Emergency Response to Terrorism: Tactical Considerations: **Company Officer**

FEDERAL EMERGENCY MANAGEMENT AGENCY
UNITED STATES FIRE ADMINISTRATION
NATIONAL FIRE ACADEMY

Federal Emergency Management Agency
United States Fire Administration
National Fire Academy

FOREWORD

The Federal Emergency Management Agency (FEMA) was established in 1979. FEMA's mission is to focus Federal effort on preparedness for, mitigation of, response to, and recovery from emergencies encompassing the full range of natural and manmade disasters.

FEMA's National Emergency Training Center (NETC) in Emmitsburg, Maryland, includes the United States Fire Administration (USFA), its National Fire Academy (NFA), and the Emergency Management Institute (EMI).

To achieve the USFA's legislated mandate (under Public Law 93-498, October 29, 1974), "to advance the professional development of fire service personnel and of other persons engaged in fire prevention and control activities," the U. S. Fire Administration has developed an effective program linkage with established fire training systems which exist at the State and local levels. It is the responsibility of the USFA to support and strengthen these delivery systems. The field courses of the USFA's National Fire Academy have been sponsored by the respective State fire training systems in every State.

In recent years increasing responses to a wide variety of emergency situations have raised dramatically the fire service's awareness of the need for safety programs. These programs are crucial for all firefighters who respond to emergency situations. Today, this is potentially any firefighter, whether in a large department or in a small, rural fire company.

This course addresses the special needs of first responders responding to incidents that have been caused by terrorist action. The response builds upon the firm foundation provided by the curriculum offered at the Academy and adds specialized information concerning such topics as:

- Tactical Considerations for Company Officer Response;
- Tactical Considerations for HazMat Response;
- Tactical Considerations for EMS Response.

USFA's National Fire Academy is proud to join with State and local fire agencies in providing educational opportunities to the members of the Nation's fire services.

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OVERVIEW

COURSE GOAL

The goal of the course is to supply the responding officer with the strategic and tactical tools to recognize a hostile act, minimize losses, identify self-protective measures to other arriving units, establish command, manage the incident, and direct operations until relieved by a senior ranking officer.

The activities included in the course account for less than one half of the class time.

SCOPE OF THE COURSE

Students will be able to identify signs of terrorism, anticipate unusual response circumstances, assess information and take corrective actions, and determine strategies for survival in security considerations. Students will be expected to apply their knowledge about response to identify and preserve evidence, manage site safety, document the event, and debrief personnel.

TARGET AUDIENCE

This course is designed for the first on-the-scene supervisor (Company Officer). Either FEMA's Basic Concepts course (ERT:BC) or the self-study course (ERT:SS) is a prerequisite to this course.

COURSE METHODOLOGY

PRESENTATIONS

Presentations are interactive lectures that, in some cases, include skill-based activities. Word slides have been used only for main points and, where possible, are accompanied with illustrative photos and graphics. Students should read the Student Manual materials the night before the lecture.

HOW TO USE THIS MANUAL

Use this manual as a reference document for topics listed in the Table of Contents. It includes upfront material describing the length and purpose of the course as well as a text section with bibliography and activities.

The appendices are a very useful part of this course. The bibliography, another way of getting greater depth from the course, is found in Appendix A. For your convenience, this includes all the references from the bibliography in the ERT:BC course as well as new entries we have identified. Appendix B is the glossary of terms from this manual and the Instructor Guide (IG). Appendices C and D are copied directly from source material provided in the *Emergency Response to Terrorism: Basic Concepts* course. Use these to get greater depth from the course. Appendix H is extra reading on the art of terrorism. Appendix I is an optional unit covering identification.

Another way to achieve greater insight into issues surrounding first responders and terrorism is to consult other courses. Several additional courses in this series are in the works or already have been distributed. Others in this series include *ERT: Basic Concepts, ERT: Self-Study, ERT: Incident Management.* An *Emergency Response to Terrorism: Job Aid* also is intended to be part of this series. Appendix E lists other courses that you may wish to take that relate to this offering. Keep in mind, too, that one of the best ways to keep abreast of the latest developments is to use FEMA's web site http://www.fema.gov.

The next series of appendices are details that support current units. Appendix G is composed of maps that are used in this course. Appendix F is your copy of the slides used in this class.

We recommend using the text material as a review outside class and as a reference when you return home. The activity section is intended for use in class. You will be directed to use it at various parts of each unit and will be expected to follow instructions and use the data displayed as part of an activity. The glossary and bibliographies can be used as a long-term resource as well as a ready reference in class.

Whether you are looking for a ready reference or a way to get greater depth, become acquainted with the Student Manual (SM) as your personal guide.

COURSE SCHEDULE

UNIT	TITLE	
Unit 1	Introduction to Terrorist Operations	1 hour, 55 minutes
Unit 2	Common Considerations for Response Actions	3 hours, 15 minutes
Unit 3	Recognition and Survival	3 hours, 15 minutes
Unit 4	Terrorism Response Strategies and Tactical Options	3 hours, 10 minutes
Unit 5	Transition of Command	45 minutes
	Total Classroom time	**12 hours, 20 minutes**

Unit 1: Introduction to Terrorist Operations

Terminal Objective

- Upon completion of this unit, the students will be able to explain terrorist operational concepts and planning criteria.

Enabling Objectives

The students will:

- List the phases of terrorist operational planning.
- List terrorist target criteria and methods of operation.
- Describe responder vulnerabilities that enhance the effectiveness of a terrorist act.

CONTROVERSIES OF TERRORISM

Because of the complexity and the myriad factors involved, terrorism is and will remain a dynamic topic. As terrorist-related incidents within the United States and around the world occur, effective methods of response to those incidents will be developed, studied, reviewed, and incorporated by other response organizations. It will be important for all emergency response organizations to evaluate the lessons learned and formulate protocols for local emergency response to terrorism. The evaluation process must continue as other terrorist-related incidents occur, both domestically and internationally, in order to ensure that the necessary changes are made in response methodology. How emergency response organizations respond to terrorist-related incidents must be researched by both the leadership and the in-the-weeds operators of all emergency services organizations.

Because a terrorist incident is a planned attack, normal or traditional response strategies may be ineffective or even counterproductive. Other response strategies i.e., incident management and scene security, are still appropriate. Some of the strategies and tactics presented in this course may, therefore, be controversial simply because they are not part of traditionally accepted response strategies. As in all emergency responses, the Company Officer (CO) most certainly will have some difficult decisions to make--respond as if the event were a normal incident, or respond based on a different set of unique considerations and approach decisionmaking concepts with a different set of rules in mind. Either choice may have unexpected consequences.

In general, as the 20th Century has progressed, terrorism has kept pace and increased. A year-by-year examination of the terrorist incident curve, however, indicates a waveform, with a series of ups and downs. A decade-by-decade examination of the terrorist incident curve indicates an overall upward trend. For the emergency responder, this raises important considerations. First, responders have been called upon to respond to an increasing number of terrorist-related incidents. Recent events within the United States clearly indicate that these incidents are taking place on the "home front," and the potential is great that they will continue. Second, emergency services personnel in fire, EMS, and law enforcement must seriously consider the fact that they may very well be the targets of aggression by terrorist organizations.

Within the United States there are a vast number of recognized and identified militant and hate groups. These organizations pose a viable threat to the population in general, as well as to emergency responders, and actions perpetrated by these types of organizations may be a more prevalent threat to responders than those initiated by terrorist

organizations. Regardless of which direction we turn, we must conclude that both threats are serious enough to warrant a new sense of commitment in preparing ourselves and our separate departments to provide emergency services effectively and safely to those who depend on us.

Rescue is most likely one of the hardest decisions a CO will ever have to make. The first instinct always is to rush in and save as many people as possible; however, in a terrorist-related incident there is much more to consider. Will responders become targets? Was an agent of some type released? If it was, will responders have the means to detect it? Will their gear provide them adequate protection from it? These are but a few questions that we must become accustomed to asking when responding to terrorist-related incidents. There is no reason to allow civilians to suffer needlessly; neither can there be any reason to send responders haphazardly into unknown and dangerous environments. Responding to acts of terrorism brings many unfortunate realities to bear. The decisions made by the CO during responses to these acts are therefore more critical than ever before.

The information presented during this course will provide the CO with effective tools to maximize responder safety and survivability. The material presented is new to emergency services. There may be controversy when it disagrees with traditional response protocols or doctrine. New response threats, however, require new response protocols.

TERRORISM AS AN ACCEPTABLE FORM OF WARFARE

One of the more significant changes in warfare in the 20th Century is that terrorism has, for several reasons, become an acceptable form of warfare. First, full-scale warfare has become too costly. The proliferation of nuclear arsenals, more advanced conventional weapons, and sophisticated countermeasures and surveillance methods have made a traditional war too expensive. Terrorism is relatively inexpensive compared to full-scale warfare. The world has seen time and again that political change can be coerced, or even forced, without massive military action.

Second, sponsoring organizations can remain anonymous when employing terrorist tactics. These nations may wish to avoid full-scale conflict. By anonymously backing terrorists, these governments can attack their enemies without seeming directly responsible. This may save the backing nation from sanctions or military retaliation, while still allowing them to wage an undeclared war.

Terrorism can be the "poor man's" method of effecting change. Terrorist concepts of operation usually cost very little monetarily. Terrorist groups generally operate on a very limited budget and still can effect a tremendous amount of damage and carnage. The internal organization of such groups facilitates a very cost-effective system by centralizing all resources and directing those resources and efforts for the common goal. It would be safe to say that terrorists' operational concepts focus largely on the premise that they are "all for one and one for all" when committing acts of terror.

There is a common saying about terrorism: "One man's terrorist is another man's freedom fighter." Philosophically, this may have some meaning, but when studying terrorism, it is inaccurate. Terrorism is terrorism. Semantics do not justify terrorist actions morally. Morality, political expediency, and philosophical justification may depend upon one's perspective--if you are a freedom fighter or the victim--but they do not change terrorism into something it is not.

WHAT IS THE TERROR OF TERRORISM?

The terror of terrorism is instilling fear in the public: intense, sharp, overwhelming fear. When violent acts of terrorism are launched against the general public, a high degree of uncertainty among the population ensues. Terrorist actions almost always are unsuspected and initiated through surprise attacks, which leaves the general public wondering when another attack will happen, where it will happen, and who will be next. This fear, invoked by individuals whose capacity to influence others resides not in reason or in any legitimate exercise of authority, but in their ability to persuade others that the terrorists are willing to use any means at their disposal, is the way terrorists seek to achieve their goals. So long as the public believes that a terrorist will use any form of violence, that terrorist can use the public's fear to achieve his/her goals. Should the terrorist back down at any point, the terror aspect will be lost--along with the future effectiveness of that terrorist's operations. Terrorists understand this. So in order to maintain their grip of fear on the public, terrorists are willing to engage in violence even in the face of overwhelming odds.

In war, targets are selected for their military value. An unfortunate by-product of target selection may be civilian deaths. Terrorists may purposely select innocents as targets in order to instill fear in the general public and to attract more attention to their cause.

Extremists use terror as a last resort to achieve their goal(s). Once the decision is made to use violence, the extremist crosses the line and becomes the terrorist. The terrorist is a person whose desperation has

overcome his fear. Desperation leads the terrorist to make any sacrifice or commit any crime to achieve his or her goal.

Once a terrorist organization or group has attempted without success to persuade a government or establishment--through the use of diplomacy, point-to-point dialogue, or other type of political pressure or influence--to make changes that it believes to be essential to its cause, a resort to terrorist tactics becomes all but inevitable. When the terrorist has exhausted all peaceful means possible to attain his/her goals, he/she will be "forced," at least in his/her own mind, to use violence as a mechanism to attain those goals.

TERRORIST OPERATIONAL METHODS

Terrorists operate in a number of different ways; like the military, they can choose from a variety of tactical options to advance their goals. Some may use large-scale operations that require extensive planning and numerous operatives, whereas others may choose to use small-scale operations that require only one or two terrorists. Some of these operations may take hours, days, or even weeks to accomplish; others may take only seconds or minutes. First responders may encounter a number of different types of terrorist attacks: ambushes; assassinations; bombings; nuclear, chemical, or biological agent releases; arson; the use of improvised explosive devices (IED's); and booby traps and sabotage. Some of these are certainly more likely to be a credible threat to emergency responders than others. For instance, assassination would not likely be aimed at emergency responders.

Before we discuss terrorists' target selection process, let us first gain an understanding of the difference between what is referred to as the "primary target," the "secondary" or "follow-on" target, and a "target of opportunity." A primary target can be defined as the most critical or valuable overall target for a specific terrorist-related attack. Primary targets are selected for a specific reason and are usually, in some fashion, representative of political, religious, or ideological criticality or value. Secondary or follow-on targets can be defined as targets that have specific overall importance but are not the terrorist's main focus of effort. Secondary targets generally are not the focus of attack until either the primary target has been eliminated or the primary target attack plan must be aborted for security-related reasons. First responders likely would be selected as secondary targets to slow down or totally eliminate effective responses to the incident. Targets of opportunity can be defined as any additional persons or things that can be attacked as the opportunity presents itself. If neither the intended primary target nor the secondary

target can be engaged, the terrorist will attack any and all targets of opportunity to achieve whatever level of success they can offer.

THE THREE PHASES OF TERRORIST PLANNING

Target selection is the first phase of terrorist operational planning. The terrorist selects a target based on five variables:

1. **Criticality** of a target refers to how important the target is to the government or citizens.

2. **Vulnerability** refers to how difficult a target would be to attack.

3. **Accessibility** of the target is considered, including access to and egress from the site.

4. **Recovery ability** refers to the ease with which the target could be rebuilt or restored or the victims replaced without loss of continuity.

5. **Impact on the government and/or citizens** refers to the target's importance to functioning of the government or need of the citizens.

The second phase of planning is intelligence gathering. Intelligence concerns focus on knowledge of organizational capabilities, the target's defensive/protective capabilities, geography, and the target population. We will discuss intelligence aspects of terrorist operations in more detail later.

The third phase of planning is developing the operational plan. This phase consists of identifying necessary personnel, required materials and transportation, entrance and egress routes, and the timing of activities. It also includes the preparation of agent, device, and delivery system to complete the attack. Terrorists also may consider contingency plans, secondary targets, and targets of opportunity during this phase.

Terrorist operations are planned in a manner very similar to military operational planning processes. They center on specialized tactics similar to those of the military's special operations units, emphasizing security, logistics, application of force, and intelligence.

WHY FIRST RESPONDERS ARE POTENTIAL TERRORIST TARGETS

What makes the first responder a potential terrorist target? First, the fire service and the emergency medical service are integral parts of society and provide a valuable and expected service to the general public. If terrorists attack either of these traditional institutions, it will most certainly cause an overwhelming level of uncertainty and fear among the general public. Once again the terror in terrorism becomes a significant factor in achieving the overall goal.

Second, first responders, whether they are fire, police, or EMS, are usually the first properly staffed and equipped organization to arrive on the scene of an incident. The terrorist's method of attack may require a delay in response in order to be most effective. Responders may be attacked simply to delay efforts of fire suppression or rescue. In addition, attacks on emergency responders may instill fear in other emergency responders across the Nation and are likely to increase the level of media attention the incident receives.

Effectively managing the effects of an act of terrorism requires the Incident Command System (ICS) to focus on a number of nontraditional, nonstandard strategies and tactics. We must understand that responding to acts of terrorism, regardless of the nature of the attack, requires all levels of response to look at response strategies from a very different perspective. Traditional response strategies are applicable up to a certain point, past which we need to broaden our thinking. At the least, response management and front-line personnel need to become more attuned to the likelihood of becoming the primary target.

The fire service and the emergency medical service respond to the consequences of terrorist acts. This places them in the line of fire. Their mission is to help the public. The terrorists' mission is to harm the public and make a statement by attacking one or more targets. Responders attempt to mitigate the results of the act of terrorism. The more the responders can be delayed, deterred, or eliminated, the more successful the overall attack will be.

The Federal Bureau of Investigation (FBI), Central Intelligence Agency (CIA), and elements of the military have been studying and combating the world of terrorism for more than 50 years. Now, with terrorism increasingly in our own backyard, the emergency response services must get into the picture. We have to leave our comfort zone and adopt new ways of thinking to deal with the new threats.

Keep in mind the contrast of roles between responders and terrorists. One side is thinking about protection while the other is planning destruction.

There is an offense and a defense, a predator and prey. Strategies are needed that are different from those used at normal incidents. Normally fires are not set as part of a strategic plan. Fires, with the exception of those involving arson, usually are not set by individuals with a specific intent and goal.

In many cases, the terrorist has calculated responders' actions into his/her master plan. But that's the challenge--what must be kept in mind is that an act by a terrorist is a planned and calculated event. Someone has thought about what is going on and thought through the attack. Will your actions fit into the terrorists' plan or will your actions help victims? If we treat a planned event as we treat an unplanned one, we may be walking blindly into an ambush. As one maxim states, "If we do what we've always done, we'll always be what we've always been."

We must remember that, in many cases, the terrorist incident also will be a mass casualty incident as well as a crime scene. Understanding and implementing new emergency services terrorism response strategies and tactics will enhance the overall chance of responders' surviving the incident and providing an effective response.

SUMMARY

Emergency services responders must understand that when we deal with terrorists, in general we are dealing with well-trained, well-organized, well-equipped, and highly intelligent individuals. Terrorists are ready to act, able to inflict grave consequences on the unsuspecting population, and totally willing to risk life or limb to advance their cause.

The first responders (police, EMS, fire) are no longer exempt from becoming the primary or secondary targets or targets of opportunity during terrorist-related incidents. The old thought that "it will never happen to us" is certainly no longer applicable in the ever-changing world of terrorism.

Operational and situational awareness will prove to be a valuable tool in the overall enhancement of responder self-protective measures. Situational awareness must be emphasized to the highest degree possible. Each member of the response team should maintain awareness of all current and pending events that could require a response to a terrorist-related incident. A change in response perspectives is needed if we are to enhance responder survivability where terrorism in involved.

Activity 1.1

Does My Response Area Have a Potential Target?

Purpose

The lecture materials provide an introduction to terrorist operations. The first part of planning usually is assessment, and you now have an opportunity to use an assessment instrument developed for this program to begin a planning process. Early identification of potential targets and an assessment of their vulnerability is critical for the company officer.

Directions

1. Join one of four assigned small groups as directed.

2. Each person will identify and then nominate a likely terrorist target in his/her community.

3. After each person has identified and nominated a potential target, the group should select three of the sites and use the Planning Priority Matrix to profile them.

   Step 1: Determine the proper value for each category.

   Step 2: Add values.

   Step 3: Place in priority, with highest value being the first inspected.

4. After each group has completed their profiles, a spokesperson should present a summary of your findings.

Categories and Values

A. Occupancy (per NFPA 13)

Light Hazard	1
Ordinary Hazard	2
Extra Hazard	3

B. Size of Facility (sq. ft.)

Less than 20,000	1
20,000 to 49,999	2
50,000 plus	3

C. People exposed

9 or less	1
10 to 25	2
26 to 100	3
101 to 250	4
251 plus	5

D. Life Hazard (per NFPA 101)

Unusual	1
Storage	2
Industrial	3
Business	4
Mercantile	5
Detention/Correction	6
Health Care	7
Residential	8
Educational	9
Assembly	10

E. Terrorism Risk Value

Category 1	3
Category 2	6
Category 3	9
Category 4	12

Occupancy Definitions, Category A (per NFPA 13)

Materials excerpted from NFPA #13
Pages 13-6, 13-59, 13-60

1. Light Hazard Occupancies

Light Hazard. Occupancies or portions of other occupancies where the quantity and/or combustibility of contents is low and fires with relatively low rates of heat release are expected.

Light Hazard Occupancies include occupancies having conditions similar to:

Churches
Clubs
Eaves and overhangs, if combustible construction with no combustibles beneath
Educational
Hospitals
Institutional
Libraries, except large stack rooms
Museums
Nursing or convalescent homes
Office, including data processing
Residential
Restaurant seating areas
Theaters and auditoriums excluding stages and prosceniums
Unused attics

2. Ordinary Hazard Occupancies

Ordinary Hazard (Group 1). Occupancies or portions of other occupancies where combustibility is low, quantity of combustibles is moderate, stock piles of combustibles do not exceed 8 ft. (2.4 m) and fires with moderate rates of heat release are expected.

Ordinary Hazard Occupancies (Group 1) include occupancies having conditions similar to:

Automobile parking garages
Bakeries
Beverage manufacturing
Canneries
Dairy products manufacturing and processing
Electronic plants
Glass and glass products manufacturing
Laundries
Restaurant service areas

Ordinary Hazard (Group 2). Occupancies or portions of other occupancies where quantity and combustibility of contents is moderate, stock piles do not exceed 12 ft. (3.7m) and fires with moderate rate of heat release are expected.

Ordinary Hazard Occupancies (Group 2) include occupancies having conditions similar to:

Cereal mills
Chemical plants--ordinary
Cold storage warehouses
Confectionery products
Distilleries
Leather goods manufacturing
Libraries--large stack room areas
Machine shops
Metal working
Mercantiles
Printing and publishing
Textile manufacturing
Tobacco products manufacturing
Wood product assembly

Ordinary Hazard (Group 3). Occupancies or portions of other occupancies where quantity and/or combustibility of contents is high, and fires of high rate of heat release are expected.

Ordinary Hazard Occupancies (Group 3) include occupancies having conditions similar to:

Feed mills
Paper and pulp mills
Paper process plants
Piers and wharves
Repair garages
Tire manufacturing
Warehouses (having moderate to higher combustibility of content, such as paper, household furniture, paint, general, whiskey, etc.)
Wood machining

3. Extra Hazard Occupancies

Extra Hazard. Occupancies or portions of other occupancies where quantity and combustibility of contents is very high, and flammable and combustible liquids, dust, lint or other materials are present, introducing the probability of rapidly developing fires with high rates of heat release.

Extra hazard occupancies involve a wide range of variables which may produce severe fires. The following shall be used to evaluate the severity of extra hazard occupancies:

Combustible hydraulic fluid use areas
Die casting
Metal extruding
Plywood and particle board manufacturing
Printing (using inks with below 100ºF [37.8ºC] flash points)
Rubber reclaiming, compounding, drying, milling, vulcanizing
Sawmills
Textile picking, opening, blending, garnetting, carding, combining of cotton, synthetics, wood shoddy or burlap
Upholstering with plastic foams
Asphalt saturating building assemblies (where finished enclosure is present and has combustible interiors)
Open oil quenching
Solvent cleaning
Varnish and paint dipping

Life Hazard Definitions, Category D (per NFPA 101)

Materials excerpted from NFPA #101
Pages 101-7 and 101-8

1. Unusual Structures

Occupancies in unusual structures include any building or structure that cannot be properly classified in any of the occupancy groups, either by reason of some function not encompassed or some unusual combination of functions necessary to the purpose of the building or structure.

2. Storage

Storage occupancies include all buildings or structures used primarily for the storage or sheltering of goods, merchandise, products, vehicles, or animals. Included in this occupancy group are

Barns
Bulk oil storage
Cold storage
Freight terminals
Grain elevators
Hangars
Parking garages
Stables
Truck and marine terminals
Warehouses

Minor storage incidental to another occupancy shall be treated as part of the other occupancy.

3. Industrial

Industrial occupancies include factories making products of all kinds and properties devoted to operations such as processing, assembling, mixing, packaging, finishing or decorating, and repairing, including, among others, the following:

College and university noninstructional laboratories
Creameries
Dry cleaning plants
Factories of all kinds
Gas plants
Laboratories
Laundries
Power plants
Pumping stations
Refineries
Sawmills
Smokehouses

4. Business

Business occupancies are those used for the transaction of business (other than that covered under Mercantile), for the keeping of accounts and records, and similar purposes. Included in this occupancy group are

City halls
Colleges and universities--instructional buildings, classrooms under 50 persons, and instructional laboratories
Courthouses
Dentist offices
Doctor offices
General offices
Outpatient clinics, ambulatory
Town halls

Minor office occupancy incidental to operations in another occupancy shall be considered as a part of the predominating occupancy and shall be subject to the provisions of this code applying to the predominating occupancy.

5. Mercantile

Mercantile occupancies include stores, markets, and other rooms, buildings, or structures for the display and sale of merchandise. Included in this occupancy group are

Auction rooms
Department stores
Drugstores
Shopping centers
Supermarkets

Minor merchandising operations in buildings predominantly of other occupancies, such as a newsstand in an office building, shall be subject to the exit requirement of the predominant occupancy.

6. Detention and Correctional Occupancies

Detention and Correctional occupancies (also known as Residential-Restrained Care Institutions) are those used to house occupants under some degree of restraint or security. Detention and correctional occupancies are occupied by persons who are mostly incapable of self-preservation because of security measures not under the occupants' control.

Detention and correctional occupancies include

Correctional centers
Detention centers
Jails
Penal institutions
Reformatories
Residential-restrained care

7. Health Care

Health care occupancies are those used for purposes such as medical or other treatment or care of persons suffering from physical or mental illness, disease or infirmity; and for the care of infants, convalescents, or infirm-aged persons. Health care occupancies provide sleeping facilities for the occupants or are occupied by persons who are mostly incapable of self-preservation because of age, physical or mental disability, or because of security measures not under the occupants' control.

