarily due to the complex nature and/or unfamiliarity of responders in dealing with the consequences, agents and/or devices of mass destruction.

Any act of terrorism that has caused death and destruction or driven people from their homes will likely require a well-conceived community recovery plan. Consider the following as components of that plan:

- A focused source of information that will instruct evacuees on how and when to return home.

- Status reports of incident recovery operations and planned events.

- Information about areas that are still cordoned-off or restricted and why.

- Any other incident-related details that will provide a sense of security or enhance a return to "normalcy"; provide points of contact for the community to ask questions.

- Establishment of a counseling center(s) for community use.

Termination of the incident

Termination procedures include:

- Debriefing all response resources.
- Formal and informal critiques of response activities.
- After-action adjustments to enhance future operations for a similar type of incident.

For terrorist incidents, debriefing sessions are especially important to responders who are unfamiliar with WMDs. Recognize the potential for psychological impacts for several reasons:

- Most responders are not used to dealing with chemical and biological warfare agents.
- Responders may have been the intended target.
- Exposure concerns may facilitate post-incident stress.

Note that Occupational Safety and Health Administration (OSHA) regulations require the IC/UC to provide each responder with information relating to hazardous exposure concerns, e.g., agent identification, decontamination actions and potential symptoms (OSHA, 2013).

When conducting the debriefing session, include incident features that were unique to the response. Discuss the effectiveness of operational activities — provide an overview of how the response influenced the emergency and whether strategic goals were achieved. Discuss what response resources were involved with the incident and the associated responsibilities during the emergency. Explain the importance of accurate documentation and how that information will influence future health issues and response procedures.

Incident critique

Evaluating the response and performance of resources after a terrorist event should be consistent with standard incident critique procedures. However, there are special considerations that may require attention.

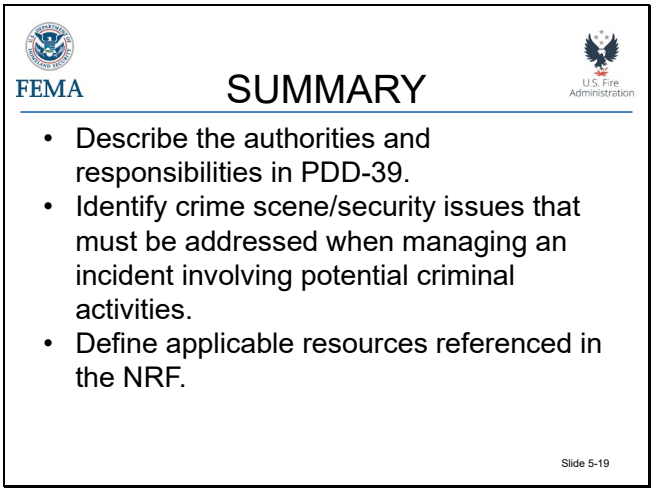
- Consider the appointment of more than one lead agency to conduct the critique. Share responsibility among participating agencies during collection of post-incident information.
- Establish a system with law enforcement officials for scrutinizing information that may be sensitive to investigative proceedings. While carefully recording accurate information for post-incident reporting can be valuable, remember that all documentation, including photographs, videotapes, audiotapes and computer files, are subject to evidentiary summons.

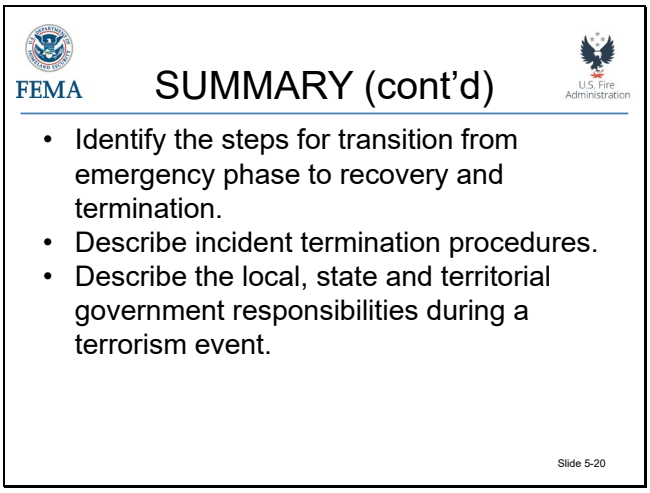
After-Action Reports

After-Action Reports (AARs) should be developed and disseminated, at least internally, to an agency. These reports assist in identifying weaknesses in an organization's response capabilities, either through personnel, equipment or training deficiencies. It is only through the creation of this document that those deficiencies are identified, and a plan is developed to address their improvement and/or elimination.