Health care occupancies include

(a) Custodial care facilities
Nurseries
Homes for the infirm aged
Mentally retarded care institutions
(b) Hospitals
(c) Nursing homes

Health care occupancies also include

(a) Ambulatory care facilities
(b) Supervisory care facilities

8. Residential

Residential occupancies are those occupancies in which sleeping accommodations are provided for normal residential purposes and include all buildings designed to provide sleeping accommodations.

Exception: Those classified under Health Care or Detention and Correctional Occupancies.

Residential occupancies are treated separately in this Code in the following groups:

(a) Apartments
(b) Board and care facilities
(c) Hotels
Motels
Dormitories
Orphanages for age 6 years and older
(d) Lodging or rooming houses
(e) One and two-family dwellings

9. Educational

Educational occupancies include all buildings used for the gathering of groups of six or more persons for purposes of instruction. Educational occupancies include

Academies
Kindergartens
Nursery schools
Schools

Educational occupancies also include day-care facilities.

Other occupancies associated with educational institutions shall be in accordance with the appropriate parts of this Code.

Exception: Licensed day-care facilities shall include those of any capacity.

In cases where instruction is incidental to some other occupancy, the section of this Code governing such other occupancy shall apply.

10. Assembly

Assembly occupancies include, but are not limited to, all buildings or portions of buildings used for gathering together 50 or more persons for such purposes as deliberation, worship, entertainment, eating, drinking, amusement, or awaiting transportation. Assembly occupancies include

Armories
Assembly halls
Auditoriums
Bowling lanes
Churches
Club rooms
College and university classrooms, 50 persons and over
Conference rooms
Courtrooms
Dance halls
Drinking establishments
Exhibition halls
Gymnasiums
Libraries
Mortuary chapels
Motion picture theaters
Museums
Passenger stations and terminals of air, surface, underground, and marine public transportation facilities
Pool rooms
Recreation piers
Restaurants
Skating rinks
Theaters

Occupancy of any room or space for assembly purposes by less than 50 persons in a building of other occupancy and incidental to such other occupancy shall be classed as part of the other occupancy and subject to the provisions applicable thereto.

Terrorism Risk Value--Category E

Category 1.....Value 3

- Automobile parking garages (if stand alone)
- Warehouses (private sector; storing ordinary goods)
- Strip shopping centers
- Mercantiles (containing ordinary goods, supplies and services)
- Storage facilities containing ordinary goods and supplies
- Light industrial (dry cleaning, milk)
- Processing (laundries etc.)
- Health care (nursing homes, care for aged or mentally ill occupants)
- Educational (kindergartens, nursery schools, etc.)
- Assemblies (recreation centers, small restaurants, private clubs, etc.)

Category 2.....Value 6

- Museums
- Assembly halls
- Dance halls
- Libraries
- High schools

Category 3.....Value 9

- Hotels
- Theaters
- Auditoriums
- Bowling lanes
- Exhibition halls
- Large restaurants

Category 4.....Value 12

- City halls
- Detention centers (jails, correctional facilities)
- Courthouses
- Large sport facilities (professional and college sports stadiums, etc.)
- Military installations
- Hospitals
- Colleges
- Petroleum or compressed gas storage facilities
- Power plants
- Doctor offices (ob/gyn); Abortion clinics
- Shopping malls
- Mass transit facilities
- Churches
- Intermediate and high schools
- Research laboratories
- Dams
- Media (printed or electronic)
- Federal, State or local office buildings or facilities
- Police and/or fire department headquarters communication centers
- Theme parks
- Celebrity residences
- Airport structures
- Embassies
- Occupancies occupied by controversial or high profile groups or individuals
- Special events (Super Bowl, Olympics, rallies, etc.)

Preincident Planning Priority Matrix Worksheet
Target Hazard
(Example)

Name MAIN STREET HOTEL

Location 100 Main Street

Occupancy Hotel

CATEGORY	STATUS	VALUE
Occupancy	light hazard	1
Size	125,000 sq. ft.	3
People Exposed	average 500	5
Life Hazard	assembly	10
Terrorism Risk Value	hotels: category 3	9
	TOTAL	28

COMMENTS: Hotel has convention/conference facilities.

Preincident Planning Priority Matrix Worksheet
Target Hazard
(Example)

Name ABC Paints, Inc.

Location 500 Main Street

Occupancy Paint Manufacturing

CATEGORY	STATUS	VALUE
Occupancy	extra hazard	3
Size	600,000 sq. ft.	3
People Exposed	275	5
Life Hazard	industrial	3
Terrorism Risk Value	light industrial: category 1	3
	TOTAL	17

COMMENTS:

Preincident Planning Priority Matrix Worksheet
Target Hazard
(Example)

Name County Hospital

Location 200 Main Street

Occupancy Hospital

CATEGORY	STATUS	VALUE
Occupancy	light hazard	1
Size	25,000 sq. ft.	2
People Exposed	200	4
Life Hazard	health care	7
Terrorism Risk Value	hospitals: category 4	12
	TOTAL	26

COMMENTS:

Preincident Planning Priority Matrix Worksheet
Target Hazard
(Example)

Name St. Michael's Church

Location 300 Main Street

Occupancy Church

CATEGORY	STATUS	VALUE
Occupancy	light hazard	1
Size	25,000 sq. ft.	2
People Exposed	300	5
Life Hazard	assembly	10
Terrorism Risk Value	churches: category 4	12
	TOTAL	30

COMMENTS:

Preincident Planning Priority Matrix Worksheet
Target Hazard
(Example)

Name Bob's Donuts

Location Main Street

Occupancy Bakery

CATEGORY	STATUS	VALUE
Occupancy	ordinary hazard	2
Size	12,000 sq. ft.	1
People Exposed	5	1
Life Hazard	mercantile	5
Terrorism Risk Value	mercantile (containing ordinary goods, supplies and services): category 1	3
	TOTAL	12

COMMENTS:

Preincident Planning Priority Matrix Worksheet
Target Hazard
(Example)

Name Town Laundromat

Location 420 Main Street

Occupancy Laundry

CATEGORY	STATUS	VALUE
Occupancy	ordinary	2
Size	15,000 sq. ft.	1
People Exposed	8	1
Life Hazard	industrial	3
Terrorism Risk Value	Processing (laundries, etc.): category 1	3
	TOTAL	10

COMMENTS: Includes dry cleaning

Preincident Planning Priority Matrix Worksheet
Target Hazard

Name _____

Location _____

Occupancy _____

CATEGORY	STATUS	VALUE
Occupancy		
Size		
People Exposed		
Life Hazard		
Terrorism Risk Value		
	TOTAL	

COMMENTS:

Preincident Planning Priority Matrix Worksheet
Target Hazard

Name _____

Location _____

Occupancy _____

CATEGORY	STATUS	VALUE
Occupancy		
Size		
People Exposed		
Life Hazard		
Terrorism Risk Value		
	TOTAL	

COMMENTS:

Preincident Planning Priority Matrix Worksheet
Target Hazard

Name _____

Location _____

Occupancy _____

CATEGORY	STATUS	VALUE
Occupancy		
Size		
People Exposed		
Life Hazard		
Terrorism Risk Value		
	TOTAL	

COMMENTS:

Unit 2:
Common Considerations for Response Actions

Terminal Objective

- Given a scenario, the students will be able to describe the common considerations for response actions when dealing with a terrorism attack.

Enabling Objectives

The students will:

- List key vulnerability issues that may hinder operations during primary and secondary response actions.
- Identify preplanning response action considerations for acts of terrorism.
- Identify and list response, incident site, and offsite security considerations.

PRERESPONSE CONSIDERATIONS

Known Terrorist Incident

Responding to known acts of terrorism affords the responder an opportunity to initiate preplanned security-related response actions that should include law enforcement participation in all response phases of operations. Knowing that the environment for the response is hostile allows responders to operate at a much higher state of situational awareness when they move in, which significantly enhances responder survivability and minimizes potential losses.

Unknown Terrorist Incident

Responding to what is first reported to be a "standard" emergency call, then is recognized--by incident site outward warning signs/indicators or by updated dispatch information en route--to be an actual terrorist act, requires the initiation of preplanned actions to maximize responder safety and survivability. Preplanning and an effective training program are the best tools in preparing for "no notice" terrorist-related incidents and safe movement to the actual incident site.

PREPLANNING AND INTELLIGENCE CONSIDERATIONS

Because the fire service plays an important role as first responders to incidents involving terrorism, it is imperative that fire service agencies recognize the nature and scope of the risks associated with criminal activity that involves weapons of mass destruction. To appreciate these dangers and manage a terrorist incident effectively, first responders must plan ahead using all available information and resources.

The time and attention the fire service has invested over many years in preincident planning has proved invaluable during emergency operations. Effective scene control, safety, and management usually fail without adequate planning. Responders must take advantage of experience gained through routine preincident planning and apply the same techniques to counterterrorism initiatives.

First, we must recognize the need to plan by being involved in or performing a risk analysis of the community. This should be a joint effort between the fire service and law enforcement officials, and should include identifying resources needed to achieve anticipated tactical objectives and developing linkages between functional resources and expected

responsibilities. A multiagency response plan should include local, State, and Federal assets and identify how those assets will be used in response.

All responders should understand that information sharing (intelligence) is a vital component of the planning effort. The availability of credible information and the effective dissemination of that information is likely to determine the success or failure of preincident planning for acts of terrorism and confronting the consequences of weapons of mass destruction.

Once a plan has been developed, it must be exercised and evaluated. Revision of the plan is an important part of the process and must be continuous. Although company officers may not be involved directly in this process, it is incumbent upon them to become familiar with the process and share the information with their crews.

Standard Operating Procedures/Standard Operating Guidelines

Fire and EMS services operate under various forms of governmental regulations and authority. The development of Standard Operating Procedures/Standard Operating Guidelines (SOP's/SOG's) should take into consideration the governing rules and regulations of the authority having jurisdiction over the department. It may be a good idea to address within the SOP's/SOG's specific collection and handling information concerning terrorist-related incidents.

As part of standard procedures, the use of clear text should be considered when communicating orders in response to acts of terrorism. Clear text will provide for effective communications and reduce the potential for misunderstanding when multiple jurisdictions and agencies are involved. Remember that terrorists, the media, and others may be monitoring the communications.

PREPLANNING FOR THE CONSEQUENCES OF TERRORISM

Although the preplanning phase may not traditionally be the responsibility of the Company Officer (CO), without a doubt the process and its results have a significant impact on operational readiness and ability to respond to acts of terrorism effectively and even more importantly, safely. Planning for a response to the consequences of terrorism should consider the following issues:

- Terrorism creates challenges to the fire service that are usually beyond normal operational protocols, tactical considerations, and planning requirements.

- Multiple agencies from Federal, State, and local levels respond to incidents involving terrorism. These agencies may have statutory authority that could influence operational considerations. This raises issues that should be identified, explored, and addressed before an incident occurs.

- Criminal acts that incorporate weapons of mass destruction may generate large-scale incidents involving multiple casualties/fatalities to both civilians and responders.

- Current fire and emergency services tactical operations and equipment may need to be refined to manage a terrorist incident adequately and effectively.

- Existing protocols for sharing information (intelligence) between fire and emergency services and law enforcement may be insufficient to plan effectively for a terrorist event.

- Responders may be the intended target in a terrorist event.

- Occupancies identified as routine fire/EMS target hazards may not be considered prime targets by terrorists. By the same token, existing fire service target hazard plans may fail to identify all potential targets available and appealing to the terrorist.

- Target hazard planning often limits its focus to one occupancy, a complex, a location, or at the most several city blocks. Weapons of mass destruction have the potential to affect entire communities or regions.

- A unified command will eventually be established and activated as the organizational framework within which representatives of local, State, and Federal agencies will operate. This is not a real concern of the CO except in that he/she must be aware of the process and should train to be familiar with its use.

- Identifying critical systems/facilities within the community, assessing their vulnerability to terrorist actions, and identifying mitigation and response capabilities.

- Assessing local and regional resource capabilities in the context of potential terrorist tactics.

- Developing protective actions for response personnel, as well as the general population at risk, to follow in responding to a suspected or actual terrorist event involving a variety of tactics.

- Providing guidance for potential terrorist targets to follow in assessing their vulnerability to such events as well as developing mitigation strategies and response capabilities.

- Coordinating and integrating planning efforts of critical public and private capabilities and facilities to ensure effective response to, recovery from, and mitigation of terrorist attacks.

- Enhancing and broadening local and regional capabilities by developing a training program that integrates local, State, and Federal resources.

- Ensuring local and regional capability to address effectively mass casualty and fatality incidents involving both uncontaminated and contaminated victims.

- Developing the necessary decontamination, contamination containment, and monitoring procedures to ensure the safety of response personnel, the evacuated population, and the general public in situations involving biological, nuclear/radiological, incendiary, chemical and explosive agents.

- Ensuring that mutual-aid agreements with surrounding jurisdictions are established to augment local resources.

- Developing the necessary prescripted announcements with the public information office regarding the appropriate protective actions for various terrorist tactics and situations that may confront the jurisdiction.

Increased Readiness

Although terrorist actions most often occur with little or no warning, in some situations the jurisdiction, target facility, or individual(s) may receive notice of terrorist actions just prior to the event occurring. To capitalize on any notice that may be received, plans developed for responding to terrorist events should ensure that:

- Notify appropriate local, State and Federal agencies that have the expertise in and resources and responsibility for mitigating, responding to, and recovering from such events.

- The public is notified of the threat, the necessary protective actions are taken in the context of the anticipated terrorist event, and the at-risk population is advised of these protective actions.

- Resources are staged out of harm's way and in areas where they can be mobilized and used effectively.

VULNERABILITY ASSESSMENT

Terrorist response vulnerability assessments are conducted to identify organizational and individual responder shortfalls or weaknesses in responding to acts of terrorism. A number of different perspectives or approaches can be adopted in conducting such an assessment. The assessment should include all terrorism response issues, including security, personnel, equipment, organizational structure, command and control, interagency relationships, and training-related capabilities and vulnerabilities in responding to acts of terrorism effectively and safely. The assistance of law enforcement is necessary to conduct the vulnerability assessment properly as it pertains to security-related issues, particularly in the following areas:

- incident site operations;
- preplanned response routes (primary and secondary);
- command and control sites;
- improvised explosive device (IED) awareness training;
- secondary explosive device/booby trap awareness training;
- multiple incident site operations considerations;
- preplanned and proposed Staging Areas;
- communications plans (primary and secondary);
- medical operations;
- medical receiving facilities;
- casualty collection points;
- mortuary facilities (fixed and temporary);
- evacuation sites;
- personnel and equipment resources;
- resources for resupply;
- security resources;
- mass casualty response resources (transportation, medical, command and control);
- responder knowledge of biological, nuclear, incendiary, chemical, and explosive (B-NICE) threat outward warning signs;
- responder self-protection measures training.

RESPONSE ISSUES

Incident priorities at terrorist events are the same as routine incidents. Life safety is always paramount. This includes the safety and protection of responders, victims/patients, and civilians. Life safety is accomplished through:

- personal protection;
- scene security;
- isolating hazard areas;
- evacuation/protect-in-place;
- rescue;
- decontamination; and
- emergency medical case.

Incident stabilization is an attempt to bring the incident under control and reduce the chaos. Factors that will assist in incident stabilization include

- isolating the hazard area;
- controlling entrances and exits;
- controlling patients, contaminated/exposed victims;
- establishing outer perimeters;
- control of active disseminating devices;
- ventilation;
- control of HVAC systems;
- "render-safe" operations by EOD personnel;
- protecting exposures; and
- controlling utilities.

The last priority is environmental/property protection. While this is an important issue, both life safety and incident stabilization take precedence. This first two priorities will probably require considerable resources during the initial operations at a terrorist event.

PROTECTIVE ACTIONS

Hazard and Risk Assessment

Before general security considerations are discussed, hazard and risk assessment should be studied in detail. A hazard is a known or perceived danger. Risk is being exposed to a known or perceived danger--exposure to a hazard. Calculating risk means understanding the risk: Will a particular danger occur or not? The level of risk is either acceptable or

unacceptable. Making this determination may sound like a simple matter, but to understand the level of risk, you must know your vulnerability.

Vulnerability is being in an exposed position or being at a disadvantage. Being a first responder at a terrorist attack and being vulnerable equates to casualties. You can be in danger and not know it, as in an ambush. But if site awareness is in the forefront of your mind, the conditions will indicate any potential vulnerability.

Assessing hazards, risks, and vulnerabilities is effective only if measures can be taken to protect against the conditions identified. The faster the officer recognizes that the crew is unacceptably at risk and identifies actions to be taken to reduce the risk, the faster the officer will be able to avert or minimize losses, which is really the name of the game.

The fire service may suffer some casualties when a terrorist event occurs, but just how many will be up to the leadership. When do we stop and minimize our losses? The easiest decision to make is often the toughest to live through. To run to the aid of other responders may result in disaster, or it may be the right thing to do.

Protection

Protective measures are the actions taken to isolate the unacceptable risks and eliminate them or reduce them to acceptable levels by changing something in a way that improves your position and decreases risk. To best understand the hazards and risk and provide protective measures, you must take in all the general considerations in order to recognize vulnerability. The supervisor at the scene must

1. Determine the hazard.

2. Assess the risk as acceptable or unacceptable.

3. If levels of risk are unacceptable, establish effective protective measures.

If enough protective methods are used, and together they sufficiently reduce vulnerability, the level of risk may become acceptable. But if it is not known precisely why the crew is vulnerable, the measures undertaken may be wrong or inadequate. Casualties among responders are a real possibility at the scene of a terrorist incident, whether responders are targets or simply present at the event.

Security

So that personnel may respond safely and effectively to acts of terrorism, fire service SOP's/SOG's need to be reviewed and, if necessary, revised to reflect security-related issues that affect the response. SOP/SOG tactical guidelines in responding to acts of terrorism should include the assignment of law enforcement to provide protection to first responders, response routes, Staging Areas, and all facets of operational and support considerations. Emergency response plans should include an annex that clearly identifies a local potential target site list, developed in conjunction with local law enforcement. Once the target list is completed, a library of preplanned actions for each specific site identified can be developed as an effective response tool in the event of a terrorist-related incident. Security precautionary measures and security-related preplans should be considered immediately and perhaps activated when responding to an incident at a location on the target list.

The primary difference between responding to an identified act of terrorism and to what may be perceived as a routine call is the requirement for armed security. Law enforcement personnel are trained, equipped, and tactically and operationally prepared to provide such protection. Dispatchers therefore must be trained to recognize the obvious warning signs of an act of terrorism, including the outward warning signs of each type of B-NICE terrorist threat. Recognizing the warning signs as information is gathered from the caller or, in some cases, from the perpetrator greatly influences how initial responders approach the incident. In response to what initially may be reported or perceived as a routine incident, law enforcement may not be considered initially, and responders may move forward without security in mind. First responders must be alert and prepared to stop and wait for security assets to arrive before entering a potentially hostile environment.

If the incident has been identified as an actual terrorist event, all responders must understand security-related self-protective measures and initiate SOP/SOG security protocols immediately. Law enforcement protocols routinely require a response to fire and emergency service calls regardless of whether an act of terrorism has taken place or not. Law enforcement personnel provide valuable services at the incident, including crowd control, isolation of the incident and, in some cases, security as it pertains to the actual incident.

For responders to preserve human life, security considerations must be factored into the response plan and must include a more comprehensive relationship between law enforcement and fire and emergency services organizations. The sharing of threat intelligence between fire and other emergency services is not common practice. To enhance first-responder

survivability when responding to acts of terrorism, intelligence sharing must improve. Fire and emergency services and law enforcement leadership therefore must develop a closer working relationship that will facilitate a higher level of cooperation during the planning phases of responding to acts of terrorism.

Opening lines of communication between firefighters, EMS, and law enforcement often is easier said than done. Historical traditions among these groups generally mean that the process of opening up communications will involve many growing pains. It is important that all parties concerned initiate lines of effective communication, and that the traditional closed-society mentality be put aside for the good of the responders and, more importantly, the general public.

Remaining alert and aware of the surroundings when responding to incidents determined to be or suspected of being acts of terrorism greatly enhances the probability that first responders will have an opportunity to seek effective cover in the event of an armed or secondary device attack on the responders and their assets. Enhancing self-preservation or self-protection necessitates possessing a clear understanding of exactly what effective "cover" means versus what "concealment" means. Ideal cover is best described as any object or material that provides effective physical protection against small-arms fire, fragmentation, explosive blasts, thermal blasts, and moving debris. Concealment is defined as blending into the environment, and it can be provided by any object or material that simply keeps an individual from being seen but does not necessarily provide adequate physical protection from hazards.

If fire and emergency service organizations respond to an identified or potential terrorist event in the traditional manner (without security considerations), great potential exists for danger. An already complicated situation might become even more disastrous.

Response security. Those responding to suspected or confirmed acts of terrorism must choose the response route and move through the response corridors with extreme caution and in accordance with preplanned procedures. The use of alternate response routes or corridors should be considered in choosing the appropriate response route for a given incident. Security and safety of the responders and response equipment must be considered of primary importance. Liaison with local law enforcement must be initiated, and security procedures must be activated.

Preplanned emergency response routes designated for likely terrorist targets within the local emergency response plan and organizational SOP's/SOG's should establish both primary and alternate routes that minimize the possibility and effect of a planned ambush of personnel and

equipment assets. They also should identify response route choke points--specific locations along a route where an ambush or delaying action would most likely be launched against the responding units. Law enforcement security should be established prior to responding if possible or along the response route once an act of terrorism has been identified. Reconnaissance and security at choke points should be initiated to ensure that response personnel and equipment assets can travel to the incident site safely.

In case responders are separated during the initial response phase to the incident site because of an attack on response assets, rally points should be established. A rally point is defined as a specific, preplanned, designated safe area within the response locality where responders can assemble or regroup as necessary. Security at rally points should be established as a precaution.

Incident site security. Commanding an emergency response to acts of terrorism is complicated and offers new challenges to response leadership. Various areas and functions involved directly or indirectly in managing the incident present particular security challenges.

Security of command and control locations is critical to ensure continuity in managing the incident. During terrorist operational planning, the command and control locations may be targeted for a secondary attack, which can become a reality if the plan is initiated.

The rehab area is also a prime target for a secondary attack. Personnel undergoing rehabilitation to relieve fatigue and exhaustion and replenish fluids, energy, and equipment are at their most vulnerable point. This site will require diligent security considerations. The action plan should allow for the rapid and safe evacuation of responders and equipment assets from the R&R location in the event of a secondary attack threat.

The zone perimeters established initially are the first lines of defense when identifying the required isolation zones. Law enforcement authorities must staff this area to ensure that perimeters are not compromised. Identifying resources to accomplish this requirement in a timely manner is the biggest challenge. Emergency responders cannot slow down their response momentum to accomplish this task. It is therefore of paramount importance to consider this need during the preplanning stage of a potential response.

The actual incident perimeter is also a critical line of defense, primarily because of its proximity to the operating responders, and therefore warrants the strictest security considerations by law enforcement. Bystanders are likely to gather in large numbers in this area, presenting a

potentially threatening atmosphere to responders when considering the likelihood of secondary attacks. Once again, security procedures to govern this area should be factored into the overall response plan.

Access control points in hazard zones also require passive security measures. Law enforcement often is not available or properly equipped to assist the responder at the access control points, so it is up to the responder to ensure that only authorized personnel have access to the site. An access identification system (long term) should be instituted to ensure access security, and should be monitored strictly to ensure consistency in access control.

All Staging Areas require effective security and control measures to ensure that vital equipment and personnel are protected and that equipment moving into these areas is inspected properly and screened in accordance with appropriate procedures. Security requirements need to be considered at the specific asset location and while en route to forward operating areas.

Only authorized response personnel should be allowed access to the actual exclusion zone (point of origin). An individual identification system should be implemented to ensure proper identification of authorized personnel. Unauthorized persons may attempt to penetrate this area to make damage assessments, casualty counts, and so forth.

During the response to suspected or identified acts of terrorism one must assume that leaks, spills, and fires may be not only the result of the attack but also a prelude to additional attacks. Observe a higher degree of precaution during the initial response phase to evaluate the scene properly and to determine potential terrorist-related hazards.

Emergency medical service (EMS) resources are considered a prime target in the terrorist attack plan. If these resources can be eliminated or minimized effectively, mass confusion and hysteria will ensue. All will be at risk, and both responders and civilian casualties will be affected greatly. Security of these resources must, therefore, be considered of primary importance.

Reserve assets prepositioned to respond rapidly to the incident site and/or the exclusion zone must be protected in order to facilitate rapid intervention to rescue response personnel operating within the exclusion zone. The rapid intervention team should be in position to react to the call for help, and requires some form of either passive or active security consideration.

Decontamination sites both at the incident site location and at the hospital site locations may be targeted for a secondary attack. If the terrorist can halt decontamination operations for any length of time, he/she can maximize the effectiveness of the planned attack, especially if the attack is of a chemical, biological, or radiological nature. If the decontamination process is delayed or ceases, then contaminated victims cannot be turned into decontaminated patients.

Offsite security. Although the emergency responder has little or no effect on ensuring that security-related issues are considered outside of the incident site, all responders need to be aware of all potential target areas and potential threats. Attacks on any of the locations discussed in this section adversely affect the overall response. All offsite support locations and emergency response medical treatment facilities should receive primary consideration during all planning phases.

Hospital facilities are potential target sites during mass casualty crisis situations, primarily because casualties flood these sites, and they therefore afford the terrorist open access, without challenge. In addition, attacking these sites is likely to generate mass hysteria among the population, furthering the terrorist's goals. Many times hospitals may be in a position to hire private contractors to fulfill the security requirements that arise because of such threats.

Large numbers of people gather at evacuation sites and present a lucrative target for follow-on attacks. Perimeter security must, therefore, be established at these locations to ensure the safety of civilians and minimize the threat of a secondary attack.

If competent authorities issue orders directing the general public to shelter in place during a terrorist action, security considerations must be reviewed to ensure such shelter is protected against potential secondary attacks, unexploded materials, and/or secondary devices. As in most shelter-in-place situations, clear and concise directions must be given to the general public on what specific actions should take place. If shelter-in-place locations have to be evacuated at a later time, then security should be on hand to facilitate a safe and logical sequence of events.

Communication centers often are targeted to eliminate or minimize command and control of response resources. If communications can be disrupted, the terrorist can maximize the effectiveness of the planned attack and easily initiate additional attacks at multiple locations. For this reason, secondary communications procedures should be written into preincident response plans.

Mortuary facilities, both fixed and temporary, must be secured to protect potential evidence and facilitate victim identification. In addition, victim bodies could potentially host critical evidence that the terrorist may want to destroy to prevent identification of the group.

Responders' home stations or facilities are also vulnerable to a secondary attack and should be considered when establishing security protocols within the preincident plan. These facilities generally have a limited number of personnel--and in some cases no one--on site during incident responses but nevertheless provide a critical and essential support role in prolonged response operations.

Security during the recovery phase of a response to a terrorist act is as essential as during the initial response phase. During the recovery phase, responders are most complacent and therefore most vulnerable to a terrorist act. Alertness and security awareness must be maintained until the recovery phase is completed.

Establishing security-related procedures. To minimize potential loss of valuable personnel and equipment resources, Staging Areas should be dispersed in a manner that facilitates rapid resupply to the incident site. Adequate security must be established at each of the designated dispersed Staging Areas.

A reliable responder identification system should be established to ensure that only authorized response personnel gain access to the incident site, Staging Areas, rally points, and other vital incident-related sites or locations. The system needs to be flexible enough to facilitate changes as the response progresses. The system's security and credibility must be evaluated and validated for effectiveness.

Once personnel are properly identified and are authorized to have access to the incident site, a personnel and equipment inspection process should be conducted. As noted in the previous section, the physical inspection of personnel and equipment assets minimizes the possibility of secondary devices being covertly introduced into the incident site and increases overall security awareness and the survivability of the responders.

An incident site emergency egress plan of action should be established within organizational SOP/SOG's. The action plan should provide for the rapid evacuation of responders and equipment assets from the incident site in the event of a secondary attack or attack threat. Egress instructions should be disseminated during the initial stages of the response and should include specific routes, locations, and rally points for personnel and equipment. The method of activating the egress plan should be clear and

concise and must include law enforcement to ensure security of movement.

A zone emergency egress plan of action also should be established within organizational SOP/SOG. As with the incident site emergency egress plan, provisions must be made for evacuation of responders and equipment and for dissemination of egress instructions. Consideration must be given to how responders will be decontaminated quickly (if applicable) and moved from the potential danger to a predesignated safe area, should such an evacuation be required. Resources must be available to accomplish this egress effectively.

Apparatus should be staged within the incident site in a manner that facilitates a rapid egress in the event of a secondary attack or threat of attack. Equipment assets should not be staged in such a way that, if an attack affects one piece of equipment, other equipment will be affected equally. Dispersal of assets is essential when a security threat exists. The positioning of vehicles is critical to minimizing bottlenecking of resources.

Alternate incident Command Post (CP) contingencies should be included in all terrorist response preplanning. Command and control assets, both personnel and equipment, are essential in managing any incident. If the primary CP is compromised for any reason, the management of the incident needs to be shifted to a planned alternate (contingency) CP with all of the essential command and control mechanisms in place.

Establish a rapid intervention team (RIT) to ensure that qualified response personnel and equipment are available and in position to react aggressively to incident site contingencies, including the possibility of a secondary attack being launched against the initial responders. Security of the RIT and its vital equipment resources must be adequate to ensure its successful intervention at the incident site.

Responders must develop an understanding of diversionary tactics and be able to evaluate the potential for the possibility of one incident being a diversion for the initiation of the primary attack. Terrorist operational tactics include drawing in first responders, during what may be dispatched as a routine call for assistance, to launch the primary attack specifically on the responder. Being alert and aware of the response surroundings minimizes the possibility of being drawn into a trap using diversionary tactics. Examples of diversionary or ruse tactics include

- redundant hoax calls to potential locality target sites;
- calls to vehicular accident scenes with no apparent victims in sight;
- responses to areas that are otherwise remote in nature and have very little potential for emergency response considerations; and

- an obvious attempt to channel response resources into a potential ambush or delaying sites.

Terrorist groups are likely to acquire the radio frequencies used by the local emergency responders and to monitor the frequencies for intelligence purposes.

Dispatcher, witness, and first-due unit checklists should be established to assist the first responder in determining the nature of the hazard present. The checklists should be detailed enough to provide a pattern of unusual incident site outward warning signs and should include specific B-NICE threat recognition indicators. Once specific B-NICE threat indicators have enabled the first responder to make a preliminary identification of the agent involved, the responder should initiate self-protective measures and expeditiously inform the appropriate authorities in accordance with local protocols.

Weather Conditions

Weather is a critical consideration when choosing response strategies. Any hazardous material, because it is a chemical, follows the laws of physics, which means it reacts to weather conditions.

The strategies and tactics of chemical warfare were first devised in the early 1900's. During World War I, the biggest problem with chemical agent delivery was controlling it. Weather forecasting capability was primitive at that time, which made forecasting unreliable. In many cases, weather caused the agent to render friendly casualties--it would be delivered according to plan, but would come back in an hour on those who had originated the attack.

With today's technologies, weather forecasting is more accurate than ever before. If commanders understand how an agent reacts to each element of weather, they can anticipate what is happening or what is going to happen. The better commanders understand which weather conditions promote survival, the better they can plan, select, and implement successful strategic and tactical decisions.

Present and forecasted temperature. The law of kinetic energy states that the higher the temperature of a liquid, the higher its vapor pressure will be, which equates to more parts per million (ppm) released.

Humidity. It also adds weight to the atmosphere, which may displace a static product or agent and cause it to move. Humidity also may cover or depress an agent so that it produces fewer ppm and can cause it to lie

dormant until a change takes place. In such forms as fog, rain, or even dew, humidity may act as a camouflage, actually deceiving the investigator and keeping the agent from being discovered.

Inversion temperature gradient (stable). Normally, the higher one goes in the atmosphere, the cooler the temperature. In an inversion, the normal action is reversed--the higher the altitude, the warmer the temperature. At whatever altitude the inversion ends, the temperature returns to what normally would be expected at that altitude.

When an inversion temperature gradient is present, as an agent rises, it warms (law of kinetic energy) and expands, then opens, until it reaches the edge of the inversion. The sudden change in temperature it encounters there creates condensation and has the potential of returning the agent to the ground. The atmospheric height at which this takes place makes a big difference in how the agent acts, and this can involve both good and bad news. The good news is that the higher the end of the inversion, the further the product rises away from the ground and people. The bad news is that the higher the end of the inversion, the more dramatic the condensing and the further downrange the product may travel.

Inversions with ceilings at lower levels act in reverse, and the product has a greater possibility of staying in contact with the ground and people. Such lower-level inversions usually occur on a clear or partly clear night when mid- and low-level clouds cover less than 30 percent of the sky. They also may occur early in the morning until about one hour after sunrise when the wind is less than 5 mph. This is the most favorable condition for delivering an agent/product and the hardest time to defend against a release.

Neutral temperature gradient (neutral). A neutral temperature gradient usually exists on heavily overcast days or nights when mid- and low-level clouds cover more than 30 percent of the sky. Independent of cloud cover and time of day, a neutral condition may exist when the wind speed is greater than 5 mph. Periods of precipitation normally are accompanied by a neutral condition. A neutral temperature gradient is the most favorable for the use of biological agents.

Lapse temperature gradient (unstable). A lapse temperature gradient normally exists on a clear day when the mid- and low-level clouds cover less than 30 percent of the sky and when the wind speed is less than 5 mph. This condition is the most favorable temperature gradient for survival in a situation involving hazardous chemicals; it does not offer a good environment for delivering chemical or biological agents/products. When this condition is present, only a steady low wind of 3 to 5 mph can increase an agent's coverage of an area. Diffusion results with higher wind speeds.

Cloud cover. Cloud cover affects agents in more ways than the obvious one--the presence of humidity. Clouds have an effect on explosions because they reflect the resulting shock waves and, in many cases, cause more damage. Clouds also prevent sunlight from getting to the ground. Some agents, such as halogens, break down in ultraviolet light. Chlorine, for example, being diatomically bonded, breaks down rapidly in sunlight. On a cloudy day, such an agent can continue to cause damage, because it does not disappear as quickly as it might on a cloudless day.

Forecasted weather. Forecasted weather at a working incident should be studied and monitored constantly. Present and forecasted weather should be compared, as it is important to be able to anticipate agent/product movement as a result of weather and weather changes. The weather, both present and forecasted, also has a physical effect on the responders and site characteristics, causing physical hazards and/or obstacles.

Topographical Characteristics

Topography is another critical consideration when choosing response strategies. Because the terrain and the environment play a crucial role in successful terrorist strategies, command officers need to be aware and aggressive in observing conditions and choosing response strategies and tactics that decrease exposure while focusing on accomplishing objectives.

Terrorists can exploit topographical features, both natural and manmade, to increase the effectiveness of their weapons. Shaping an explosion so the blast effect is more pronounced in a particular area, trapping responders in an area with few escape routes, removing cover that could provide protection, and combining topography with weather conditions to increase the potency of a chemical or prolong its contact with victims are just some of the ways terrorists can use topography to their advantage.

Bottlenecks--places that restrict efficient or rapid movement--allow a terrorist to take advantage of any responding agency and exploit its position. By funneling, which involves the manipulation of access or egress, terrorists can direct responders to bottlenecks, where an ambush or attack can occur.

A location with limited access has, by design, few streets or intersections that provide access. Limiting access also means limiting egress. Places with limited access and egress, such as industrial parks, make it easier to funnel and bottleneck. Another example of a limited-access location would be dead-end streets. A hydrant at the dead end makes the situation even more dangerous, guaranteeing that an apparatus will go to the end, stop for a few seconds, and then tether itself, which severely restricts

movement, thus restricting egress. Using an obstacle to block a street could create a dead-end street where one does not otherwise exist. In combination with funneling and bottlenecking, this could have lethal consequences.

Responders should recognize limiting characteristics as they present themselves and should assess their situation constantly. They should be asking themselves relevant questions: Am I being drawn into a trap? Am I being forced to advance uphill or to park at the bottom of a hill? Is my approach being forced from downwind? Are terrain characteristics forcing me to deviate from my plan and be vulnerable?

Natural characteristics. Natural characteristics are geographic features such as creeks, rivers, lakes, ponds, or any other feature of the land that terrorists could use to improve the effectiveness of their attack. Hills and low places also may be used effectively by terrorists.

Manmade characteristics. Manmade characteristics are features such as highways, bridges, dead-end and narrow streets, or other manmade features that terrorists could use to improve the effectiveness of their actions and decrease, if not halt, the responders' efforts. For example, buildings on either side of a street restrict vision and access, while also causing drafts that can create problems.

On the other hand, these same features that can be exploited by terrorists, can and should be used by the responders for shelter. If possible, the feature should be placed between the responders and the hazard(s).

Zones/Perimeter Issues

There are many zones in the haz mat world. The ones we are most familiar with are hot, warm, and cold. More zones than these are needed when dealing with terrorism, however, because many agencies and responders from various parts of the country are responding to a single event. Definitions of hot, warm, and cold zones may not coincide among the various responding organizations, leading to miscommunications, and understanding what constitutes hot, warm, and cold zones may become a problem. Further, the traditional hot zone doesn't really cover all the hazards that may be present with an attack by a terrorist.

Many discussions have been generated by the simple question, "In which zone does decon occur?"

Clear language and clear zone names lead to clear communications. However, standardized terminology is important, as many agencies from many jurisdictions will be responding.

Other terms used are inner perimeter and outer perimeter. What do these terms mean to the emergency responder? The inner perimeter is likely to mean the area consisting of the hot zone, the danger zone, and the decontamination zone. What we know as the cold zone or support zone would be located in the area between the inner and outer perimeter. The outer perimeter would be the area where the press and public would be allowed.

Mission and Priorities

After initial actions to ensure the crew's survival and make sense of the chaos created by an act of terrorism, the CO's focus then can move to establishing safe operations. Establishing operations is a milestone that affords responders a certain amount of security. After all, if CO is directing his/her crew and that of other arriving units, then the crew is alive and beginning to mitigate the incident. A certain level of confidence ensues among responders from this simple fact.

Because you arrive on the scene first and have the opportunity to conduct a site characterization and vulnerability assessment, you are in the most advantageous position to formulate a response plan of action. Site characterization information you gather initially, supplemented by information the haz mat unit collects afterward, is a valuable source of information and can aid you in prioritizing actions.

Because hazard assessment is an ongoing process, consider periodic re-evaluation of response actions. Mission priorities are always subject to change. Maintaining operational flexibility is important and is the responsibility of the first-due officer until higher authority arrives.

Based on what hazards have been identified, you need to assess whether you are at risk and, if so, whether the level of risk is acceptable or unacceptable. Are you and your crew, along with the arriving units, at such a risk that priorities need to change? Are you so vulnerable and exposed that you should abandon rescue operations, treatment, or recovery until the situation can be changed?

Based on the information you have gathered and your experiences, you are able to make your recommendation for handling the incident. You have determined what you think of the site: In what direction do you believe the effort should go? What should drive the incident--life or property, rescue

or recovery? These are difficult things to decide to say the least, but someone has to make these decisions.

Operational Focus and Determining Response Strategies

Determining primary strategies will differ little from establishing operations. The focus is the same: to stay alive and protect the crew. Remember, the possibility exists that someone may have planned to attack your crew. To lose your direction or situational awareness could be disastrous. The terrorist may intend to make you play the game the way he/she wants you to.

Maintaining operational focus may be difficult. Determining initial strategies is challenging and vital to follow-on resources. Evaluate the situation with a keen eye and determine, with the resources available, what can and cannot be accomplished. Strive to achieve only what is achievable or you will be bogged down and begin to lose focus.

To maintain focus on critical response issues, you may need to delegate responsibility for less-critical issues to a reliable crew member. Maintain focus and do not allow yourself to be distracted or be taken by surprise.

Communicate with and direct additional responding units safely into the site. Consider the possibility of communicating in the clear to minimize confusion.

What Is At Risk?

During all responses to acts of terrorism we must re-evaluate exactly what is at risk. In addition, we also must ask ourselves how much risk we are prepared to take to preserve life and property. Officially, there needs to be a direction, a determination of what we are expected to do. It is easy to say we are not going to sacrifice ourselves, but we do it every day. Where will we draw the line?

Remember, we are responding not to the routine call for assistance, but rather to a deliberate act of terror. We must expect and accept that human life is in jeopardy. What we do not usually expect is the fact that we, the responders, may very well become a casualty from a deliberate act of violence.

In addition, we must ask ourselves what resources, aside from human, are at risk. Equipment resources must be considered as well, to maintain and eventually sustain operations.

Documentation

Keeping handwritten records and recording operational strategies and tactical objectives is necessary to document a terrorist incident reliably. Though it is well understood that documentation is not an initial priority of the first-due unit, it still must remain a vital part of the response effort. Incident site response documentation is essential, and such documentation must be more detailed than has been recognized in the past. Few incidents that the fire service or a particular fire department must document are massive, lawless, and run for days as does the response to a terrorist incident. The fact that detailed debriefings and fact-finding investigations follow these long and complex incidents drives the need for a greater level of documentation.

Documentation of both response actions and incident events also is vital to capture the lessons learned effectively. Although it may not be practical initially to use photography and video to record actions, these tools should be considered during the preplanning phase, and can greatly enhance the documentation process if their use is feasible.

SUMMARY

Emergency responders are accustomed to reacting or responding to calls for help in the traditional manner. Responding to known or even unknown acts of terrorism usually proves to be even more of a challenge than may have been anticipated. A comprehensive plan of action therefore should be developed, and it is imperative that this effort be undertaken prior to the necessity of responding to a terrorist incident. The plan should include self-protective measures for all first responders.

Prioritizing response actions is the critical step when responding to acts of terrorism. Security is a must at any incident because acts of terrorism are planned events. Considerations to ensure security of the responders must be considered the number one priority.

Though maximum life preservation, for both the general population and the first responders, should be our ultimate goal, minimizing the losses may be the best that we can do. This reality must be accepted and reflected in operational planning.

The security considerations initiated during the primary phase of the response remain on the forefront from the beginning to the termination and recovery phases of operation. Security considerations should not be relaxed until law enforcement has deemed the areas all secure or otherwise rendered safe for normal operations. Situational awareness often proves a

key factor in maintaining proper security considerations. Remember, law enforcement may be responsible for providing essential security-related support for the first responder; however, the first responder must learn to appreciate the true value of being placed under a "security blanket" and render any and all assistance that may be requested.

The common considerations involved in terrorism incidents are different from those of other types of incidents because they address unique concerns: weather, topography, zones, documentation, security, crime scenes, and evidence preservation. These concerns also have an influence on everything else that happens. Some may slow operations or create bottlenecks that cause frustration. These considerations make the incident site dynamic, always changing. Any of these considerations may interact with another, which may compound the effects of both.

Activity 2.1

Common Considerations for Responses to Terrorism

Purpose

Given information regarding emergency response assets, weather conditions, and a local map, assess a community's vulnerability. Determine what planning elements are necessary to prepare for a possible WMD incident.

Directions

1. You will have 40 minutes total for this exercise. Five minutes for directions, 20 minutes for your activity, and 15 minutes for group discussion.

2 This is an individual exercise. Your instructor will select students to present their results.

3. The instructor will read the activity out loud to the class.

4. You will answer the questions based on the course material.

5. You will have 20 minutes to complete the activity working individually.

6. At the end of the 20 minutes, your instructor will select students to share their answers. This will be followed by a group discussion

Location and Occupancy

A regional Internal Revenue Service (IRS) facility is located on North Meadows Circle.

Weather Conditions

The sky has 100 percent cloud cover. The wind is 7 mph, out of the north. Humidity is >80 percent; temperature 82ºF; dew point 76ºF; inversion at 150 feet.

Activity 2.1

Worksheet

Questions

1. List two SOP's/SOG's that need to be developed to prepare for a WMD incident?

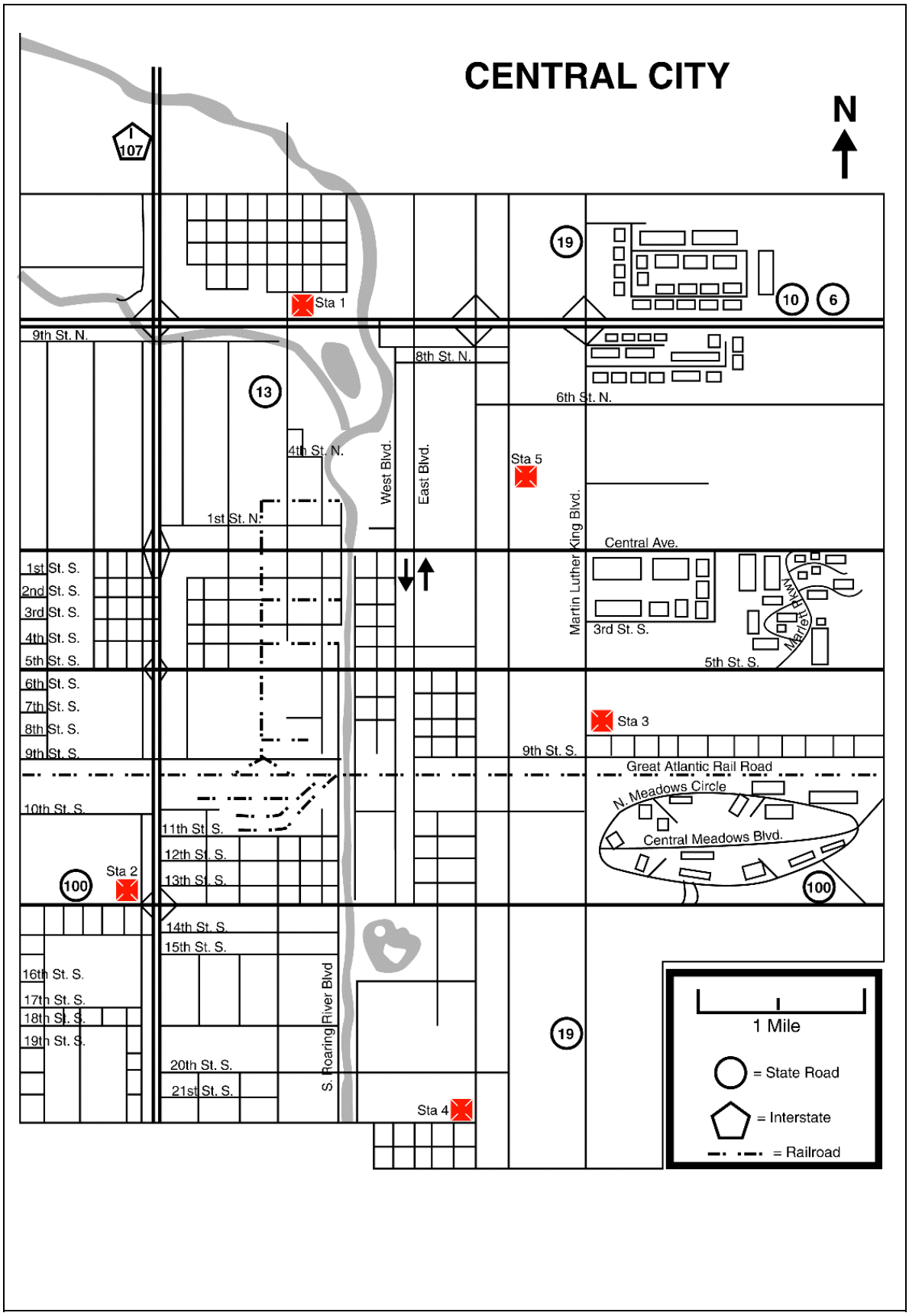
2. List five issues that need to be addressed in a preincident plan.

3. List three factors that contribute to vulnerability at this specific site.

4. List five protective actions to reduce vulnerability and enhance survivability.

5. Identify three State/Federal assets or agencies that could respond to a bombing incident at this facility.

6. Describe three weather factors that would have a potential impact on an incident at this location.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9th St. S.
Sta 3
9th St. S.
Great Atlantic Rail Road
N. Meadows Circle
10th St. S.
11th St. S.
Central Meadows Blvd.
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15th St. S.
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18th St. S.
19th St. S.
S. Roaring River Blvd
19
20th St. S.
21st St. S.
Sta 4
1 Mile
= State Road
= Interstate
= Railroad

Unit 3: Recognition and Survival

Terminal Objective

- Upon completion of this unit, the students will be able to identify and evaluate information and explain how it relates to establishing protection measures at a suspected terrorist event.

Enabling Objectives

The students will:

- Describe initial reconnaissance requirements.
- Outline the unique site characteristics associated with responses to potential terrorist-related incidents.

RECOGNITION AND SURVIVAL

One of the most critical questions that emergency responders must ask themselves is, "How well are we trained to recognize that a terrorist-related incident has taken place, and how do we react operationally if and when we do recognize that an act of terrorism has indeed occurred?" Emergency responders always have been trained to recognize potentially dangerous hazards. Traditionally these hazards have pertained primarily to natural disasters, fire-related, and hazardous materials-related responses. Responses to potential or suspected terrorist-related incidents require a different mindset and response approach.

In fact, we should ask ourselves a number of basic questions related to or arising from the one posed above: First, how well can we recognize terrorist-related incident clues, flags, outward warning signs, or indicators? Second, how well can we interpret exactly what the information means or perhaps what it does not mean? Finally, can we interpret the critical information gathered by dispatchers or eyewitnesses? These three primary questions need to be addressed in order to develop effective training criteria and concepts of operation.