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III. SUMMARY


FEMA
SUMMARY
U.S. Fire Administration
• Describe the authorities and responsibilities in PDD-39.
• Identify crime scene/security issues that must be addressed when managing an incident involving potential criminal activities.
• Define applicable resources referenced in the NRF.
Slide 5-19


FEMA
SUMMARY (cont'd)
U.S. Fire Administration
• Identify the steps for transition from emergency phase to recovery and termination.
• Describe incident termination procedures.
• Describe the local, state and territorial government responsibilities during a terrorism event.
Slide 5-20

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REFERENCE

Occupational Safety and Health Administration. (2013). *Hazardous waste operations and emergency response* (Standard No. 1910.120). Retrieved from https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.120#:~:text=Employers%20shall%20develop%20and%20implement

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ACRONYMS

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ACRONYMS

AAR	After-Action Report
AED	automated external defibrillator
ALARA	as low as reasonably achievable
ALF	Animal Liberation Front
ALS	advanced life support
ASHE	active shooter/hostile events
ASR	active shooter response
ATF	Bureau of Alcohol, Tobacco, Firearms and Explosives
AVE	anarchist violent extremist
BAL	British anti-lewisite
BIA	Bureau of Indian Affairs
BLS	basic life support
CBRNE	chemical, biological, radiological, nuclear and explosives
CCA	Complex Coordinated Attack
CDC	Centers for Disease Control and Prevention
CFR	Code of Federal Regulations
CISA	Cybersecurity & Infrastructure Security Agency
CNS	central nervous system
COOP	continuity of operations
CPC	chemical protective clothing
CST	civil support team
DA	district attorney

DEA	Drug Enforcement Agency
DEST	Domestic Emergency Support Team
DHS	U.S. Department of Homeland Security
DoD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOT	U.S. Department of Transportation
DUMBBELLS	defecation, urination, miosis, bronchospasm, bradycardia, emesis, lacrimation, lethargy, salivation
DVE	domestic violent extremist
ELF	Environmental Liberation Front
EM	emergency management
EMS	emergency medical service
EMT	emergency medical technician
EOD	explosive ordnance disposal
EPA	Environmental Protection Agency
ER	emergency room
ERG	Emergency Response Guide
ESF	Emergency Support Function
EST	Emergency Support Team
FALN	Armed Forces of National Liberation (Puerto Rico)
FDC	fire department connection
FEMA	Federal Emergency Management Agency
FEST	Foreign Emergency Support Team
FOG	Field Operations Guide

FRP	Federal Response Plan
FSB	Russian Federal Security Service
GC-MS	gas chromatography–mass spectrometry
GI	gastrointestinal
HAZWOPER	Hazardous Waste Operations and Emergency Response
IAP	Incident Action Plan
IC	Incident Commander
ICS	Incident Command System
IED	improvised explosive device
IG	Instructor Guide
IID	improvised incendiary device
IPAWS	Integrated Public Alert Warning System
JCAT	Joint Counterterrorism Assessment Team
JPR	job performance requirement
KGB	Russian Committee for State Security
MVE	militia violent extremist
NBC	nuclear, biological and chemical
NFA	National Fire Academy
NFPA	National Fire Protection Association
NIMS	National Incident Management System
NRC	Nuclear Regulatory Commission
NRF	National Response Framework
OEM	Office of Emergency Management

OSHA	Occupational Safety and Health Administration
PAL	Permissible Action Link
PAR	personnel accountability report
PDD-39	Presidential Decision Directive 39
PHMSA	Pipeline and Hazardous Materials Safety Administration
PIO	Public Information Officer
PPE	personal protective equipment
RAP	Radiological Assistance Program
RDD	radiological dispersion device
RED	radiological exposure device
RMVE	racially or ethnically motivated violent extremist
RPG	rocket-propelled grenade
SAW	Student Activity Worksheet
SCBA	self-contained breathing apparatus
SEB	Staphylococcal enterotoxin
SM	Student Manual
SOG	standard operating guideline
SOP	standard operating procedure
S/S	signs and symptoms
SLUDGEM	salivation, lacrimation, urination, defecation, gastric distress, emesis, miosis
T/D/S	time, distance and shielding
TECC	tactical emergency casualty care
TIC	toxic industrial chemical

TIM	toxic industrial material
UAV	unmanned aerial vehicle
UC	Unified Command
USBDC	U.S. Bomb Data Center
USCG	U.S. Coast Guard
USFA	U.S. Fire Administration
VB-IED	vehicle-borne improvised explosive device
VEE	Venezuelan equine encephalitis
VHF	viral hemorrhagic fever
WMD	weapons of mass destruction
WMD-CST	weapons of mass destruction civil support team

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