Not unlike responding to traditional emergencies, responding to acts of terrorism also requires certain recognition skills, not only to survive the incident but also to accomplish the strategies and objectives necessary to mitigate the incident. In the case of responses to acts of terrorism, recognition of potential life-threatening hazards directed at the general public, and potentially at the first responder, greatly enhances the survivability of both responders and the general public. The primary focus of this unit is to introduce a number of response recognition tools that can serve as a foundation in promoting safe and effective responses to incidents involving terrorist use of weapons of mass destruction (WMD's).

MINIMIZING LOSSES

Minimizing losses of both civilians and responders is the responsibility of all emergency responders. When confronted with an incident involving WMD's, first responders may be placed in the position of having to make harsh and unusual decisions concerning life and limb. Unlike responding to what may be considered routine calls, responses to acts of terrorism require a much different mindset. Decisions that initially appear to reflect the acceptance of losses in reality often are made to minimize further losses. The key word and approach should be to **minimize**. But as emergency responders, we do not think in terms of minimizing: We want no losses; no loss is acceptable.

Most of us think in terms such as "calculated risk," "risk/benefit," "hazard versus risk," or even "err on the side of safety." These approaches to emergency responses will always be part of the process. However, we should consider adding another thought process or concept. We do not want to accept losses, but rather make certain operational decisions that minimize losses to civilians as well as to fellow responders. In doing so, we need to accept the fact that, as leaders, we may need to make decisions not to attempt a rescue for fear of causing additional casualties, even if that decision affects other emergency responders. A policy governing withdrawal may be necessary to provide the criteria to support such difficult decisions, decisions that go against our usual mindset. Although policies cannot take the place of officers or supervisors on the scene, they do provide the framework for support following critical decisionmaking processes in situations in which losses--though we may never accept them --can nevertheless be minimized.

INITIAL RECONNAISSANCE

One of the most effective ways to enhance overall responder survivability is to conduct effective reconnaissance of the incident site prior to moving valuable emergency response equipment and personnel assets into position. Possessing effective recognition skills is vital in conducting effective reconnaissance.

Reconnaissance means information gathering. Site characterization is best described as the accumulation and evaluation of data collected from the reconnaissance team that provides information on all the hazards of a location, both hazardous materials and hazardous conditions. Reconnaissance may be considered the most dangerous of all strategies, primarily because the reconnaissance team will be exposed to the initial harm. On the other hand, of all the strategies available, it provides the most valuable information, which in turn translates into the most effective protection measures for both responders and the general public alike.

At this point we must clarify two points. First and foremost, initial reconnaissance of an incident site suspected of being, or confirmed to be, an act of terrorism should be conducted by trained and properly protected personnel. First responders never should be placed in the position, or be expected, to conduct reconnaissance of environments that potentially could cause harm by ambush or any other method of attack that a terrorist or an armed perpetrator could conceivably launch against the first responder. Fire and emergency services responders are not trained or properly equipped to conduct reconnaissance of potentially hostile environments.

Second, it may not be logically sound or prudent to delay a reconnaissance of the incident site when law enforcement personnel are not available to move into the area first. People caught up in a disaster expect emergency responders to act quickly; it may not be prudent to hold back. Therefore, where law enforcement personnel are not available to move into the incident site first, the first responder must initiate a hazard and risk analysis. Potential risk must be evaluated and weighed against potential gain. First responders know that they are not expected to put themselves in harm's way when the terrorist may be lying in wait for another victim. They also know that when civilians are lying on the ground asking for and expecting assistance, first responders--security or no security--very well may have to accomplish initial entry into the incident site. Therefore, the knowledge and skills required to conduct a safe and effective initial reconnaissance of the incident site are essential in enhancing responder survivability.

The reconnaissance effort must include accurate details of the incident site, including appearance of victims (both ambulatory and nonambulatory), condition of surrounding vegetation, description of incident site surfaces, and an assessment of the general surroundings. Reconnaissance also may include assessing the air, soil, vegetation, and debris.

In contrast to a haz mat incident, in which shipping papers, placards, and labels may exist, the only pieces of information that may be present at a terrorist incident are outward warning signs and indicators that a terrorist-related incident has taken place. Recording them carefully and accurately is of utmost importance. Having the discipline to slow down and take the time to perform this action is essential. Training is the key to ensuring that first responders understand the importance of not rushing into potentially harmful situations.

Some reconnaissance can be accomplished prior to an event. During the preplanning phase of developing their community's emergency contingency plans, responders should establish a list of those organizations, establishments, agencies, and other buildings of significance that potential terrorists may view as a viable target for attack. Reconnaissance of the sites identified then should be conducted to complete preresponse planning effectively. This process provides the first responder with a preincident checklist of steps to take in the event of an incident involving WMD's. Only through the advance recognition of potential targets can we develop realistic plans for effectively managing the number of casualties that a terrorist incident may generate.

SITE CHARACTERISTICS

Recognizing site characteristics when responding to acts of terrorism is as important to a safe and effective response as it is in any other emergency responses. Depending on the method of attack, assessing site characteristics will assist the responder in determining two things. First, the assessment may provide the responder with enough information to identify specifically the exact nature of the attack. Secondly, site information gathered can assist the responder in determining what strategies and tactical objectives may be required to mitigate the incident.

Terrorists employ WMD's in a number of different potential attack types and methods. To provide an effective site characteristics picture, responders must have a keen knowledge of each type of potential terrorist attack. Because the potential attack methods include biological, nuclear, incendiary, chemical, and explosive (B-NICE) devices, responders need to familiarize themselves with the common characteristics associated with each type. Doing so greatly enhances responder recognition skills and expedites the choice of personnel protective equipment (PPE) and conception of operations protocols.

First responders should not assume that all calls for assistance to locations listed in the preplanned potential terrorist target list are incidents involving terrorism. Nor should they become so apprehensive or paranoid when the alarm sounds that they paralyze operations. In general, if terrorists have the ability to stifle emergency response organizations before an act of terrorism even is perpetrated, they can legitimately claim victory in advance of--indeed in the absence of--the act itself. A comprehensive recognition training program can develop confidence among response professionals and prevent operational paralysis.

In addition, responders should not assume that they are going to be the primary target of terrorist attacks. That assumption also can cause operational paralysis. Being prepared for that possibility is prudent, however, and steps to protect the individual responder and the crew as it approaches the scene are critical. One of the first signs that a terrorist attack has taken place could be the scene of a mass casualty incident.

When arriving on the scene of this type of a call, immediate site characterization must include the possibility that the responder may be the next victim. Immediate defensive actions must be taken as well as actions to protect and care for the victims on the scene.

IDENTIFICATION

When a response is perceived initially as a routine emergency call, then it is determined to be a potential terrorist act once responders are on the scene or en route, the first responder needs to be able to recognize the outward warning signs or indicators of a hostile act and attempt to determine the nature of the attack. Recognizing factors or outward warning signs or indicators of incidents involving B-NICE threats is of vital importance.

Most emergency response personnel recognize the dangers associated with managing incidents that involve explosives. An understanding of the associated dangers of explosive devices is important. Once this association is made, an effective responder protection plan can be achieved. Recognizing the hazards and risks involved with improvised explosive devices also is important.

An unusual number of sick or dead people or animals within an area or location may be an indicator of a terrorist attack. Any number of symptoms also may indicate an attack. If an agent or some contaminant is suspected, first responders should contact local hospitals to check if additional casualties with similar symptoms have been observed. Depending on the agent and the mode of dissemination used, casualties can occur within hours, days, or weeks after an incident has taken place.

Questions That Should Be in the Minds of Responders

In initially assessing the scene of a terrorist attack or a potential terrorist attack, responders should ask themselves the following questions:

- Are there conditions present for disaster?
- Am I going to be a target? Are persons, property, or infrastructure the targets?
- Is there a hazard or a threat present? Chemical? Explosion?
- Why am I needed? Trouble unknown? Assist public?
- Does the topography place me at a disadvantage? If I want to leave, can I?
- Am I restricted in access and egress?
- Is support slowed or detained?

- Is the weather stable, unstable, or neutral?
- Is there just something that "feels wrong" or doesn't look right?

If some of these conditions are present, your next responsibility is to protect the crew. As the potential pitfalls and disadvantages manifest themselves, stopping before the situation worsens is important. Place your unit and crew in an advantageous position. Their safety is paramount.

BIOLOGICAL AGENTS

General Information

Unlike chemical agents, most of which have an immediate effect, most biological agents, with the exception of some toxins, have a delayed effect ranging from several hours to days and, in some cases, weeks. Therefore, when you respond to a biological incident, there may be no casualties and nothing significant unless you or someone else happens to witness the agent's actual release or if some type of suspected dissemination device has been located.

As a responder, you need to understand some of the basic characteristics of these potential biological agents and how to protect yourself and your crew. Although there are innumerable potential biological agents, only a few are regarded as being rational choices for use by terrorists. Biological agents are governed by intrinsic features that influence their use as weapons (infectivity, virulence, toxicity, pathogenicity, incubation period, transmissibility, lethality, and stability).

The agent may be in a liquid, powder, or aerosolized form. It is not necessary to isolate or secure large areas outside of a building or dispersal area unless there is a visible fogger, other aerosolizing agent, or explosive device.

Victims should not be sick or symptomatic at the scene due to a typical incubation period of 1 to 7 days. **Mixed agents could produce immediate effects such as chemical or biological.** Some biological agents and toxins are not contagious (i.e., anthrax, ricin). Others, for example, plague and viral hemorrhagic fever, are highly contagious. **Unlike chemical agents, exposure to biological agents does not require immediate removal of the victims' clothing or gross decontamination in the street.** Inhalation is the primary route of entry, followed by contact with broken skin and ingestion. Unlike the nerve and blister agents, which can cause toxic reactions and symptoms if placed on the skin, biological agents cannot penetrate healthy, unbroken skin.

Self-contained breathing apparatus (SCBA) and structural firefighting clothing provide adequate protection for first responders. Level-B PPE is appropriate for initial operations by Hazardous Materials Response Team (HMRT) personnel. Level-C personal protective equipment (PPE) with HEPA filters may be used in low concentration areas.

Biological agents are affected by the environment. Many agents are living organisms, and adverse humidity and temperature will affect them. Sunlight, in particular ultraviolet rays, kills many of them. When subjected to sunlight, most last only a few hours or days. Because of this, use of biological agents is more likely at night or in enclosed areas.

Agents are difficult to detect, at least in the short run. At present, there are no simple detectors that can effectively detect and identify biological agents in time to warn of their presence. Detection is most likely to occur after the fact, by recognition of the symptoms in the victims, by growing cultures and then identifying them, or by testing.

Meteorological Conditions

Meteorological conditions necessitate precise preplanning of a biological attack. Shortly before daybreak, at sunset, or during the night, the ground and layer of air above the ground are cooler than the next higher layer of air. This is known as a temperature inversion, and offers ideal conditions for the delivery of biological weapons, since the combination of warm and cold air prevents the vertical mixing of an agent cloud and causes it to stay close to the ground. Biological attacks therefore are most likely to occur between sunset and dawn. An inversion is easy to spot--for example, note when smoke from burning leaves hugs the ground.

Wind speed is also an important factor in a biological attack. Aerosols are most effective in wind speeds between 5 and 30 mph.

Methods of Biological Weapons Dissemination

In physical form, biological weapons most likely would be delivered either as a liquid slurry or powder of dried organisms or toxins. Although dissemination of biological agents by spray pressure is simple and could be used in a wide variety of terrorist applications, successful delivery is a complex and technically challenging process and is perhaps the most difficult technological obstacle to overcome in creating a terrorist biological weapon.

A primary aerosol is critical to the successful aerosol release of biological weapons. Since they behave like gases, primary aerosols have been shown to travel even through heavily forested areas without degradation.

A secondary aerosol is defined as the re-aerosolization of infectious (toxic) particles that fall to the ground from a primary aerosol, are forced onto the ground by a disseminating device, or deliberately are sprayed or layered onto the ground. For example, an automobile passing over contaminated terrain could stir up particles, creating a secondary aerosol.

The primary challenge in using biological agents as weapons is keeping them alive long enough to produce their intended effects. As noted above, biological agents are affected by a number of environmental conditions (such as exposure to ultraviolet light) that affect their viability.

Contamination of food and water supplies, which would lead to ingestion, can provide an alternative pathway for disseminating biological weapons. The ingestion of biological agents orally causes only a limited number of casualties, however, making it a less attractive alternative to the terrorist.

Dermal exposure is not a particularly effective means for the dissemination of biological weapons. Intact skin provides an excellent barrier for most, but not all, biological agents. However, mucous membranes, damaged skin, or open wounds constitute potential breaches of the natural dermal barrier through which biological agents may pass.

It is possible to spread disease by vectors such as mosquitoes, ticks, or fleas. These vectors can be produced in large numbers and can be contaminated by allowing them to feed on infected animals or infected blood reservoirs.

Biological Agent Reference Chart

Agent	Persistency	Dissemination	Transmission (person to person)	Incubation	Lethality
Anthrax	Spores remain viable in soil for years	Spores in aerosol	No (except cutaneous)	1-5 days	High
Cholera	Unstable in aerosols and water	Ingestion and aerosol	Rare	12 hours to 6 days	Low with treatment
Plague	1 year in soil; 270 days in bodies	Aerosol	High	1-3 days	High if untreated
Tularemia	Months in moist soil	Aerosol	No	1-10 days	Moderate if untreated
Q Fever	Months	Ingestion and aerosol	Rare	14-16 days	Very low
Smallpox	Very stable	Aerosol	High	10-12 days	Low
VEE	Unstable	Aerosol and infected vectors	Low	1-6 days	Low
Ebola	Unstable	Contact and aerosol	Moderate	4-16 days	Moderate to high
Botulinum Toxin	Weeks	Ingestion and aerosol	No	Hours to days	High
T-2 Mycotoxins	Years	Ingestion and aerosol	No	2-4 hours	Moderate
Ricin	Stable	Ingestion and aerosol	No	Hours to days	High
Staphylococcal Enterotoxin B	Resistant to freezing	Ingestion and aerosol	No	Hours	<1%

NUCLEAR/RADIOACTIVE AGENTS

General Information

At the most basic level, radiation can be defined as either electromagnetic or particulate emissions of energy. Such radiation also is referred to as ionizing radiation. When the body absorbs ionizing radiation, changes occur in the human cells. Small amounts can be tolerated; larger amounts can be harmful.

The agent may be in a solid (powder), liquid, or gas form. It is unlikely that responders will find high radiation levels distant from the source unless the product is in a gas form. It is not necessary to isolate or secure large areas outside of the building or dispersal area unless the product is in a gas form or there is potential for secondary devices.

As with biological agents, victims should not be sick or symptomatic at the scene. Mixed agents, such as radiological or chemical, and the trauma from explosives could produce immediate effects.

Exposure to radioactive sources does not require immediate removal of the victims' clothing or gross decontamination in the street. Inhalation is the primary route of entry for alpha and beta particles and any radioactive gas. Gamma sources produce an electromagnetic energy wave/ray that affects all areas of the body. The protective measures of "time, distance, and shielding" are appropriate for radiological incidents. Minimize the time and number of responders that are exposed, maintain an appropriate distance from the source, and use shielding (i.e., PPE), if appropriate. SCBA and structural firefighting clothing provide adequate protection against alpha and beta particles. Minimizing exposure time and maintaining appropriate distance is the only protection against a gamma source. If rescue is required from an area near a gamma source, controlling the time of exposure is the primary protective measure for responders.

Alpha, beta, and gamma sources can be detected with appropriate detection equipment. Remember to check for low levels first. The need for decontamination of victims and responders can be determined by the use of radiation detection equipment. Alpha and beta sources may deposit particulate contamination on clothes, skin, hair, etc. Gamma sources will not produce a radiation particulate unless parts of the source or irradiated materials are on the person.

Roentgen Man Equivalent (rem) is a unit of absorbed dose that takes into account the relative effectiveness of radiation that harms human health. The equation for determining radiation dosage is rem = radiation multiplied by a qualifying factor, such as duration or intensity of exposure.

We are concerned particularly here with the dosage levels likely to have significant effects on humans. The threshold (tolerance level) for any real consequences to humans begins around 200 rem. The LD_{50} is around 450 rem. The following chart lists probable effects of varying doses of acute radiation.

Acute Dose (rem)	Clinical Effects
0 to 75	No effects apparent. Chromosome aberrations and temporary depression in white blood cell levels found in some individuals.
75 to 200	Vomiting in 5 to 50 percent of exposed individuals within a few hours, with fatigue and loss of appetite. Moderate blood changes. Recovery within a few weeks for most symptoms.
200 to 600 (LD_{50} is at approximately 400 rem)	All individuals exposed to doses of 300 rem or more exhibit vomiting within 2 hours or less. Severe blood changes, with hemorrhage and increased susceptibility to infection, particularly at higher doses. Loss of hair after 2 weeks for doses of more than 300 rem. Recovery within 1 month to a year for most individuals exposed at lower end of range; only 20 percent survive at upper end of range.
600 to 1,000 (LD_{90} is at approximately 600 rem	Vomiting within 1 hour. Severe blood changes, with hemorrhage and infection, and loss of hair. Some 80 to 100 percent of exposed individuals succumb within 2 months; those who survive are convalescent over a long period

INCENDIARY AGENTS

Incendiary devices have been used by terrorists for centuries. Fire is a flexible tool that is capable of causing property damage and loss of life and sparking panic among the public. It also will continue to spread and cause damage until all available fuel is consumed or the fire is extinguished.

The Irish Republican Army (IRA) has used incendiary devices throughout Europe for many years, resulting in deaths, injuries, and tremendous monetary losses.

In the United States, the use of incendiary devices is on the rise. According to data from the Federal Bureau of Investigation (FBI) Bomb Data Center:

- Incendiary devices were used in approximately 20 to 25 percent of all recorded bombing incidents in the United States.
- When used, incendiary devices ignited approximately 75 percent of the time.
- Less than 5 percent of actual or attempted bombings (including those involving incendiaries) have been preceded by a threat.

Classification of Incendiary Devices

Incendiary devices can be classified in a number of ways. Two common classifications involve triggering and delivery methods.

Outward warning signs and indicators of incendiary use. These are similar to the detection clues for arson investigations and include

- prior warning (phone calls);
- multiple fire locations;
- signs of forced entry to the structure;
- containers from flammable liquids;
- splatter patterns indicating a thrown device;
- fusing residue;
- signs of forced entry to the structure; and
- common appliances out of place for the environment.

These clues should simply be a signal for the responder to take appropriate precautions to safeguard him/herself and the public, and to start considering the incident as a potential crime scene. Various methods of detecting chemical residue indicating incendiary use are available, including colormetric tubes, combustible gas meters, flame ionization detectors, trained dogs, and photoionization detectors.

There are several different means of triggering the incendiary reaction. Chemical reactions, including burning fuses, are a staple of the trade. Electronic ignition through a variety of relays, switches, and other devices

is another means. Finally, mechanical ignition may be used to initiate the event.

Modes of delivery can include hand-thrown devices like Molotov cocktails, stationary or planted devices, and self-propelled incendiaries like rockets or flare gun projectiles.

Components of Incendiary Devices

Incendiary devices have three components. An ignition source is needed to initiate the incendiary reaction. Combustible filler material provides the bulk of the material that actually ignites, and a housing or container is required to hold the filler.

Materials Used to Construct Incendiary Devices

Incendiary devices may be constructed from a wide variety of materials. Some of the products that have been used to construct incendiary devices include

- roadway flares;
- gasoline and motor oil;
- light bulbs;
- common electrical components and devices;
- matches;
- household chemicals;
- fireworks;
- propane and butane cylinders; and
- plastic pipes, bottles, and cans.

CHEMICAL AGENTS

General Information

Successful incident control requires **early suspicion or recognition of a potential terrorist act.** Possible outward warning signs are location, event, and date. Doctors may encounter a large number of patients with no associated trauma. The signs and symptoms of the patients may be an indication of possible chemical agent exposure.

- Nerve agents (Sarin, VX) can have varying effects on the body, ranging from irritation to death.

- Blister agents (mustard, lewsite) produce symptoms whose onset times range from seconds to several hours.

- Blood agents (hydrogen cyanide) are influenced greatly by weather conditions (temperature, wind speed, wind direction, humidity, and air stability).

The agent may be dispersed by introduction into the air handling system, or attaching an explosive device to chemical containers and/or gas cylinders; also by using a aerosolizing or misting device such as bug sprayer, fogger, etc.

Nerve agents are liquids, and their vapors are heavier than air. There are inhalation and skin and eye absorption hazards with nerve agents. They are classified as "semi-persistent" (except VX) and their symptoms include: headache, runny nose, salivation, pinpoint pupils, difficulty breathing, tightness in chest, and seizures and convulsions.

Nerve Agents

Common Name Military Symbol	Tabun (GA)	Sarin (GB)	Soman (GD)	VX
Volatility Persistence	Semi-persistent			Persisent
Rate of Action	Rapid			Rapid
Route of Entry	Respiratory and skin			
Odor	Fruity		Camphor	Sulfur
Signs/ Symptoms	Headache, runny nose, salivation, pinpointing of pupils, difficulty in breathing, tight chest, seizures/convulsions			
Self Protection	Respiratory and skin			
First Aid	Remove from area, treat symptomatically 2--Pam chloride			
Decon	Remove Agent Flush with soap/water and dilute bleach			

Blister agents are also liquids with vapors heavier than air. Hazards of blister agents include inhalation, skin, and eye absorption (i.e., chemical burns, and blisters). These agents are classified as "persistent" and their symptoms include reddening, itching, and burning of the skin, blisters, sore throat, and dry cough.

Blister Agents/Vesicants

Common Name Military Symbol	Mustard (H)	Lewisite (L)	Phosgene Oxime (CX)
Volatility/ Persistence	Persistent		
Rate of Action	Delayed	Rapid	
Route of Entry	Skin Inhalation Eyes		
Odor	Garlic	Geraniums	Irritating
Signs/Symptoms	Red burning skin, blisters, sore throat, dry cough Pulmonary edema, memory loss, coma/seizures **Some symptoms may be delayed from 2 - 24 hours**		
Self Protection	Respiratory and Skin		
First Aid	Decontaminate with copious amount of water, remove clothing, support airway, treat symptomatically		
Decontamination	Remove from area, flush with water and diluted bleach		

Blood agents are gases and are lighter than air. Hazards are inhalation, and absorption through skin and eyes. Blood agents are "non-persistent" and symptoms include: headache, strong stimulated breathing, loss of consciousness, and apnea.

Blood Agents

Common Name Military Symbol	Hydrogen Cyanide (AC)	Cyanogen Chloride (CK)	Arsine (SA)
Volatility Persistency	Non-persistent		
Rate of Action	Rapid		
Route of Entry	Inhalation, skin, and eyes		
Odor	Burnt almonds or peach kernels		Garlic
Signs/Symptoms	Cherry red skin/lips, rapid breathing, dizziness, nausea, vomiting, convulsions, dilated pupils, excessive salivation, gastrointestinal hemorrhage, pulmonary edema, convulsions, respiratory arrest		
Self Protection	Respiratory and skin		
First Aid	Remove from area, assist ventilation's, treat symptomatically, administer cyanide kit		
Decontamination	Remove from area, remove wet clothing, flush with soap and water, aerate		

Choking agents are gases and are heavier than air. Inhalation, skin and eye irritation are the hazards of these agents. Symptoms include irritation to throat, nose, and eyes, coughing, shortness of breath, and pulmonary edema.

Choking Agents

Common Name Military Symbol	Chlorine (CL)	Phosgene (CG)	Diphosgene (DP)
Volatility Persistency	Non-persistent Vapors may hang in low areas		
Rate of Action	Rapid in high concentration, up to 3 hours in low concentrations		
Route of Entry	Respiratory and skin		
Odor	Bleach	Newly mown hay	Cut grass or green corn
Signs/Symptoms	Eye and airway irritation, dizziness, tightness in chest, pulmonary edema, painful cough, nausea, headache		
Self Protection	Respiratory and skin		
First Aid	Remove from area, remove contaminated clothing, assist ventilation's, rest		
Decontamination	Wash with copious amounts of water, aerate		

Irritants are aerosols. Irritants irritate mucous membranes and affect the eyes, nose, and throat. Most irritants are "non-persistent." Symptoms include severe irritation to the eyes, nose, throat, coughing, and shortness of breath.

Riot Control/Irritant Agents

Common Name Military Symbol	Tear Gas (CS & CR)	Mace (CN)	Pepper Spray (OC)
Volatility Persistency	Low - High > 60 days on porous material	Low	Varies depending upon surface
Rate of Action	20 -60 sec.	Rapid	
Route of Entry	Respiratory and skin		
Odor	Hair Spray	Apple blossoms	Pepper or odor of propellant
Signs/Symptoms	Tearing eyes, nose and throat irritation, coughing, shortness of breath, vomiting		
Self Protection	Respiratory and skin		
First Aid	Remove from area, remove support respiration's, treat symptomatically, remove contaminated clothing		
Decontamination	Brush off material, use de-con wipes, water, remove contaminated clothing		

Key Terms

The following terms occur frequently in discussions involving chemical agents. Once again, it is important for the Company Officer (CO) to become familiar with these chemical characteristics to aid in recognizing when something has taken place out of the ordinary.

- **Vapor pressure.** Vapor pressure is the pressure of a substance that moves from a liquid state to a vapor state (i.e., molecules within the liquid have an escape velocity from the liquid surface). Normally, vapor pressure is a measurement of the escape velocity within a closed container at equilibrium. Vapor pressure normally is associated with liquefied compressed gases and their containers.

- **Volatility/Persistency.** Volatility is important because it indicates how rapidly an agent will evaporate. The more volatile an agent is, the more rapidly it will evaporate. Evaporation will cause the agent to become a true gas or vapor and reduce the liquid hazard. Temperature, wind speed, and humidity at the incident site influence how rapidly an agent will evaporate.

  The evaporation process is also a factor in persistency, or the amount of time an agent will remain a threat in the incident site. At an incident site a nonpersistent agent does not stay around as long after it is released as a persistent agent does. Obviously, if an agent is released in an enclosed space, weather does not play a role, and normally the agent's persistency increases.

- **Chemical and common names**. Each agent has a complex chemical name based on its composition and formula. Each chemical also has a common name.

- **Military designation/Symbol.** The military designates each of the agents by its own symbol. This is not a chemical symbol or formula, but rather a shorthand designation of the agent.

- **Rate of action/Onset time.** An agent's rate of action or onset time is the period of time that elapses between when a victim is exposed to the agent and when he/she begins to show or feel symptoms. Some agents have an onset time of just a few seconds; others take from minutes to hours to take affect.

- **Symptoms.** Each agent causes the victim to exhibit certain symptoms. In many cases, recognition of a particular pattern of symptoms can provide an indicator of the type of agent involved.

- **Route of entry.** The route of entry is how the agent gets into the body. Most agents enter through the respiratory tract, that is, through inhalation. Some agents also can attack through the skin and eyes.

- **Toxicity.** Toxicity is the term used to indicate how much of a substance (in this case one of the agents) it takes to cause a specified effect, such as incapacitation or death.

- **Concentration/Dose.** The amount of agent per unit or volume of air is called concentration and is expressed either in milligrams of agent per cubic meter of air (mg/m^3) or in parts per million (ppm).

If the agent is a gas or a liquid or solid aerosol, Concentration X Time = Dose. As an individual breathes, he or she breathes in the concentration. The longer a person breathes in the concentration, the more agent enters the body. Eventually, sufficient agent will enter to cause symptoms to appear. This amount is referred to as dose, and is expressed in terms that incorporate a time exposure factor, for example, mg-min/m^3 or ppm with a 1-minute exposure time. If we want to express the amount of an agent required to cause death, we use LC_{50} to indicate the lethal dose. An agent's LC_{50} indicates the amount of agent per minute per cubic meter needed to cause death to 50 percent of those exposed. The agent's IC_{50} represents the same idea with respect to incapacitation rather than death. The IC_{50} will be a lesser dose than the LC_{50}.

Contaminated victims will exhibit such things as: medical complications, signs and symptoms, visible products on skin and clothing, and chemical odors. These victims require immediate, lifesaving, (emergency gross) decontamination, and definitive medical care. Exposed victims in the area of the chemical release, not suffering from any obvious signs or symptoms of chemical contact, should undergo a precautionary type decontamination and clothing change prior to leaving the area.

Factors Influencing the Effects of Chemical Agents

Weather. Meteorological conditions determine the success or failure of a chemical attack. Temperature of the air and the ground significantly affect agent characteristics. Higher air temperatures may cause the evaporation of aerosol particles, decreasing their size and increasing the chance they will reach the lungs. The temperature of the ground affects evaporation rates, with warmer ground temperatures increasing the evaporation rate, thereby decreasing the duration of contamination. Colder ground temperatures have the opposite effect.

Humidity also greatly influences the effects of a chemical attack. High relative humidity may lead to the enlargement of aerosol particles, thereby reducing the quantity of inhalable aerosol. A combination of high temperature and high humidity causes increased perspiration in humans, thus intensifying the cutaneous effects of certain chemical agents and accelerating the transfer of nerve agents through the skin. Various types of atmospheric precipitation also influence the effects of a chemical attack.

Wind speed and direction also are critical in determining the success of a chemical attack. Wind speed determines how fast a primary cloud moves, and wind direction determines the area that must be alerted downwind.

High winds can disperse vapors, aerosols, and liquids rapidly, thereby shrinking the target area and reducing the population's exposure to an agent. Chemical clouds are most effective when winds are steady and less than 4 knots.

Terrain. The nature of buildings and terrain can affect a chemical attack in a number of ways. Chemical agents persist longer in an urban environment than in an open area, because building materials often are porous and absorb agents readily, which later can be released slowly. In ordinary buildings, protection against released agents can be increased by closing doors and windows, turning off ventilation systems and sealing all cracks with tape. Primary clouds traveling over woodland and hilly terrain are more turbulent, yielding shorter distances for cloud travel. In some instances, however, these same terrain variations may lengthen the effects, since the chemical will be retained in the area.

Outward Warning Signs or Indicators of a Chemical Attack

Chemical attacks leave behind clues and indicators that a responder can use to establish that such an attack has taken place.

- Unexplained animal deaths in the area: not just an occasional road kill, but numerous animals, such as wild and domestic, small and large, and fish in the same general area.

- Lack of insect life: no insect activity on the ground, in the air, or in the water. Check the ground, water surfaces, and shoreline for dead insects. Also, check for dead fish and aquatic birds if you are near a water source.

- Blisters and rashes: numerous people experiencing unexplained watery blisters, welts similar to bee stings, and/or rashes.

- Mass casualties: numerous people exhibiting unexplained serious health problems ranging from nausea to disorientation to difficulty breathing to convulsions and death.

- Definite patterns of casualties: casualties distributed in a pattern that may be associated with possible agent dissemination methods.

- Illness associated with confined geographic area: prevalence of symptoms among those working indoors versus those outdoors.

- Unusual liquid droplets: numerous surfaces exhibiting oily droplets or film when there has not been a recent rain; numerous water surfaces with an oily film layer on top.

- Areas with an unusual appearance: trees, shrubs, bushes, food crops, and/or lawns that are dead, discolored, or withered when there has not been a drought.

- Unexplained odors: odors completely out of character for the surroundings; noxious or unusual odors, not associated routinely with the area, found around the response site. Although many chemical agents are odorless, some have smells similar to bitter almonds (cyanide) or newly mown hay (phosgene).

- Eyewitness accounts of the act.

- Low-lying vapor clouds.

- Unusual objects or debris in the area.

Potential Indicators of Chemical Warfare Agent Poisoning

Certain patterns of symptoms are indicative of exposure to chemical agents:

- Redness of the skin accompanied by itching or burning; stinging pain; blisters that are surrounded by erythema (unusual redness) and are dome-shaped and thin-walled, with yellowish, translucent fluid.

- Rapid and deep breathing; loss of consciousness and convulsions; irritation of the eyes, nose, and throat; and mild shortness of breath or coughing.

- An unexplained runny nose; sudden headache; sudden drooling; difficulty in seeing; dimness of vision; tightness in the chest or difficulty breathing; localized sweating with muscular twitching in a particular area of the body; stomach cramps; and nausea (SLUDGEM).

- Loss of vision (severely pinpointed pupils); wheezing; coughing and severe difficulty in breathing; strange and confused behavior; red eyes with tearing; vomiting; severe muscular twitching and general weakness; involuntary urination and defecation; convulsions; unconsciousness; and respiratory failure.

Dissemination Methods

A wide variety of dissemination methods--explosive, thermal, pneumatic, and mechanical--exist for delivery of chemical agents. A spray tank can be used to disseminate agents from aircraft, just as a crop duster can disseminate insecticides and pesticides. The same type of ground-based aerosol generator used to disseminate pesticides can be used for chemical agent dispersion as well.

Many commercially available dissemination devices can be adapted easily to dispersal of chemical agents for terrorist or clandestine purposes. Air- or ground-based aerosol generators can be used for more controlled dissemination of chemical weapons agents. Remember that simple dissemination systems can be adapted from commercially available systems, and that only a small quantity of chemical agent is required to inflict a large number of casualties, especially among unwarned or unprotected personnel.

Although simple commercial delivery systems are undoubtedly less efficient and reliable than munitions and delivery systems specially designed and tested for use with chemical agents, such commercial systems can pose a significant threat, especially since many of the technologies are dual use and dual purpose. As noted earlier, a commercial crop-dusting aircraft can deliver both wet and dry chemical agents very efficiently, much as a spray tank on a military aircraft would be used to lay down a line source. Similarly, individual small generators can disperse chemical agents. A pesticide generator used to spray orchards from a pickup truck can be used successfully to contaminate large areas when loaded with the proper agent. Suitcase generators have been used to contaminate rooms and buildings.

Simple aerosol generators, such as underarm deodorant spray cans, can serve as quite effective dissemination systems. Simple pump-type air pressure sprayers available at local hardware stores can serve as dissemination systems. Of more interest to terrorists would be aerosol generators mounted on the bed of a pickup truck or small watercraft, where they could disseminate a line source of agent upwind of a city, business center, or other populated area. The dispersal of agents into a building ventilation system is another means of contaminating buildings (though characteristics of such systems and the mechanisms by which they work do present significant obstacles to their effective use for the dissemination of agents).

In most documented cases of chemical weapons terrorism, the quantities of nerve agent have been very small and the dissemination devices very

crude, depending primarily on the higher temperature and increased vapor pressure to disseminate the agent into an enclosed space.

First responders must be knowledgeable about decontamination techniques and have some knowledge of munitions, since it is unknown what the terrorist may attempt. Water and soap is the best choice for decontamination of living beings, particularly in cases where the agent has not been identified. Bleach solutions actually can increase the damage caused by some agents.

EXPLOSIVE DEVICES

Political, racial, and labor disturbances have provided a breeding ground for terrorists and extortionists in many areas of the world. Terrorists are being trained in the preparation and use of explosives. There has been an increase in the printing and dissemination of books and pamphlets detailing the construction of improvised devices. As a result, bombings and other acts of terrorism and extortion have intensified, producing a variety of improvised devices that are becoming more and more sophisticated.

Improvised explosive devices (IED's) are nonstandard devices fabricated from common materials, incorporating explosives or destructive, lethal, noxious, or pyrotechnic chemicals. There are five basic types of chemical reaction bombs: acid bombs, caustic bombs, dry-ice bombs, blowtorch bombs, and bleach bombs.

In addition to standard military and commercial explosives and incendiary mixtures, improvised fillers can be manufactured from available chemicals and materials. Some explosive mixtures in a confined state are considered incendiary; some incendiaries, when confined, may detonate.

Regardless of how they are employed, IED's are classified according to whether they are closed or open devices.

IED's are designed and assembled for one purpose: to explode. Remember that explosive materials come in many sizes, shapes, and containers. Today's improvised devices are extremely diverse and may contain any type of firing device or initiator, plus various commercial, military, or contrived fillers.

Improvised devices generally are homemade and limited in quantity. They may be made with rudimentary tools and be of crude design. However, groups have been known to produce devices on an assembly-line basis. Since these devices are nonstandard, there are no specific

guidelines to enable fire and emergency service responders to identify or categorize them definitively.

Explosive devices placed specifically to harm emergency services personnel or to hinder emergency operations should be considered a definite possibility at any terrorist incident and should be addressed in both the development of operational guidelines and the training of personnel.

Fire and emergency services personnel should never approach what is suspected to be an IED. Only trained Explosive Ordnance Disposal (EOD) personnel should approach the suspected device. If an IED is suspected, the area in and around the suspected device should be cleared immediately and the appropriate EOD personnel in support of the incident should be notified.

The unpredictability of the improvised device demands more caution on the part of fire and emergency service personnel. Generally, emergency response personnel recognize the dangers associated with managing incidents that involve explosives. An understanding of associated dangers of explosive devices is important. Once this association is made, then an effective responder protection plan can be developed.

Hazards of Improvised Devices

The hazards of improvised devices include all those related to conventional and nuclear munitions plus the additional hazards of diversity and unpredictability of design compounded by the ingenuity or incompetence of the designer. Bombs vary in size, and their size is usually relative to that of the intended target. Terrorists use an assortment of dangerous materials in bomb formulas, many of which are their own recipes. They dedicate many hours to planning and developing strategies to cause harm and destroy property. In this process, they become very familiar with the potential targets and the local emergency response capabilities, as noted in the section on surveillance above.

The use of improvised explosive devices is not a new concept. However, the devices have become more complex and more destructive and should no longer be considered just a law enforcement issue.

Recognizing the hazards and risks involved with IED's is important. In 1995, the United States experienced a total of 5,296 explosive incidents. Of those incidents, 1,979 were bombings, 598 were incendiary, and 2,619 were other types of explosive incidents. The largest single category of incidents involved pipe bombs, and numbered 667.

Of primary concern to fire and EMS responders in responding to an IED is the possibility that the primary blast may not have detonated all of the explosive material. Unexploded materials may be lying among the debris. To deal with this potential hazard, initial operations at a terrorist bombing scene should be directed toward establishing and managing control zones similar to those in a hazardous materials incident. Response procedures should provide direction for the initial responder to create and designate specific zones of operations.

Recognizing Distraction Techniques

Previous bombing incidents have demonstrated that terrorists use various distraction techniques to attract attention and draw in crowds. Once the audience of onlookers and emergency responders has assembled, a larger, more powerful bomb is detonated. This delayed attack technique is known commonly as the secondary device.

Another deceptive tactic used by terrorists is to display a countdown timer designed to give the observer a false sense of security. The bogus timer may indicate 30 minutes remaining on the display, even though the device actually is programmed to explode at the 10-minute mark.

Maximizing Responder Survivability

One technique in maximizing responder survivability when dealing with IED's is to establish within local operational plans that only personnel with EOD hazard training are allowed to enter the blast zones to identify unexploded ordnance or a potential secondary device. Once a device has been identified or is suspected, the plan should direct the initial responders to back off and call for trained EOD technicians. In areas where there is a threat of potential terrorist acts, it may be advisable to preposition an EOD technician along with fire and EMS services. The EOD technician then can respond initially to the site to provide direction for safe fire and rescue operating practices.

Hoax Device Tactics

Many hoax devices are planted each year specifically to disrupt daily activities. Determining whether a device is real or fake is not the role of a first responder. Regardless of the presenting conditions, maximum precautions must be observed until experts render the scene safe. Untrained personnel never should be used for bomb searches in the primary target area.

Ambush Tactics

Reconnaissance of the incident site can minimize the possibility of a secondary device being used against the responders. Recognition training is important to permit effective identification of the existence of a secondary device. Terrorists have mastered the art of transforming common containers and packages to disguise bombs and IED's. Remember, law enforcement personnel should conduct the incident site reconnaissance. EOD personnel and "bomb" dogs should be used to sweep and clear operational zone, staging areas, the command post, etc.

General Information

A large percentage (approximately 70 percent) of terrorist attacks involve bombs or explosives. Any type or size of envelope, package, backpack, satchel, briefcase, metal/pvc pipe, or vehicle has the potential to be an improvised explosive device (IED). Always be alert for potential secondary devices.

Devices may contain "anti-personnel" features such as nails, shrapnel, fragmentation, etc., that is designed specifically to injure victims or responders. Explosive devices may be designed to disseminate chemical, radiological, or biological agents when they detonate.

The explosive device can produce a high-intensity blast (air pressure) capable of displacing structural components, knocking people down, and carrying glass and other fragments great distances. The explosion may produce secondary hazards such as unstable structures, damaged utilities, hanging debris, void spaces, as well as other physical hazards.

Outward warning signs include

- verbal or written threats;
- any abandoned container or vehicle that is "out-of-place" or not conducive to the surroundings;
- oversized letters or packages with oily stains, chemical odors, excessive postage, protruding wires, excessive binding, no return address, etc.;
- unusual or foreign devices attached to compressed gas cylinders, flammable liquid containers, bulk storage containers, pipelines, and other chemical containers; and
- obvious devices containing blasting caps, timers, booster charges, or explosive materials.

Questions Explosive Ordinance Disposal Personnel Will Ask

If an improvised device is suspected, trained EOD personnel will ask the first responder some general questions: What is the exact location of the device? What is its size, shape, and appearance? What sounds, if any, is it making? Additionally, any information concerning a disturbance to the device (items moved or jarred, lights turned on or off in the room, etc.) should be provided to the EOD personnel. Responders also should be prepared to describe to EOD personnel the path that they traveled to exit the suspected device location.

EOD personnel should be notified as to whether the device has been placed on or near any hazardous materials and utilities. Evacuation of the immediate area, if not already begun, should commence.

Device Location

As a general rule the easiest place to plant a device outside often is in a vehicle or in shrubbery surrounding a building. If personnel are evacuated, they may be increasing rather than decreasing their risk of injury. The most likely place to conceal a device inside a building is in an area to which the public has the easiest access. Therefore, any evacuation that requires people to move through public areas (such as halls near restrooms, waiting rooms, or lobbies) probably increases the risk in the event of detonation.

Courses of Action for Suspected Devices

There are three possible courses of action when a device is suspected: (1) take no action, (2) evacuate and search, (3) search without evacuation. Evacuation appears, as a first thought, to be the appropriate response to any bomb threat situation. However, there are factors that may weigh against the evacuation response. Even when total evacuation is possible and desirable, the process itself is not a simple one.

Evacuation Considerations

Assistance should be requested early when resources have been committed to evacuation. Responders should identify the type of technical assistance needed (EOD, haz mat, rescue, radiological, etc.) and request law enforcement assistance to control access to the outer perimeter and to guide evacuation procedures.

A sudden evacuation may cause panic and unpredictable behavior leading to unnecessary risk of injury. When there is reason to believe that occupants of a building will panic if advised of a bomb threat, it may be advisable to have evacuation ordered on some other pretext. The pretext of a fire should not be used, however. During fire drills, windows and doors are closed and often are locked. For evacuation involving improvised explosive devices, doors must be left open so that rooms are readily available to search teams; doors and windows should be open so that a detonation (should it occur) is not contained within the building.

Remember that when an evacuation is ordered for a suspected improvised device, established routes may need to be altered in favor of an exit pattern that provides the greatest protection in the event of a detonation during evacuation. Greater supervision and control are required, especially if a decision has been made not to announce the purpose of the evacuation.

Information gathered from the dispatch center or units operating on the scene should be used to determine initial stand-off distance. When actual explosive devices have been located, an isolation perimeter should be identified for staging personnel and apparatus; if coordinates are relayed via radio, it should be done outside of this perimeter zone.

Responders should not intervene, but should carry out only essential tasks that support public protection measures. Defensive posturing should be maintained using the minimum number of personnel to achieve the task.

The immediate hazard area should be closed off and access denied. An attempt should be made to control main points of entry such as streets and front and rear access to structures. Relying on banner tape to restrict movement of people is unlikely to be successful; law enforcement assistance should be requested to accomplish this task.

Responders should use the highest level of PPE available as well as breathing apparatus when operating inside the hazard area. Structural firefighting clothing offers limited protection from shrapnel and cuts.

Use of Communications Precautions

Radio, cellular, and mobile data terminal communication should be restricted or discontinued when explosives are suspected. Radio transmitters can create a field of electric energy sufficient to trigger electric blasting caps. Low-frequency transmissions are more dangerous to use.

When possible, explosives should not be exposed to excessive ambient heat, and static (electric) discharges in their vicinity should be eliminated.

Power Source and Utilities Consideration

Responders should gain control of utilities but not disconnect or engage circuitry until the scene has been evaluated by trained personnel. If a device is suspected or discovered, the condition of the surroundings should not be changed, including not moving power or light switches to a different position.

Staging Considerations

When establishing Staging Areas, consider using structures and natural barriers that provide blast protection. Planning should take into consideration reflecting overpressures and the need to stay upwind. All Staging Areas should be located away from any buildings containing large amounts of glass and away from line-of-sight of the target area.

Water supply sources should be identified in preparation for establishing supply lines for firefighting operations.

If explosives are involved in the fire, no attempt should be made to fight the fire. The area should be isolated, and exposures protected. The isolation distance required depends on the conditions present and the type of material. It may be necessary to isolate for distances of 1-mile or more in all directions.

If Detonation Occurs

If a detonation has occurred, the number, status, and condition of any casualties should be estimated, and mass casualty incident protocols should be initiated. Rescue equipment should be arranged as needed for entrapped victims.

After command has been established, a personnel accountability system should be activated. The person responsible for command and control and the location of the command and control should be identified clearly. Preferably, this should be done face to face because of security concerns.

It is important to think before you rush in, and not become complacent. It also is important to deviate from your typical response mode when responding to an explosive device incident.

Secondary Device Considerations

Perimeters of the detonation area should be established quickly, and access allowed only to remove the injured until a thorough search for secondary devices has been completed. Such a search should be conducted only by trained EOD personnel. IED's can be disguised easily and may be concealed in seemingly harmless objects.

Nothing at or near the bomb scene should be touched or moved. Any suspicious items should be brought to the attention of trained EOD personnel.

Considering that secondary devices often target first responders, the bomber may anticipate where Staging Areas and Command Posts (CP's) are likely to be located. Searches for IED's should include these areas. Access should be controlled strictly until a search for secondary devices is completed and thereafter to protect the crime scene. Extensions of the isolation areas can save lives.

CP's should be located upwind of the scene of an explosion to reduce the possibility of exposure to airborne toxins or hazardous vapors that may have been released or caused by the blast.

The scene should be recorded using a hand-held video camera, photographs, and/or sketches or some type of drawings. This will help for time sequencing of the event and may reveal valuable information in later review.

Rapid Evacuation Considerations

In the event a rapid evacuation is necessary, the traditional "load and go" principle can be used in a modified form. The bomb scene should be treated as you would a car engulfed in flames. The potential for further danger and harm is very real. Victims should be removed from the scene and taken to a safe distance away from the scene to render first aid.

Infrastructure in the area of the explosion, such as gas lines and tanks, electrical transformers, downed power lines, and the like may create other hazards to first responders during an evacuation.

Responsibilities When a Suspected Explosive Device Is Found

When a suspected explosive device is discovered in the process of conducting search operations or when responding to an incident, take the following actions:

- Cease all search operations and ensure that the building or area is evacuated and that a secure perimeter is established. Only trained EOD personnel should conduct further operations.

- Inform law enforcement and fire dispatch by radio (at a safe distance), runner, or telephone and request that proper notifications be made (police, EOD, public works, gas, electric, phone, etc.).

- Designate safe response routes of approach for incoming equipment and personnel.

- Ensure that a written chronological events log is maintained, including responding units, times and locations, displaced individuals, injuries, and other pertinent information. Remember that the incident is a crime scene, and all of this information can assist law enforcement during the crisis management phase of the incident.

- Ensure that all firefighting and EMS personnel remain clear of the incident site until trained EOD and law enforcement personnel sound the all-clear.

Dispatch Procedures During A Terrorist or Criminal Bomb Incident

If a dispatcher receives a telephonic bomb threat when first responders are en route to the incident site or are at the incident site, he/she should notify the onscene Incident Commander (IC) and responding units immediately and advise him/her that a bomb threat has been received involving the incident site. Immediate evacuation of all responders then must take place. Only trained EOD personnel should breach the established safety perimeter to locate or identify the suspected device.

The dispatcher should ensure that the exact time is noted, then ask the following questions:

- When is the bomb going to explode?

- Where is the bomb located?

- What does the bomb look like?
- What kind of bomb is it?
- What will cause the bomb to explode?
- Did you place the bomb?
- Why did you place the bomb?
- What is your name or the name of your group?

After obtaining as much information as possible from the caller, the dispatcher should contact the incident site and provide law enforcement with the details of the caller's responses.

CRIME SCENE AND PRESERVATION OF EVIDENCE ISSUES

Law enforcement agencies are well versed in crime scene investigations and the importance of evidence preservation. The majority of fire service and EMS personnel must come to understand the special demands placed on them and their respective responsibilities when responding to crime scenes.

Evidence Recognition

Evidence recognition is an important part of the entire process. Proper recognition of potential evidence serves two purposes. Primarily, it must be assumed that evidence also can be dangerous to the responders. Unexploded devices or portions of a device could cause grave physical harm to the responder, and also serve as valuable evidence for law enforcement. Therefore, it is important to coordinate with law enforcement to schedule classes on improvised explosive devices as well as instruction on evidence recognition.

Coordination

Close coordination among fire, EMS, and law enforcement personnel ensures that, to the maximum degree possible, important evidence is not destroyed during the actual response or initial actions. It is very important that emergency responder actions do not interfere with the successful prosecution of a terrorist act.

The very nature of terrorist acts requires law enforcement to work in tandem with fire and EMS services. The crime scene must be preserved effectively while personnel are carrying out lifesaving actions, implementing the necessary protective actions, developing strategies to protect response personnel, and defining and containing the hazard.

SUMMARY

Throughout this unit we have discussed developing a knowledge of recognition and identification skills involving WMD's. Understanding the potential dangers related to the characteristics of the B-NICE threats greatly enhances overall safety of responders while they are operating in those environments. It is incumbent upon all emergency responders to continue the learning process and exercise the skills required to survive an incident involving WMD's.

In addition to developing effective protective measures, the first responder must initiate cross-training with city, State, and Federal agencies. Security-related responsibilities are everyone's concern, not just law enforcement's. Emergency responders must educate themselves on safe and practical security-related measures, even if at a passive level. It also is important to continue the preplanning process and take into account a number of different response considerations not included normally in planning. Remember, recognition means survival when operating in the hostile environment of a terrorist event.

Activity 3.1

Recognition and Survival for Responses to Terrorism

Purpose

To evaluate on-scene information and outward warning signs at a suspected terrorist event. The information will be used to establish protective measures and enhance survivability of the incident.

Directions

1. Your instructor will break the class into small groups.
2. The instructor will display slides of the Central City map and weather information.
3. Each group will read the information on the incident.
4. As a group, compile an easel pad list of your answers.
5. Your group will have 25 minutes to accomplish this task.
6. Your group's spokesperson will present the group's findings.

Case Scenario

Your dispatch center receives a telephone call from a family planning center located on Central Meadow Blvd. The caller states that a worker opened a package and a fine powder fell out. The powder covered the worker, desktop, and surrounding floor area. A letter inside stated that the employee had been exposed to anthrax and would die.

Questions

1. What information or outward warning signs are present to suspect a terrorist attack?

2. Can first responders safely enter for reconnaissance?

3. Will the victim be sick if the powder actually is anthrax?

4. Will the weather influence this event?

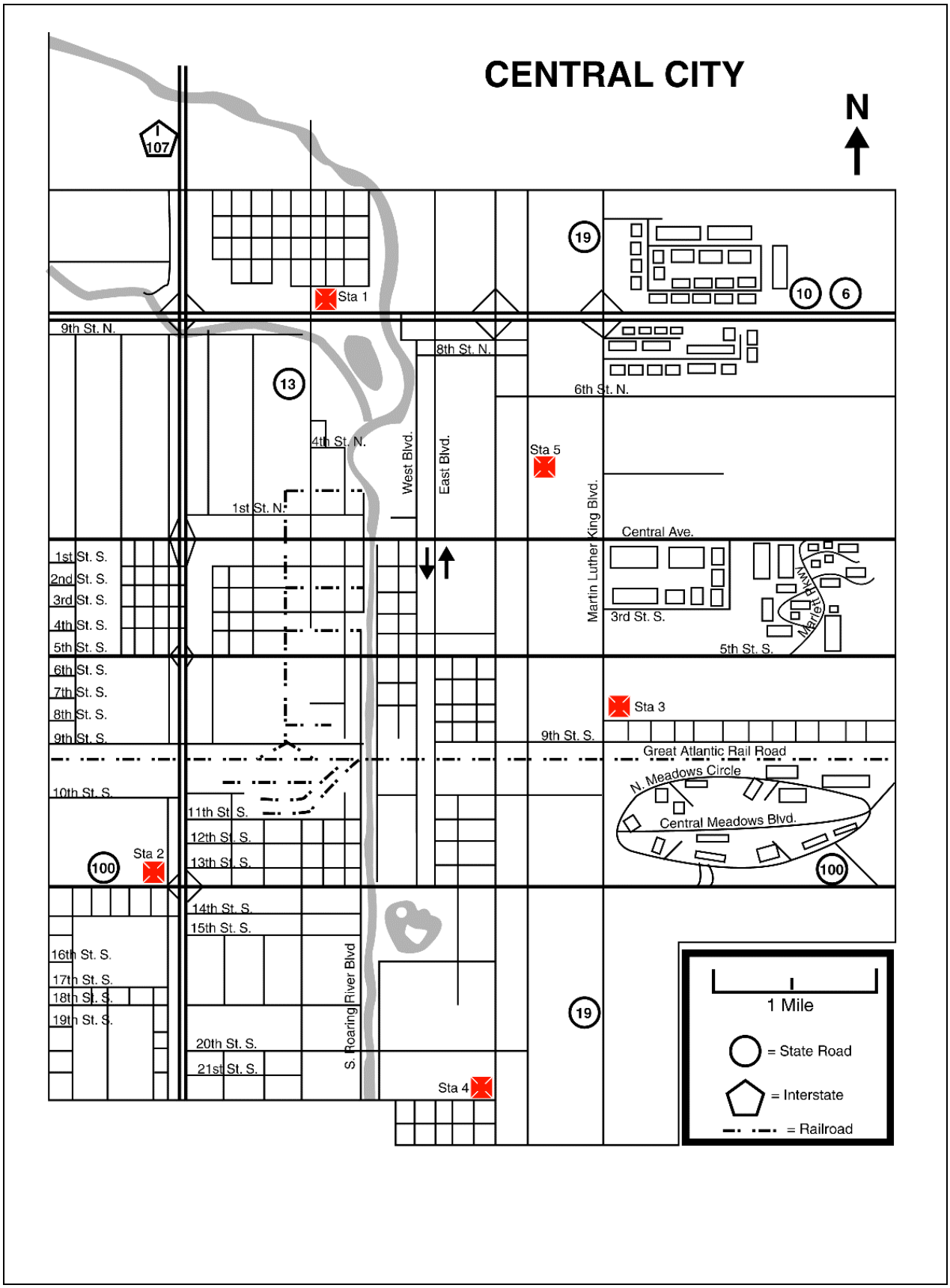
5. Will the location of the clinic affect the incident?

6. Is a large isolation area/hot zone required for this event?

7. Will this victim require any type of decontamination? If so, what type?

8. If the agent truly is anthrax, is it contagious?

9. Can anthrax be detected in the field?


CENTRAL CITY
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107
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4th St. N.
West Blvd.
East Blvd.
Sta 5
1st St. N.
Martin Luther King Blvd.
Central Ave.
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2nd St. S.
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Market Hwy
6th St. S.
7th St. S.
8th St. S.
9th St. S.
Sta 3
9th St. S.
Great Atlantic Rail Road
N. Meadows Circle
Central Meadows Blvd.
10th St. S.
11th St. S.
12th St. S.
13th St. S.
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Sta 2
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14th St. S.
15th St. S.
16th St. S.
17th St. S.
18th St. S.
19th St. S.
S. Roaring River Blvd
19
20th St. S.
21st St. S.
Sta 4
1 Mile
= State Road
= Interstate
= Railroad

Unit 4: Terrorism Response Strategies and Tactical Options

Terminal Objective

- Upon completion of this unit, the students will be able to explain how a specific response strategy for a given scenario and a proposed tactical options will increase responder survivability and response effectiveness.

Enabling Objectives

The students will:

- Explain how the strategic goal in a given scenario as well as the tactical options will enhance the effectiveness of the response.
- Identify the general concerns that affect tactics to combat terrorism.
- List and explain self-protective measures that will enhance overall responder survivability when responding to acts of terrorism.

INTRODUCTION

In this unit, we will discuss perspectives on strategies for responding to acts of terrorism as well as the strategies themselves, and we will introduce tactical options available to the Company Officer (CO) in effectively responding to such acts. Responding to acts of terrorism can be significantly different from responding to traditional incidents. To respond effectively and safely to incidents involving terrorism, it is necessary to consider several new strategic approaches, along with the tactical options available that will both protect the responder and minimize overall loses. Terrorist-related incidents are planned events and generally involve specific targets the terrorists have selected for a particular reason. The CO or first-in supervisor normally is not required to address the strategies required later in an event, only those crucial to an effective initial response.

RESPONSE STRATEGIES FOR TERRORISM

The traditional response strategies certainly play an important role in responding to acts of terrorism. Additional strategies need to be included in the overall response plan, however, to cope with challenges posed specifically by a terrorist incident. Traditional strategies like isolation, notification, protection, identification, life safety, fire control, leak control, spill control, recovery, and termination all are applicable, depending on the circumstances, to a terrorist incident. However, it should be understood that accomplishing these strategic objectives safely and effectively when terrorism is involved requires a much different approach in determining what tactical options are available. Remember, tactics are specific actions taken to achieve a broader strategic goal. The tactical realities of a given situation may force Incident Commanders (IC's) to reevaluate a strategy that has been selected previously. A particular strategy very well may be sound but unattainable in a given set of circumstances because of a lack of necessary resources or an unacceptably high risk involved with the associated tactics.

Additional response strategies for acts of terrorism include reconnaissance, scene security, evidence preservation, and interagency operations. These are not new strategic considerations, of course, but rather, they are identified as separate response strategies.

TACTICAL OPTIONS FOR THE COMMON RESPONSE STRATEGIES

Isolation

It is the responsibility of the first-arriving officer at the scene of a terrorist incident to establish initial isolation zones based on the information available upon arrival. The information used to establish the initial isolation zone may come from law enforcement, eyewitnesses, or the officer's own assessment of site characteristics. Regardless of what factors dictate the initial establishment of the isolation zone(s), constant reevaluation of the incident site is necessary throughout the response to the incident.

The first-due officer may arrive on the scene with a pre-established isolation zone already in place. Law enforcement personnel may well have established the initial isolation zone based on their level of training and overall perception of what has occurred. In this case, the first-arriving officer must assess the isolation zone that has been established and either reestablish it or modify it based on his/her assessment.

The criteria for establishing isolation areas or zones during responses to acts of terrorism are similar to those for establishing the zones for traditional incidents, with one key addition: **security**, perhaps better termed **self-preservation**.

The following considerations should guide the establishment of isolation zones or stand-off distances at terrorism incidents:

- type of event;
- agent;
- location;
- dissemination method;
- physical/chemical properties;
- exposures;
- denying access to/isolating, the hazard area;
- initiating hazard control procedures;
- establishing emergency evacuation lanes or corridors;
- initiating public protection actions (evacuation or shelter in place);
- topographical considerations;
- weather factors;
- Staging Area considerations; and
- security-related considerations.

You may note that all but a few of the isolation considerations for terrorist incidents are similar to those for traditional emergency responses.

Having identified the criteria that govern their establishment, we now need to examine the tactical options available for establishing effective isolation zones when responding to acts of terrorism. First and foremost, we must possess the requisite skills to recognize that a terrorist incident has occurred and to identify exactly what type of terrorist attack is involved.

Even with the understanding that law enforcement personnel have the primary responsibility for security at the site of a terrorist incident, first responders must at least be able to recognize when conditions exist that warrant security-related considerations. Particularly in the absence of law enforcement, the first responder needs to assume a defensive position and may be required to establish a security perimeter without the assistance of law enforcement expertise and manpower if he/she determines a terrorist attack may have taken place.

During responses to acts of terrorism, emergency responders must consider the possibility of being attacked, either directly or as a result of the detonation of a secondary explosive device planted in a strategic location with the intent of harming responders, thereby further delaying consequence management and mitigation operations. Therefore, establishing emergency evacuation lanes or corridors for both equipment and personnel is critical during the initial establishment of the isolation zones. The lanes should be well thought out and should allow for ample time for all equipment and personnel to evacuate the area in a timely and methodical manner. "Boxing in" equipment or personnel resources when responding to acts of terrorism could prove to be a deadly mistake!

Certain situations may require emergency evacuation on foot, and in these situations, equipment resources are not a priority. In addition, consideration must be given to the safe evacuation of the general public in circumstances requiring such actions.

Defensive is the key word and should define the actions taken when confronted with a security-related issue. First responders are not expected, nor are they trained and equipped properly, to initiate any actions other than defensive ones (those involving self-preservation) in an unstable environment, i.e., armed attack, known secondary device, etc.

Understanding proper "cover" versus "concealment" is a basic skill that should be instinctive. Effective cover provides adequate physical protection against projectiles such as bullets or blast debris. Concealment merely hides an individual from view and provides no substantial protection (i.e., it provides no real cover). This concept is discussed in greater detail under the strategy of protection, but we mention it here briefly because the first opportunity to seek cover may present itself during the initial isolation phase.

In summary, first responders do not have to be armed with an actual weapon to initiate security-related actions safely and effectively. The first responder's "weapon" in these situations is the knowledge that he/she possesses for recognizing initially that a terrorist-related threat exists and for ensuring effectively the safety of his/her fellow responders and the general public.

Notification

Terrorist attack incidents may warrant a very different standard of response involving very different response protocols for the responders. How the notification process (to emergency responders) is initiated, therefore, affects the entire response operation. It is the first critical step in enhancing overall responder survivability and facilitating a much safer approach to the incident site.

Calls for assistance received by dispatchers and 911 operators sometimes come in as "known" terrorist-related incidents, which should trigger specific terrorism response protocols among those responding. More often, however, dispatchers and 911 operators simply are informed that an emergency exists at a specific location and are asked to send assistance. Even in instances where a terrorist-related incident has taken place, there may not be enough information available initially for the person placing the call for assistance to identify the incident as a terrorist attack. Such a caller will not be able to identify the incident to the dispatcher or 911 operator as one involving terrorism.

A good example of an initial response first thought to be of a routine nature is the World Trade Center incident in New York City. Responders to that incident were dispatched initially to what was reported as a transformer explosion and fire. Not until much later in the response was the incident recognized as a terrorist-related bombing attack.

Because incoming calls may not distinguish between routine and terrorist incidents, dispatchers and 911 operators should have and use a checklist of outward warning signs and indicators of the different types of terrorist-related attack methods. Such a checklist can guide these personnel in identifying, among the calls they receive, incidents that may involve terrorism, even if the caller does not identify initially the incident as terrorism related.

If he or she suspects that an incident that generates a call for emergency assistance is a terrorist attack (or if the caller is able to identify the incident as such), the dispatcher or 911 operator should activate specific notification procedures as identified within Local Emergency Response

Plans (LERP's) and Standard Operating Procedures (SOP's/SOG's). These notification procedures should include the preplanned notification of designated local, State, and Federal response agencies. Always they should include the notification of law enforcement to obtain security-related support in managing the incident, which, as noted previously, is paramount in all responses to known or suspected acts of terrorism.

In addition, notification of all area hospitals regarding mass casualty potential should be considered whenever terrorist involvement in an incident is known or suspected. If the incident is identified as a chemical attack, it will be imperative that information concerning the signs and symptoms of casualties be conveyed to medical authorities immediately.

As part of the notification process, communication must be established among all organizations and agencies involved in the response. An Information Officer (IO) should be assigned immediately to address media and community affairs issues.

Certain circumstances may make it necessary to initiate actions within the community to warn (notify) the general public of the possibility of impending danger from chemical hazards downwind of the incident site. At a minimum, a warning may need to be issued instructing all nonessential persons to remain clear of the incident area so that emergency resources can respond expeditiously.

The notification strategy for a terrorist incident involves many different aspects. A comprehensive preplanning phase that includes all potential response organizations and agencies and identifies methods for making timely contact is the best way to ensure effective accomplishment of notification objectives during a response to acts of terrorism.

Protection

Developing strategies and tactics for protection of personnel during response to incidents involving terrorism always includes traditional response considerations as well as protective measures specifically for inadvertent or planned attacks against first responders. A hazard and risk analysis is critical to the effective evaluation of protection criteria and requirements.

On-scene vulnerability assessment begins immediately upon notification that a terrorist-related incident has occurred. It is important to initiate the assessment early to determine all responder safety considerations prior to moving toward potential danger. This assessment continues through the entire response: at and immediately after the time of notification, while en

route to the incident, during the incident site approach, and as the incident is sized up at the scene. Specific incident response vulnerability assessment considerations include

- evaluation of information obtained from the caller by the 911 operator or dispatcher (outward warning signs and/or indicators);
- security requirements based on evaluation of information from 911 operator or dispatcher;
- availability of security-related assets and response timelines;
- response route vulnerabilities based on potential choke points and other danger areas along the response route;
- apparatus considerations at the approach to the incident site;
- equipment and personnel Staging Area considerations;
- incident site characterization for terrorism response considerations;
- availability of Explosive Ordnance Disposal (EOD) support;
- rapid equipment and personnel egress route(s) from the incident site;
- availability of detection equipment and specialized personal protective equipment (PPE) (Level A or B) and the ability to command and control specialized operations effectively;
- availability of specially trained response personnel;
- individual responder ability to seek protective cover in the event of a terrorist-related attack;
- rally point considerations;
- topographical considerations;
- weather factors that may have an effect on the overall operation; and
- communication considerations among responding agencies.

The vulnerability assessment is the primary tool for developing the hazard/risk analysis and for aiding the CO in determining whether an unacceptable risk can be turned into an acceptable risk--one that is manageable and can be mitigated safely by response personnel. In addition, the assessment aids in identifying the necessary protective measures to enhance overall responder survivability.

Tactical protective measures. Response personnel at the site of a terrorist incident must assess the hazard (threat) and determine precise tactical protective measures suitable for the circumstances confronting them. In other words, protective measures must be determined based on the specific threat that confronts the responder. An explosive threat, for example, requires very different tactical protective measures than a chemical agent threat.

ONSITE SECURITY OBSERVATIONS

Areas of Surveillance

Terrorist surveillance of the fire service and EMS usually focuses on the following areas primarily:

- equipment and personnel assets;
- response times;
- response approach procedures;
- response routes;
- command and control;
- organizational structure;
- interagency relationship with law enforcement;
- operational SOP's;
- dispatching procedures;
- reserve asset capabilities; and
- ability to respond effectively to the terrorist's intended method of attack.

Visual Surveillance Recognition

To enhance recognition of visual surveillance, fire and EMS personnel need to become even more familiar with and attuned to the surroundings in which they function. Operating in an environment that has potential for a terrorist attack requires even more attentiveness to surroundings. Such awareness involves observation, and accurate observation requires expending the mental effort necessary to recognize, analyze, and relate the constituent parts of our surroundings and to interpret the patterns and relationships present. However, usually we perceive or comprehend only what interests us or what we can understand with minimum effort. To train ourselves to make accurate observations, we must practice continual and complete awareness and alertness.

Terrorist surveillance techniques include the observation of responders when they are making routine alarm calls. The terrorist may be on-hand to observe fire, EMS, or hazardous materials tactical operations. If personnel are available, fire service leadership should consider assigning a trained responder to serve as an active observer of incident sites for purposes of recognizing possible surveillance of the response operation.

Stationary or fixed surveillance is the most common technique employed by terrorists. Terrorist surveillance personnel seek a location that permits them to observe clearly without being observed or suspected, and do everything they can to blend into the surroundings in order to protect their

anonymity. However, surveillance persons usually have a fear of being detected and may very well display signs of anxiety or apprehension that may be clues to their intentions. Also they may carry surveillance equipment, including still and/or video cameras. Because it is fairly easy to detect, terrorists often do not use single-person surveillance.

If surveillance is detected, fire and EMS personnel should contact local law enforcement immediately and ensure personal safety. Responders never should confront the surveillance personnel directly.

Hoax Considerations

Every department responds to what turns out to be false alarms (hoaxes). An alarm hoax can be an effective terrorist method for determining response routes, response times, dispatch procedures, command and control protocols, and equipment and personnel asset availability. Consistent review of run logs is important in identifying possible trends in response locations. If redundant runs are noted at preplanned target locations, this could point to something worth investigating further.

Level of Threat Awareness

Fire and EMS organizations are predictable targets for terrorists because they are public service organizations. Therefore, they need to increase their level of awareness to possible surveillance for purposes of doing harm or attacking equipment and personnel assets.

Specific responder self-protective measures include the following:

- Approach all incident sites with extreme caution.
- Request law enforcement for security support.
- Maintain radio contact with dispatcher during all movement phases of the response.
- Conduct reconnaissance of response routes, incident site(s) and Staging Areas.
- Position all apparatus to facilitate rapid egress from incident site.
- Locate multiple egress routes that will limit bottlenecking of apparatus and of personnel on foot.

- Locate shelter(s).
- Use clear text for communications.
- Be sure to advise responding units of all potential dangers.
- Maintain situational awareness at all times.

We examined the difference between cover and concealment briefly in the section on isolation, but it is worth revisiting here in greater detail because of its obvious importance in responder self-protection. **Cover** can be defined as any object or location that affords physical protection against projectiles (explosive or armed attack) and enhances responder survivability effectively. Basically, effective cover **protects**. **Concealment** can be defined as a method of hiding oneself from observation that does not necessarily provide any level of physical protection against physical harm (though it may offer a certain amount of protection simply by keeping the responder out of sight). Obviously effective cover, if available, is preferable in the response to a terrorist incident.

Heavy structures with mass may serve as effective cover. Other examples include ditches, masonry buildings and walls, depressions, gullies, and thick metals.

Another consideration when determining effective cover is that terrorists may anticipate what structures or geographical features responders will choose for cover at an incident site. During the terrorists' planning process, they may consider initiating a secondary attack on responders. One likely place for such a secondary attack may be an effective cover area. Situational awareness of all surrounding areas will, therefore, be important to responders in choosing and using cover.

Responder safety. Terrorist incidents often involve explosives, and the effects of a mass explosion generate a number of responder safety concerns. Chemical agents, biological agents, and chemical residues may contaminate the atmosphere at the incident site, which requires responders to approach much more cautiously and operate in PPE. When facing the threats posed by terrorism in today's world, responders must be disciplined specifically to avoid making an initial entry at an incident site unless they possess the proper PPE.

Emergency responders should not touch anything at a terrorist attack scene or remove anything unless it is absolutely necessary in the interest of saving lives. Fire and EMS personnel should be prepared to provide

emergency services at a scene while supporting the investigation of the incident by law enforcement.

Identification

The strategy of identification was discussed in detail in Unit 3, "Recognition and Survival." It is worth reiterating, however, how important it is that all first responders remain aware that what may appear at first to be a response to a routine call actually may be a response to a deliberate act of terrorism. Recognizing the outward warning signs and indicators of an act of terrorism is, therefore, paramount; it greatly improves the first responders' rate of survival and effectively minimizes losses among both responders and the public they serve. The skills required to recognize the outward warning signs and indicators of B-NICE are essential.

Life Safety

Life safety is always the first tactical objective. It is an encompassing process that addresses the safety of responders, victims, patients, and civilians.

Our first concern is protection of first responders. The concept of time, distance, and shielding is appropriate. Minimize the amount of time in a hazard area, and don't commit any more personnel than necessary to accomplish the task. Increase the distance between the hazard/potential hazard and responders. Finally, first responders should use appropriate shielding. This may be in the form of PPE, and building providing coverage, etc.

Scene security is provided by law enforcement. Security can range from armed guards at the outer perimeter, to controlling panicking victims. EOD personnel and bomb dogs can be used to sweep for explosives.

Isolating/Securing the hazard area is critical to life safety. This prevents responders and citizens from entering in the hazard area. Establishing zones also prevents contaminated victims from exposing "clean" people to the hazard. Isolating and denying entry/exit is the single best method of providing life safety to large numbers of people.

Public protective measures take the form of evacuation, protect-in-place, or a combination of the two. It is not an easy task to remove a large number of people. Consideration should be given to the situation, type of hazard, immediate and long-term threat, etc. Usually victims/citizens in

close proximity to the threat/hazard are evacuated to a place of safe refuge. Citizens in the outer area may be served better if they remain in place. Remember the decision to evacuate/protect is a dynamic process. Conditions that affect this decision, such as wind direction and secondary devices, may alter your plan.

The decision to rescue "downed" responders and/or citizens must be considered carefully. It should be based on a thorough hazard and risk assessment. Responders should only be committed to a high hazard area to rescue viable victims/patients. If rescuers are allowed to enter, they should use full protection, and minimize their time of exposure. Victims should be removed to a safe area for triage, treatment, etc.

Decontamination may be a critical life safety element. Exposure to chemical agents require immediate removal from the area and emergency gross decontamination in order for the victims to survive. Decontamination also prevents the spread of the hazard to responders, other citizens, hospitals, etc.

Emergency medical care is the final step. Once the victims have been removed from the high hazard area, they probably will require definitive medical treatment. This may be in the form of trauma care (explosives), antidotes (chemical agents), or normal medical care, i.e., heart attack from stress, fear, and excitement.

Fire, Spill, and Leak Control

The strategies of fire, spill, and leak control in responses to terrorist incidents are much the same as in responses to traditional incidents. First responders to terrorist incidents focus on effective mitigation practices similar to those used during responses to traditional emergencies involving these potential hazards. Actual intervention is dependent on thorough hazard and risk assessment, level of training, and resources/capabilities. A problem with any of these factors should dictate defensive operations with minimal exposure.

Responders always must remain diligent and keenly aware, however, that fires and leaks and spills of hazardous materials can be used effectively against the responder and the general public as a deliberate act. It would be a prudent measure for all emergency responders encountering these conditions to remember that any of these three hazards can be used as a decoy or ruse during terrorist-related incidents. As we have noted before, this makes it essential that all emergency responders maintain situational awareness and observe security considerations when responding to acts of terrorism. Extreme caution should prevail.

BIOLOGICAL INCIDENTS

Response Recommendations

- Position upwind, uphill, and away from any building exhaust systems.
- Isolate/Secure the area. Do not allow any unprotected individual(s) to enter the area or structure.
- Collect specific information regarding the situation or threat.
- Be alert for small explosive devices (little damage) that are used to distribute/disseminate/weaponize the agent. Agent may display a "splatter pattern" on nearby walls, furniture, etc.
- The police department/EOD will be the primary agency for any threat that states or implies that an explosive device is involved. Fire department and EMS units should stage until the area is deemed safe.
- Be alert for secondary devices.
- Incidents usually will fall into three general scenarios:

  - wet or dry agent from a point source;

  - threat of dry agent placed into an HVAC system, or a package with no physical evidence;

  - confirmed agent placed into an HVAC system, a visible fogger or sprayer, or an aerosolizing device.

Wet or Dry Agent From a "Point Source," i.e., Envelope/ Package

- Personnel entering must wear appropriate PPE/respiratory protection.
- Avoid contacting any suspecting agent, puddles, wet surfaces, etc.
- Isolate the effected area of the building, but keep all potentially exposed victims near that area.
- Shut down any HVAC system that services the area.

- If a victim(s) has visible agent/suspected agent on them, wash the exposed skin with warm water and soap. If they are highly contaminated, (i.e. splashed) and the facility is equipped with a shower, the victim(s) may take a shower and change clothes as a **precaution**.

- HMRT may be able to conduct a bioassay field tests (limited number of agents.)

- A sample of the agent should be collected, double bagged, and placed in a small over-pack container. The sample should be given to law enforcement for testing in a laboratory. **Somewhat definitive results should be available in a minimum of one hour.**

- If the results are positive, the victims shall be decontaminated in available shower facilities with warm water/soap. Emergency clothing packets shall be provided and the victims clothing shall be "bagged." Responders shall decontaminate themselves as appropriate.

- Emergency medical care should **not be necessary on-site, nor should emergency transportation to medical facilities be required.** Medical representatives should be notified, and will provide information for treatment.

- Interact with law enforcement agencies as appropriate for crime scene preservation, evidence collection, etc.

Threat of Dry Agent Placed into a HVAC System, or a Package With No Physical Evidence

- Isolate the building and keep all occupants **in the building.**

In most instances, the threat is not credible. Mass exodus from the building instills fear and contributes to the terrorists (or pranksters) effort. If the threat is legitimate, there is adequate time for evacuation as biological agents do not cause immediate illness.

- Collect information regarding the threat, the target, any previous activity, etc., to determine the "credibility" of the threat.

- Have the building manager, building engineer, maintenance supervisor, etc., meet with fire and police representatives outside of the building.

- Explain the specifics of the threat and the hazards of biological agents (i.e., no immediate illness) to the building officials. Advise them that they are most familiar with their building and the occupants, and ask them to conduct a search of the premises. If the building representatives refuse to conduct the search, advise them that the fire department will conduct the search in structural and/or chemical PPE and it may scare or adversely effect the occupants.

- If the threat is for an HVAC system, have building representatives investigate all air intakes, returns, mechanical rooms, etc., for evidence of an agent (i.e., containers, powder, residue, dispersement equipment, etc). If the threat is for a package, have building representatives check the common areas (lobby, elevator lobbies, stairwells, etc.) and ask the occupants if they notice any unusual or suspicious packages in their areas.

- If nothing is found and there is no additional information, the building will be turned back over to management. **If a suspicious package or agent is located, fire department personnel dressed in structural or Level-C PPE will investigate.**

- Avoid contact with any suspected agent.

- If any **credible evidence** is found in or near the air handling system, shut down the HVAC system(s) that services that area of the building. If a package is located, it should be handled in accordance with "Point Source" protocol.

- **If any evidence of an agent is found in or near the HVAC system, the occupants shall be removed from the building and isolated in a secure and comfortable location.**

- HMRT may be able to conduct a bioassay field tests (limited number of agents.)

- A sample of the agent will be collected, double bagged, and placed in a small over-pack container. The sample shall be given to law enforcement for testing in a laboratory. **Somewhat definitive results should be available in a minimum of one hour.**

- If the results are positive, **the victims from the effected HVAC system or dispersal area** shall be decontaminated in available shower facilities with warm water and soap. If shower facilities are not available, victims may be transported to a nearby facility, or decontamination shall be conducted by the HMRT using tents or other shelters to provide for privacy and comfort. **Victims should not be stripped and decontaminated in the street.** Emergency clothing packets shall be provided and the victims clothing shall be "bagged."

- Emergency medical care should **not be necessary on-site, nor should emergency transportation to medical facilities be required.**

- Gather all of the decontaminated victims in a specific holding area until medical professionals arrive or the victims are transported to a medical facility. Buses should be used to transport large numbers of patients.

- Responders shall decontaminate themselves as appropriate.

- Interact with law enforcement agencies as appropriate for crime scene preservation, evidence collection, etc.

Confirmed Dry Agent Placed into a HVAC System, Visible Fogger, Sprayer, or Aerosolizing Device

- Personnel entering must wear appropriate PPE and respiratory protection.

- Avoid contact with any suspected agent.

- **Remove occupants from the building area immediately and isolate them in a secure and comfortable location.**

- Shut down all HVAC system(s) for the building.

- HMRT may be able to conduct a bioassay field tests (limited number of agents).

- A sample of the agent should be collected, double bagged, and placed in a small over-pack container. The sample shall be given to law enforcement for testing in a laboratory. **Somewhat definitive results should be available in a minimum of one hour.**

- If the results are positive, the victims shall be decontaminated in available shower facilities with warm water and soap. If shower facilities are not available, victims may be transported to a nearby facility, or decontamination shall be conducted by the HMRT using tents or other shelters to provide for privacy and comfort. **Victims shall not be stripped and decontaminated in the street.** Emergency clothing packets shall be provided and the victims clothing shall be "bagged."

- Emergency medical care should **not be necessary on-site, nor should emergency transportation to medical facilities be required.**

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- Responders shall decontaminate themselves as appropriate.

- Interact with law enforcement agencies as appropriate for crime scene preservation, evidence collection, etc.

NUCLEAR/RADIOLOGICAL INCIDENTS

Response Recommendations

- Position uphill and upwind of the incident.

- Stage incoming units at a greater distance.

- Isolate/Secure the area (establish a hot zone). Do not allow any unprotected individuals or citizens to enter the area or structure. Actual distance will depend on the physical properties and dispersal method.

- Establish command.

- Avoid contact with any material (solid, liquid, or gas), smoke, or steam.

- Collect specific information regarding the incident.

  - Threats or outward warning signs such as placards, labels, containers.

- How was the agent dispersed?

- Are there trauma victims from an explosion?

- Is there any collateral damage such as utilities, fires, etc.?

- Evaluate exposures (people and systems).

- Evaluate available resources.

- Be alert for small explosive devices (little damage) that were used to distribute/disseminate/weaponize the agent.

- Be alert for secondary devices.

- Use radiation devices to determine if radioactive material is present and if the size of the isolation zone is appropriate.

- All personnel entering the hot zone must wear SCBA and full PPE.

- Move all ambulatory patients away from the source to the edge of the hot zone. Rescue nonambulatory patients, and locate them at the edge of the hot zone also.

- Triage and treat any trauma patients.

- Use radiation detection devices to determine if patients are contaminated with a radioactive material.

- Patients that are contaminated must be decontaminated before entering the cold zone. After decontamination, use the detection devices again to determine if the process was effective.

- Patients that are not contaminated can be forwarded directly to the triage/treatment area in the cold zone.

- If high levels of radiation are present, safe rescue of victims may still be possible by controlling exposure time; 25 rem/hour is the maximum recommended exposure for life saving efforts. If the source is producing 100 rem/hour, the rescue team could work for 15 minutes. Additional work crews could be used at 15-minute intervals until the rescue is complete.

CHEMICAL AGENT INCIDENTS

Response Recommendations

- Gather as much information as possible from the dispatch center, witnesses, etc., regarding the situation.

- Approach from uphill and upwind.

- Upon arrival, stage away from target site and out of visible product.

- Stage incoming units at a designated location.

- **Secure and isolate the area (establish a hot zone)** and do not allow any citizens or unprotected response personnel into the area. **Ensure that all of the entrances and exits to the area are covered.** Use police and responders to complete this important task.

The size of the hot or isolation zone will be determined by the physical state of the product (i.e., gas or vapor vs. liquid), quantity of the product, wind direction and speed, topography, and building characteristics (i.e., floors, air handling system, etc).

- Establish command and announce the location.

- Size up the incident to determine

  - What is the problem?

  - Use outward warning signs and onscene information to determine if it is a terrorist act versus an accidental chemical release.

  - Determine signs and symptoms of patients, number of patients, and extent of injuries.

  - Evaluate secondary hazards such as damaged utilities, fire, smoke, etc.

  - Evaluate exposures (people and systems).

  - Evaluate available resources (law enforcement, EMS, HMRT, additional personnel).

- Complete a hazard and risk assessment to determine if it is acceptable to commit responders to the site.

- **All personnel entering the hot zone must wear SCBA and full PPE. Personnel in structural PPE should not enter areas of high concentration, unventilated, or below grade areas for any reason.**

If all of the victims are "down," unconscious, or seizing, structural gear and SCBA provides approximately three minutes of protection. **Leave the area.** If victims are moving, walking, or talking structural gear and SCBA provides limited protection.

- **Move all ambulatory patients away from the area of highest concentration or source** (i.e., out of a building, up and out of a subway, away from a visible container, etc).

- **Confine all contaminated and exposed victims to a restricted/isolated area (the hot/warm interface) and do not allow them to leave.** Use a public address system or bullhorn to direct the victims and advise them assistance is coming.

  - **Symptomatic victims should be segregated into one area.**

  - **Asymptomatic patients should be placed in another area.**

- Request additional resources as necessary--EMS, HMRT, decontamination and medical teams (i.e., MMRS, CIBRF), police.

- Make appropriate notifications:

  - Hospitals.

  - Local, State, and Federal agencies.

- Law enforcement should establish an outer perimeter to secure the scene completely.

If a particular agent is known or suspected (by evaluating the signs and symptoms), this information should be forwarded to EMS personnel and hospitals so sufficient quantities of antidotes can be obtained.

Hospitals shall be notified immediately that contaminated victims of the attack may arrive or "self-present" at the hospital. Units with decontamination capabilities should be dispatched to the hospital to assist with emergency gross decontamination prior to victims entering the facility.

At this point, the scene is secure. Additional victims may be entering the restricted area from the building, subway, etc., but people from outside the hot zone are not entering to exacerbate the problem.

- **ALS providers in full PPE may enter the hot/warm interface to triage patients and administer antidotes if appropriate.**

- Establish a warm zone and have engine companies set up for emergency gross decontamination. **It is critical that patients be decontaminated as quickly as possible. All decontamination personnel must operate in full PPE and SCBA.**

- Begin emergency gross decontamination procedures **starting with the most severe symptomatic patients. The procedure of strip all clothing, flush thoroughly from head to feet, and cover with disposable clothing or blankets should be used.**

- After the "field" decontamination is complete, the patients should be transferred to EMS in the cold zone for additional treatment.

- **As more decontamination units arrive, additional lines can be established as necessary. Soap and water is appropriate.** Attempt to transition from structural gear/SCBA to Level-C PPE in order to increase the work time of personnel and reduce the stress.

- Ideally, all personnel working in the decontamination corridor and moving patients to the cold zone should use Level-C PPE.

- **HMRT members in Level-A PPE should be used for rescue, agent identification, ventilation, agent control (absorption, overpacking, etc.), reconnaissance, controlling air-handling systems, etc., in the hot zone.**

- After all of the symptomatic patients have been decontaminated, the asymptomatic patients should be processed next. This should be accomplished in a private area such as a tent with a redressing area. They should then be evaluated by EMS personnel in the cold zone.

- All responders should be cognizant of any additional suspicious packages or devices.

- As HMRT personnel enter the area, try not to disturb evidence, or remove anything from the potential crime scene that is not absolutely necessary to control the agent. HMRT members should photograph the scene prior to over-packing or disturbing any product or package.

Nondispersed Chemical Agents

Response Recommendations

- **If a liquid agent (nerve or blister) has not been dispersed** (placed in air handling system, aerosolized, etc.) **the number of victims will be reduced significantly.**

- Nondispersion may occur when the dispersion system fails, a container is broken accidentally, the terrorists are not familiar with the most dangerous methodology, etc.

- **Victims that have come in direct contact with the liquid (nerve agent) will be acutely ill.**

- **Those in the immediate area of any vaporizing agent will be contaminated and show signs and symptoms of chemical inhalation.**

- **Those not in the immediate area will be considered to be exposed.**

- **The response recommendations that were used for the dispersed chemical agents are applicable for these incidents as well.**

  - There may be less victims in this type of attack.

  - Responders should not reduce their awareness and suspicions of a possible terrorist attack.

EXPLOSIVE AGENTS

Response Recommendations

Suspicious package is found; or notification has been made that a bomb has been placed in a particular location. Hoaxes and unfounded reports also fall into this category.

Primarily a law enforcement matter; however, fire and rescue must be prepared to support their efforts and act if the device detonates.

- Local protocol will determine what compliment of equipment will be dispatched, if any.

- Gather as much information as possible regarding the threat, location, package, device, and any related history.

- Upon arival, the officer-in-charge (fire and EMS) shall report to the police command post. All other units **stage a minimum of 1,000 feet from the site.** The CP should be located away from spots where IED's could be placed potentially, i.e., mailboxes, trash cans, newspaper boxes, etc.

In the event that police require assistance at the scene (i.e., to assist with evacuation, site control), the following procedures shall be used.

Standoff distance should be commensurate with the size of the device. For example, ATF recommends minimum evacuation distance of 1,500 feet for a 500-lb. car bomb. The CIA recommends a standoff distance of 900 feet for an explosive device up to 27 lbs. The Navy recommends 330 feet for pipe bombs.

Stage incoming units away from the direct "line-of-sight" of the target area and away from buildings with large amounts of glass. Use distant structural and/or natural barriers to assist with protection.

Assist the police department in evacuation and/or securing an outer perimeter based on the size of the device. **Isolate the area and deny entry.**

Use extreme caution if the caller identifies a time for detonation. It is very possible that the device will activate prior to the announced time, thereby harming responders.

Responders other than the EOD should not approach or touch any suspected package or device. Fire and rescue personnel should not be used to conduct a search for devices.

Restrict/Discontinue radio, MDT, and cellular phone use in accordance with local protocol.

Size up the incident scene to determine

- Potential number of people affected.
- Exposure problems (people, systems, buildings).
- Potential hazards: utilities, structural damage, fire, chemicals.
- Review water supply for the area.
- Evaluate available resources (EMS, haz mat, and technical rescue).
- Review preplans for affected buildings.

Make appropriate notifications.

Develop an action plan that identifies incident priorities, potential tactics, and key positions in the Incident Command System (ICS).

If the device detonates, conduct a hazard and risk assessment to determine what potential hazards are present and what level of risk is acceptable to commit responders to the site. **Reevaluate available resources and resource needs**.

Postblast Operations

Response Recommendations

First arriving units should gather as much information as possible from the dispatcher and other sources regarding the situation.

The first-due unit may approach the scene to evaluate the situation. **Stage at a safe distance, or where debris/damage is encountered first**.

Stage incoming units as a greater distance, away from the line-of-sight, out of the target area, and away from buildings with large amounts of glass. Use structural and/or natural barriers to assist with protection**. If multiple threats have been received for the same location (either in close succession or over a period of time), it is recommended that an alternate staging site be used. This is due to the possibility of a secondary device being planted near the original staging area.**

Establish command at the initial staging area and announce the location. Coordinate activities with law enforcement, fire, and EMS representative. The CP should be located away from spots where IED's could be placed potentially, i.e., mailboxes, trash cans, newspaper boxes, etc.

Secure a outer perimeter using police and responders. **Isolate the area and deny entry.**

Remove all citizens and ambulatory victims from the blast site.

Restrict/Discontinue radio, MDT, and cellular phone use in accordance with local protocol.

Size up the incident to determine

- What is the problem: explosion, victims, fire, etc.
- Use dispatch, witnesses, visual, and other clues to determine if it is a terrorist act versus a gas explosion, transformer, etc.
- Determine number of patients and extent of injuries.
- Evaluate other hazards such as damaged utilities, unstable buildings, fire/smoke.
- Evaluate exposures, i.e., people, buildings.
- Evaluate available resources.

Complete a hazard and risk assessment:

- Are there viable victims?
- Is there any information on secondary devices?
- Is the level of risk acceptable to commit personnel for rescue?

The Incident Commander (IC) shall determine what additional resources to commit to the scene, based on the recommendations from the "recon" group.

Request additional resources as necessary (EMS, HMRT, technical rescue, fire, and police).

Make appropriate notifications, i.e., hospitals, utility companies, investigator, etc.

If it is determined that entry/intervention must occur, the following procedures should be implemented.

- **Personnel should be allowed to enter the blast area only for life safety purposes** (i.e., rescue of viable patients).

- **Personnel entering the blast area should wear full PPE and SCBA until a secondary device or "dirty bomb" can be ruled out.** This will afford some protection if a second explosion were to occur.

- **Use the minimum number of personnel necessary to complete the mission.**

- **The area should be evacuated immediately if there is any sign of a secondary device**.

- Haz mat personnel should monitor for chemical, radioactive, flammable, and industrial agents that may be present.

- **Patients should be removed quickly from the blast area, triage/treated in a safe location, and area hospitals should be notified.**

- Do not allow rescuers to enter unsafe buildings or high hazard areas for search or fire attack.

- Attempt to control utilities and protect exposures from a defensive position.

- Try not to disturb evidence or remove anything from the potential crime scene.

Preservation of Evidence

The most significant difference between the response to a terrorist attack and the more common day-to-day incident response by the fire service and EMS is the fact that the scene of a terrorist incident is also a crime scene. Although it may not seem important during the initial response to an act of

terrorism, first responders must understand that emergency responder actions must not interfere with the successful prosecution of a terrorist act. Fire service and EMS personnel must come to understand the special demands placed on them when confronted with an act of terrorism, and their responsibilities when responding to crime scenes.

Emergency response personnel normally do not concern themselves with the issues surrounding evidence preservation. During suspected arson incidents, however, firefighters generally understand that evidence gathered at the incident site is important to successful prosecution, particularly when lives are lost. When responding to acts of terrorism, evidence preservation takes on an even greater meaning. Although responders are not, and should not be considered evidence collectors, it is important that all emergency responders at least understand the importance of evidence preservation and evidence recognition.

Evidence recognition is an important part of the entire response process. Proper recognition of potential evidence serves two purposes. First, unexploded devices or portions of devices serve as valuable evidence for law enforcement. Second, by their very nature they also cause grave physical harm to the responder. It is important to coordinate with law enforcement to schedule training concerning evidence recognition and recognition of potential improvised explosive devices.

Response personnel become potential witnesses, investigators, and sources of intelligence in support of the crime scene investigation. At a minimum, first responders are witnesses to what they saw and to what they did and did not do. Information obtained from first responders can, therefore, be extremely important.

Response personnel should not touch anything at a terrorist attack scene or remove anything unless it is absolutely necessary in the course of saving lives. Fire and EMS personnel should be prepared to provide emergency services at a scene and, at the same time, support the investigation of the incident by law enforcement. Scene documentation, preservation of evidence, and the chain of custody are three critical factors in any investigation. Remember that the first responders' clothing, shoes, and equipment all take evidence away from the crime scene.

Law enforcement agencies are well versed in crime scene investigations and the importance of evidence preservation. Close coordination between fire, EMS, and law enforcement can help ensure that important evidence is not destroyed during a response.

SUMMARY

This unit has presented a significant amount of material dealing with response strategies for terrorist-related incidents and tactical options in achieving these strategies. The strategies and tactical options or considerations available to the first responder, the first-due CO, and other emergency response personnel in a terrorist incident require a much broader evaluation than those involved in responding to a conventional incident. They also make continued training essential.

As we have noted throughout the unit, responses to terrorist-related incidents require focus on both the traditional response strategies and a few strategies we normally would not consider in most responses.

Responder self-protective measures are critical factors in the challenge to enhance overall responder survivability. The responsibility to ensure or enhance self-preservation among all responders is everyone's, not just the CO's or the IC's. All responders, whether fire suppression, hazardous materials technicians, EMS, law enforcement, or other emergency response personnel, should strive to enhance individual knowledge bases necessary to enhance responder success, safety, and overall effectiveness and service to themselves, fellow responders, and the public they serve.

Activity 4.1

Tactical Options

Purpose

To establish safe and effective tactical operations to mitigate the terrorist attack. Actions should achieve the tactical priorities of life/safety (especially responders), incident stabilization, and environmental/property conservation.

Directions

1. Work in the same groups you were in for Activities 2.1 and 3.1.

2. Locate the plot plans on the following page and review the details of the location. Observe the photo slides and follow the views on the plot plans.

   Slide # 1: Looking south from the northeast corner of the square. The J.E.B. Stuart Building is on the left.

   Slide # 2 Looking southwest from the northeast corner of the square. The restaurant is the red building.

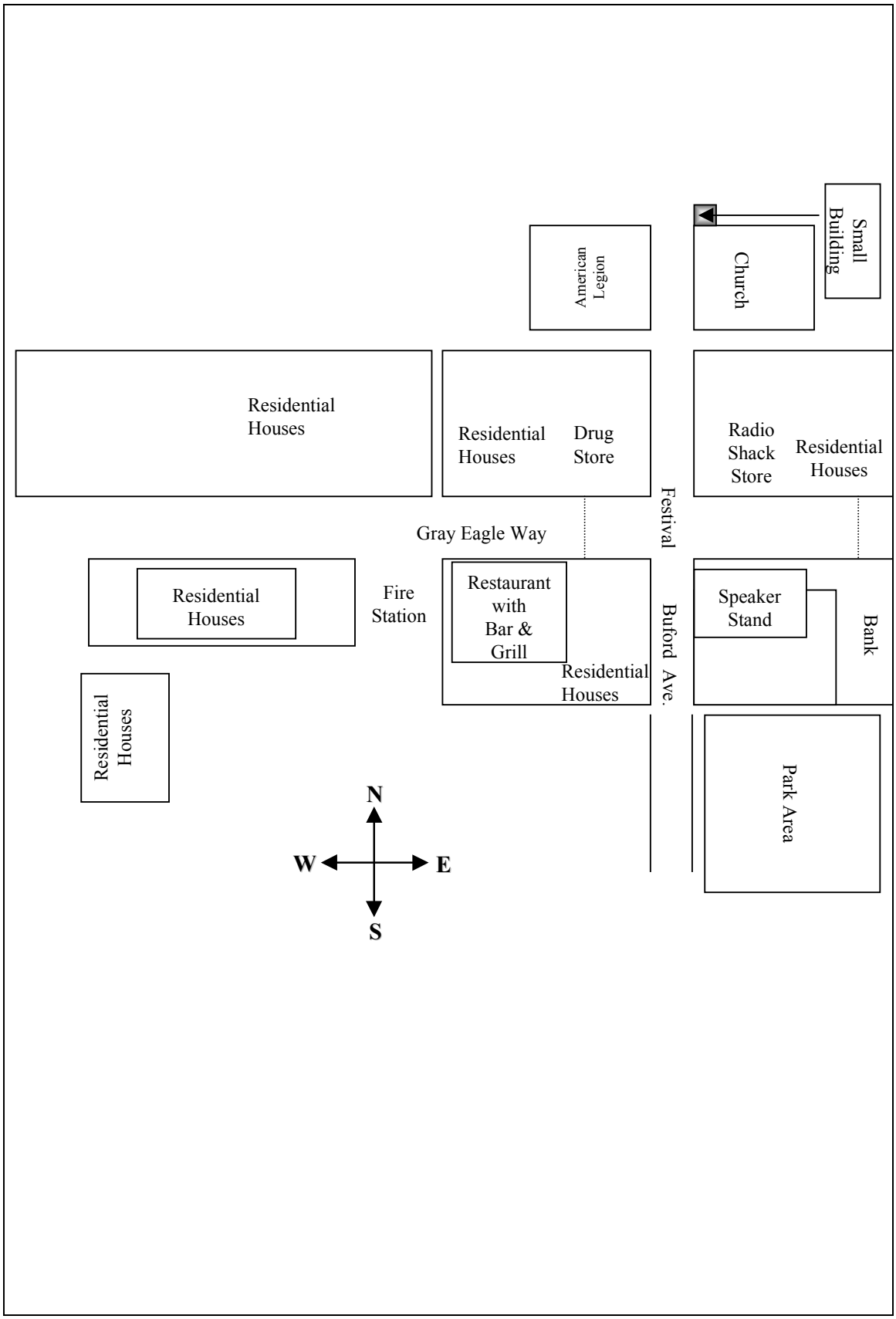
   Slide # 3: Looking east through the square. The J.E.B. Stuart Building is on the right, and the bank is the red brick building immediately to its left in the photo.

   Slide # 4: The view to the northwest from the porch of the J.E.B. Stuart Building.

   Slide # 5: Looking north through the square. The drugstore is the red brick building to the left of the street.

   Slide # 6: Looking at the northeast corner of the square. Radio Shack is the red brick building with the tall windows on the right.

3. After the slides are presented, your group will have 45 minutes to read the Scenario and answer the questions. The groups' answers will be recorded on an easel pad, and there will be a classroom discussion of the responses.


Small Building
Church
American Legion
Residential Houses
Residential Houses
Drug Store
Radio Shack Store
Residential Houses
Festival
Gray Eagle Way
Residential Houses
Fire Station
Restaurant with Bar & Grill
Residential Houses
Speaker Stand
Bank
Buford Ave.
Residential Houses
Park Area
N
W
E
S

4. Following the scenario, the instructor will make key points about terrorism response based on the groups' answers.

City Description and Available Resources

Central City has a population of 55,000 residents. It has "mixed use" occupancies including light manufacturing, office parks, commercial, single and multiple-family dwellings. The historic "Old-Town" district dates back to the 1800's and is comprised of small shops, restaurants, and homes.

Fire/EMS	Law Enforcement
5--engine companies	12--officers
2--truck companies	1--supervisor
1--rescue/squad company	
3--ALS medic units/ambulances	
1--battalion chief	

Mutual aid is available from surrounding volunteer departments within 10 minutes.

Technical Assistance

Regional HMRT--30 min. response time
Technical Rescue--45 min. response time
State Police EOD and 10 troopers--30 min. response time

Hospitals

2--30 beds in Emergency Room

Scenario

It's Saturday, May 12th, at 1130 hours. The wind is blowing from the west at 4 mph. The old-town district is celebrating its 150th annual "Town Square Fair." Local, State, and some Federal officials are in attendance. The dignitaries are positioned on the second-floor balcony of the J.E.B. Stuart Building across the street from the bank. Due to the historical significance of the event and the VIP attendance, local and national news agencies are covering the event.

In the peripheral areas, routine spring activities are occurring. Residents are shopping, working on their lawns, and participating in sports activities. A helicopter can be seen in the distance spraying the park for gypsy moths and mosquitoes.

Old-Town is the focal point for the event and all adjoining streets have been blocked off for parking. Engine 4, Truck 4 and Medic 3 and 5 have been pre-assigned to the event for public safety emergencies. They are staged at the West End of Gray Eagle Way. Additionally, six police officers are working overtime to assist with crowd control and traffic.

During the event, a helicopter flies a low altitude route following Buford Avenue from the south to the north. As it approaches the intersection of Buford Avenue and Gray Eagle Way, the helicopter begins spraying over the crowd.

Shortly thereafter, Engine 4 receives a report of "numerous people down in the street." Engine 4 reports that there are 60-70 people exiting the area complaining of eye pain and runny noses. Several victims in the immediate area of the discharge are already exhibiting mild seizures. Engine 4 requests a full assignment and passes command. You are the officer on Engine 1, the next arriving unit.

Activity 4.1

Tactical Options Worksheet

Questions

1. What are the outward signs for a possible terrorist event?

2. What self-protective measures would be appropriate for this incident?

3. After responder protection, what would be the next 10-12 tactical steps to effectively controlling this incident?

4. As incident command, you must complete a hazard and risk assessment. Would you commit personnel to the hot zone for rescue, antidote administration, etc.?

5. According to the "3/30 minute" rule, is structural PPE and SCBA appropriate for this event?

6. What type of decontamination is appropriate for the symptomatic victims?

7. If patients begin to self-present at hospital emergency rooms, what actions will be necessary?

8. What duties would the HMRT be expected to perform at this incident?

9. What type of decontamination is appropriate for the asymptomatic victims?

10. Are Central City resources adequate for this event? If not, what resources would be requested?

11. Using the map of the Old-Town district, diagram where you would establish your work zones, establish your command post, safe refuge, triage/treatment area, and stage incoming units. Explain the rational for your decisions.

12. As the initial IC, describe how you would deploy the assets of Central City and mutual aid units during the first 30-60 minutes. Explain the tactical priorities and your approach to controlling the incident. What divisions/ groups would you establish to manage this incident?

13. During the initial operations, what other agencies would the IC have to interact with in order to provide a unified command structure?

14. When the battalion chief arrives, what information will you provide in order to provide a proper transfer of command?

Unit 5:
Transition of Command

Terminal Objective

- Upon completion of this unit, the students will be able to list and explain incident Command transition considerations.

Enabling Objectives

The students will:

- Describe anticipated strategic and tactical changes.
- Outline conditions that promote a safe and effective transition of Command.

TRANSITION OF COMMAND

Transition of Command will occur during responses to acts of terrorism for several reasons. For example, the first-arriving Company Officer (CO) generally assumes initial command of the incident site; the lead agency in charge undergoes a first transition as the incident progresses, primarily because terrorist attack incidents also are crime scenes and require security-related actions by law enforcement.

A number of such transitions of Command may occur in the course of managing a given incident. Transitions occur between outside agencies as well as within internal emergency response chains of command (for example, first-due officer to more senior arriving officers). This strengthens the management process.

Law enforcement is the lead agency during the crisis management phase of the incident. Once the scene has been secured by law enforcement and rendered safe for the commencement of emergency response operations, emergency response actions (consequence management) can be initiated, with another transition in Command occurring. Because the incident transitions between crisis management (law enforcement) and consequence management (emergency responders), it is imperative that effective protocols for transfer of Command be developed and put in place before an incident occurs to ensure a smooth transition with uninterrupted operations.

THE TRANSITION BRIEFING

The first commander is in the awkward position of filling in the oncoming commander without missing any of what is currently happening--a challenge under the best of circumstances.

The oncoming Incident Commander (IC) should be briefed on five areas in particular during the transition of Command:

1. Situation.

2. Strategies.

3. Tactical measures.

4. Logistical and administrative issues.

5. Communications with divisions and groups.

Situation

The first functional area of the transition briefing encompasses the overall situation. During the situation briefing it is incumbent upon the initial commander to provide as clear and concise a picture as possible of the overall incident scene, actions underway, and resources readily available to the oncoming commander.

During this portion of the briefing, the oncoming commander should be brought up to speed on all incident site information that has been collected from all information sources during the initial phases of the response effort. This includes information on what types of equipment resources are on hand and what is available elsewhere, as well as how many emergency response personnel are on hand, en route, and/or may be needed.

Law enforcement needs to be part of this portion of the briefing, since security is a major issue during sustained emergency response operations involving a terrorist-related incident. Law enforcement briefing information should include what the security-related concerns are and what security-related measures have been taken already as well as what measures will be implemented as the incident expands. Law enforcement should also address evidence preservation procedures.

Responses to acts of terrorism bring an enormous number of outside agencies (local, State, and Federal) onto the scene. They may activate the Federal Response Plan (FRP), and Federal resources respond by flowing into the incident site. Information concerning exactly which response organizations/agencies already are involved in ongoing emergency operations needs to be conveyed to the oncoming commander. In addition, any information on arriving and/or requested support from outside organizations/agencies also should be passed on.

During the situation briefing, the oncoming commander must be briefed on what initial zones have been established and what methods have been used to distinguish the zones. The initial commander should convey clearly the terminology used for labeling the zones. Location of all Staging Areas also should be conveyed.

Strategy

The second portion of the transition briefing includes informing the oncoming commander as to what initial strategies have been identified and what tactical actions have been taken to meet the objectives of those strategies.

Sound strategies in the initial stages of incident management help maintain direction. The traditional strategies involved in emergency responses all need to be considered, as well as those discussed in Unit 4, "Terrorism Response Strategies and Tactical Options," specifically intended for dealing with terrorist incidents (reconnaissance, scene security and evidence preservation). What strategies will work and which will be most efficient early on in an incident? As Command is transferred, some points concerning initial strategies can be lost and cause confusion and loss of time. Conveying this information to the oncoming IC carefully and thoroughly is, therefore, important.

When the first commander arrives on the scene of the incident, the strategies of isolation and notification generally already have been initiated by others. As the scene unfolds, the first-due officer needs to reevaluate the overall situation and validate the isolation perimeter previously established. Adjustments most likely will be made, particularly because a terrorist-related act can involve a number of different scenarios (biological, nuclear, incendiary, chemical, and/or explosive (B-NICE)). The oncoming commander must be made aware of the decisions made and actions taken in this area.

As the first IC begins to establish initial strategies to handle the situation, the depth and size of the event begin to unfold. At some point, it likely will become apparent that more resources are needed, perhaps more than the responding agency possesses. Again, the oncoming commander needs to be made aware of any assessments made in this area and any actions taken to obtain the resources needed to manage the incident effectively.

The strategies identified by the first-due officer require re-evaluation and validation upon transition of Command. In addition, the oncoming IC should be aware that, as the incident escalates, the response strategies may need to change in response to crisis management and consequence management issues.

The strategy portion of the briefing should not take a lot of time. Since the resources available to the first-due officer usually are very limited both in equipment and personnel, very few of the traditional and terrorist response strategic goals can be implemented initially. Their implementation therefore falls to the oncoming commander.

Tactical Measures

Briefing the oncoming commander on the tactical measures incorporated into the response plan to achieve the strategic goals is a very important part of the transition-of-command process. The oncoming commander

must bear in mind that limited equipment and personnel resources have dictated what tactical measures and actions the first-due commander has been able to initiate by the time the transition of Command takes place.

All phases of the response focus primarily on life safety. Tactical operations most certainly revolve around the ability or inability to accomplish the rescue of viable and potentially viable victims of the terrorist act. All strategic objectives should, therefore, maintain the primary focus of life safety. Actions within the incident site may involve a number of different tactical measures within this focus. Some may be undertaken to control fires; others may focus on mitigating hazardous materials releases. Regardless of which strategies are being worked and how the tactics support the strategic goals, however, both equipment and personnel resources are driven to effect the rescue of victims while ensuring the self-protection of responders.

It is paramount that the first-due officer communicate in detail ongoing efforts to effect the rescue of victims. The oncoming IC must allow enough time for a detailed briefing on these efforts.

The tactical measures initially undertaken by the first-arriving commander must be adjusted and changed as the response progresses. Additional equipment and personnel resources pouring into the incident site from outside organizations/agencies increase the possibility of upgrading initial tactical measures. Command and control of tactical measures is a challenge for the IC, and with that challenge comes an additional challenge to communicate accurately to the oncoming IC the tactical measures that have been effective. As the oncoming commander reevaluates the initial strategies pursued, the tactical measures undertaken to achieve those strategic goals also must be reevaluated and validated.

Logistical and Administrative

Logistical and administrative information passed on to the oncoming IC during the transition briefing is as important to the overall transition process as the previous transition points.

Documentation. Documentation will prove to be an important factor in the incident, both during and after. Documentation of logistical and administrative plans instituted and actions taken, however, is a difficult challenge for the first commander. The biggest problem with documentation is that it takes time. At the time of the initial response, the first-due officer is not in a position to take the necessary time to log or document all logistical and administrative actions effectively. Documentation also can save time, however, by keeping people on track.

It can inform them of operations tried that were not effective or safe so that they do not lose time repeating a task that did not work. Therefore it is particularly important to find a way to convey this information accurately to the oncoming IC.

In particular, documentation of all the problems that have arisen since arriving on scene is vital. The first-due officer should make notes on each and cover each point in as much detail as time permits. The documentation of hazards and their associated problems is also of special importance. Equipment and personnel resources operating at the incident site also need to be documented and passed on to the oncoming IC. Staging Areas and assets positioned at the Staging Areas need to be documented and passed on as well. As the strategic objectives are being pursued, logistical resources required to sustain these operations is valuable information to document and convey to the arriving IC.

Rest and rehabilitation. Rest and rehabilitation resources will be a valuable asset to sustained operations. The oncoming IC needs to know what assets are in position in this area to continue operations that the first-due officer has initiated.

Hazards and risk. Briefing the next-in-command on the hazards encountered up to the point of transition was mentioned above. Actually, however, it is not just the hazards that should be included in the briefing, but how the first commander determined what the hazards are or were. What risk did they pose to the commander and crews at the time? Was the risk acceptable or not, and why? Based on the assessment, were any protective measures initiated in expectation of change? The next to command and direct operations, even though he/she may not realize it during transition, needs to know just how initial determinations of risk were made.

Risk cannot be assessed properly unless vulnerability has been assessed. Providing the vulnerability assessment to the oncoming IC may prevent the same mistakes from being made twice.

Emergency egress plan. One of the most important items in the briefing will be the plan for getting everyone out of the incident site if things take a turn for the worse. Actually, there should be several such plans to cover various contingencies. Each needs to be conveyed to the oncoming commander. The briefing on these plans should include the emergency escape, retreat, or egress route, and the signal designated to be used to initiate the withdrawal, including any brevity code involved. All security, hazards, and egress routes should be designated on a map.

Communications with Subordinate Divisions/Groups

The transition briefing needs to include how the incident site is being managed and/or commanded. All subordinate functions must be explained to the oncoming IC. An incident of the magnitude involved in an act of terrorism requires the IC to section off areas of responsibilities and assign personnel to manage actions. During responses to acts of terrorism, outside organizations/agencies commonly operate within the incident site under a Unified Command system.

All Command relationships and communications means must be passed on to the oncoming IC. This information should include all radio frequencies, cell phone numbers, pager numbers, fax numbers, operating channels, and telephone numbers.

SUMMARY

Transition of Command is a very important process and must be accomplished in an effective and precise manner. The transition briefing should include all information pertaining to the incident situation, strategies, tactical measures, logistical and administrative issues, communications, and the command structure.

The first commander should use notes and documentation to be sure every important point is covered in the transition briefing. Any point missed may be the very information needed an hour after the first commander is gone.

It is important to take sufficient time to do the transition briefing right. The oncoming IC depends on the first-arriving officer to pass all information on to him/her in a clear and concise manner.

Appendix A:
Bibliography

BIBLIOGRAPHY

GOVERNMENT PUBLICATIONS

Burdick, Brett A., ed. *Hazardous Materials Training/Public Safety Response to Terrorism. Student Manual*. Virginia Department of Emergency Services, Richmond, VA., 1997.

CDC Recommendations for Civilian Communities Near Chemical Weapon Stockpile Preparedness; Notice. *Federal Register,* June 27, 1995, Department of Health and Human Services, Centers for Disease Control and Prevention.

Chemical/Biological Incident Handbook. June 1995, The Director of Central Intelligence, Interagency Intelligence Committee on Terrorism, Community Counterterrorism Board.

Chemistry of Hazardous Materials. National Fire Academy.

Commonwealth of Virginia Emergency Operations Plan. Virginia Department of Emergency Services.

Control of Communicable Diseases Manual, Sixteenth Edition, American Public Health Association, 1995.

Emergency Care and Transportation of the Sick and Injured, Fifth Edition. American Academy of Orthopedic Surgeons, 1993.

Emergency Medical Service Response to Hazardous Material Incidents, ISFSI, Stafford, VA.

Emergency Response Planning and Coordination. US Department of Health and Human Services, Centers for Disease Control and Prevention.

Emergency Room Procedures in Chemical Hazard Emergencies, A Job Aid. US Department of Health and Human Services, CDC, Public Health Service.

Emergency Room Procedures in Chemical Hazard Emergencies. US Department of Health and Human Services, CDC, Public Health Service.

Fire Protection Guide to Hazardous Materials 11th Edition, National Fire Protection Association, 1994.

Franz, D.R. *Defense Against Toxic Weapons*. US Army Medical Research Institute of Infectious Diseases.

Guidelines for the Cleanup of Clandestine Drug Laboratories. Joint Federal Task Force - DEA, EPA and USCG, March 1990.

Hazard Communication; Final Rule - 29 CFR Part 1910, et al. *Federal Register*, February 9, 1994, Department of Labor, Occupational Safety and Health Administration.

Hazardous Material Awareness Program, ISFSI, Stafford, VA.

Hazardous Materials Incident Management, Course Manual. Virginia Department of Emergency Services, 1995.

Hazardous Materials Operating Site Procedures, National Fire Academy, 1993.

Hazardous Materials Technician, Course Manual. Virginia Department of Emergency Services, 1995.

Hazardous Waste Operations and Emergency Response Regulation, 29 CFR 1910.120 March 6, 1989 *Federal Register.*

Johnson, Stuart and William Lewis. *Weapons of Mass Destruction: New Perspectives on Counterproliferation.* US Government Printing Office, Washington, DC.

Maryland Fire Rescue Institute. *Hazardous Materials Awareness Student Manual*. 1989.

Medical Management of Biological Casualties Handbook 2nd Edition, US Army Medical Research Institute of Infectious Diseases, 1996.

Medical Management of Chemical Casualties Handbook 2nd Edition, US Army Medical Research Institute of Chemical Defense, Chemical Casualty Care Office, 1995.

Medici, John and Steve Patrick. *Emergency Response to Incidents Involving Chemical and Biological Warfare Agents,* Virginia Department of Emergency Services, Richmond, VA., 1996.

NFPA 472 *Standard for Professional Competence of Responders to Hazardous Materials Incidents*, NFPA, Quincy, MA.

North American Emergency Response Guidebook, US Department of Transportation, Transport Canada, & Secretariat of Transport and Communications (Mexico). 1996

Patterns of Global Terrorism, US Department of State, Publication 10239, Office of the Secretary of State, 1994.

Patterns of Global Terrorism, US Department of State, Publication 10239, Office of the Secretary of State, 1995.

Personal Air Sampling and Air Monitoring Requirements under 29 CFR 1910.120 Publication 9360.8.17FS, August 1993.

Planning Guidance for the Chemical Stockpile Emergency Preparedness Program. Federal Emergency Management Agency and the Department of the Army, 1992.

Proceedings of the Seminar on Responding to the Consequences of Chemical and Biological Terrorism, *July 11-14,1995,* US Public Health Service Office of Emergency Preparedness.

Responding to the Consequences of Chemical and Biological Terrorism. (Workshop) Rockville, MD: US Public Health Service, Office of Emergency Preparedness, July, 1995.

Rhea, Steve, *Emergency Response to Bombing Incidents,* Virginia Department of Emergency Services, Richmond, VA., 1996.

Sidell, Fredrick R. M.D. *Management of Chemical Warfare Agent Casualties*. HB Publishing, 1995.

Significant Incidents of Political Violence Against Americans. US State Department, Bureau of Diplomatic Security.

Terrorism in the United States. Terrorist Research and Analytical Center, National Security Division, 1994.

Terrorism in the United States. US Department of Justice, Terrorism Research and Analytical Center, 1995.

The Federal Response Plan, For Public Law 93-288, as amended, Federal Emergency Management Agency, 1992.

Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices 1995-1996, American Conference Government Industrial Hygienist, 1995.

USAMRICD Technical Memorandums 90-1,90-2,90-3.1990, US Army Medical Research Institute of Chemical Defense, Aberdeen Proving Ground, Maryland.

US Dept. Health and Human Services, Public Health Services, Centers for Disease Control, National Institute for Occupational Safety and Health *NIOSH Pocket Guide to Chemical Hazards*.

US EPA Environmental Response Team. *Air Monitoring for Hazardous Materials*, Environmental Response Training Program. (copies are *not* available upon request).

US EPA Environmental Response Team, *Standard Operating Guidelines*, 1988.

ARTICLES

Adams, Rich. "If Terrorism Comes Home." *Firehouse* (July 1986).

Almond, George. "The Manchester Bombing, 15th June 1996, Actions and Lessons." *Fire Engineers Journal* (July 1997).

American Conference Governmental Industrial Hygienist. *Threshold Limit Values for chemical substances and physical agents and Biological Exposure Indices 1995-1996*, 1995.

Birrell, Derek. "The Management of Civil Emergencies in Northern Ireland." *Journal of Contingencies and Crisis Management* (June 1993) I, No. 2.

Collins, Larry. "Incident Support." *Rescue* (Sept/Oct 1995).

Docimo, Frank. "Decontamination . . . Or How Dirty Are We." *Firefighters News* (June/July 1991).

Dunbar, Jan. "Brace Yourself for Biological and Chemical Terrorism." *Fire Chief* (September 1996).

Fleming, Alan. "Terrorism Coverage in the United Kingdom: An Explosive Topic." *Disaster Recovery Journal* (Jan/Feb/Mar 1995).

Fowler, Will. "Fire and the Terrorist: A Perfect Combination." *Military Firefighter Magazine* (February 1990).

Garrison, Jr. D.H. "Protecting the Crime Scene." *FBI Law Enforcement Bulletin* (September 1994).

McDaniel, Dave. "Oklahoma City Bombing." *Disaster Recovery Journal* (July–September 1995) 8, No. 3.

Nordberg, Marie. "Terror at the Olympics – A Bomb Shatters Atlanta's International Spirit." *Emergency Medical Services magazine* (November 1996).

Santin, Neil. "Terrorist Detonating Emergency Response Bombing."

"Terrorist Intelligence Operations." *Security Awareness Bulletin* (March 1996).

"Terrorism." *Fire International* (Winter 1994).

"Terrorism Coverage Elsewhere." *Risk Management* (Jan/Feb/Mar 1995).

Van Biema, David. "Prophet of Poison." *Time Domestic* (April 1995) 145, No. 14.

Wieder, Michael. "Oklahoma City Revisited." *Firehouse* (April 1996).

Yeskey, Kevin. "Sitting Ducks?" *Emergency Medical Services* (November 1996).

BOOKS

Borak, Callan, and Abbot. *Hazardous Material Exposure*. Brady, Englewood Cliff, NJ, 1991.

Bronstein, Alvin C. and Phillip L. Currance. *Emergency Care for Hazardous Materials Exposure.* Mosby Year Book, Inc., St. Louis, MO., 1994.

Carder, Thomas A. *Handling of Radiation Accident Patients by Paramedical and Hospital Personnel.* CRC Press, Inc., Boca Raton, FL.

Cole, L.A. *The Eleventh Plague*. W.H. Freeman & Co.

Compressed Gas Association. *Handbook of Compressed Gases, Third Edition*, Chapman & Hall Publishing, 1992.

Dees, Morris, and James Corcoran. *Gathering Storm: America's Militia Threat*. New York, NY: Harper Collins Publishers, Inc., 1996.

Fire, Frank L. *The Common Sense Approach to Hazardous Materials*. Fire Engineering Publishing, 1986.

Goldfrank, Lewis R., MD, et al. *Goldfrank's Toxicological Emergencies*. Norwalk, CT: Appleton & Lange, 1994.

Gonzales, Jo Jo. *Deathtrap! Improvised Booby-Trap Devices.* Paladin Press, Boulder, CO.

Harber, David. *Assorted Nasties.* El Dorado, AR: Desert Publications, 1993.

Hess, Kathleen. *Environmental Sampling for Unknowns*, CRC Press, 1996.

Howard, David A. *The Survival Chemist*. Desert Publications, 1990.

Hutchkinson, Maxwell. *The Poisoner's Handbook*. Loompanics Unlimited, 1988.

Lecker, Seymour. *Deadly Brew, Advanced Improvised Explosives*, Paladin Press, 1987 Medicine Chest Explosives, Don McLean Paladin Press, 1995.

Lewis, Richard, Sr, ed., *Rapid Guide to Hazardous Chemicals in the Workplace 3rd edition*. Van Nostrand Reinhold (VNR) Publishing 1993.

Marrs, Timothy C., Maynard, Robert L., Sidell, MD, Fredrick R. *Chemical Warfare Agents: Toxicology and Treatment.* Chichester, NY: Wiley, 1996.

Maslansky, Carol & Steven. *Air Monitoring Instrumentation, A manual for Emergency, Investigator, and Remedial Responders*. (VNR) Van Nostrand Reinhold Publishing, 1993.

McLean, Don. *Medicine Chest Explosives, An Investigators Guide to Chemicals Used in Home-Cooked Bombs*. Paladin Press, Boulder, CO.

Mullins, Wayan C., Ph.D. *A Sourcebook on Domestic and International Terrorism.* Charles C. Thomas Publisher, LTD, Springfield, Illinois, 1997.

National Fire Protection Association *Fire Protection Guide to Hazardous Materials 11th Edition.* 1994.

Noji, Eric K. MD, Gabor D. Klien, MD, and Tracey Goessel, MD. *Manual of Toxicologic Emergencies.* Chicago, IL: Year Book Medical Publishers, Inc., 1989.

Noll, Gregory G., Michael S. Hildebrand, and James G. Yvorra. *Hazardous Materials, Managing the Incident.* Fire Protection Publications Oklahoma State University, 1995.

Patnaik, Pradyot. *A Comprehensive Guide to the Hazardous Properties of Chemical Substances*. Van Nostrand Reinhold (VNR) Publishing, 1992.

Preparing for Terrorism: An Emergency Services Guide, George Buck Delmar Publishers, 1998.

Santoro, Victor. *Disruptive Terrorism*. Loompanics Unlimited, Port Townsend, WA. 1984.

Sawicki, Jack. *"Draft" Report on Chemical Warfare Agents.* Geomet Technologies, Inc., 1995.

Saxon, Kurt. *The Poor Man's James Bond. (2nd ed)*. Harrison, Arkansas: Atlan Formularies, 1986.

Saxon, Kurt. *Poor Man's James Bond Volumes 1 & 2*. Desert Publication, 1992.

Schmutz, E.M. & Hamilton, L.B. *Plants That Poison*. Northland Publishing.

Schwartau, Winn. *Information Warfare: Chaos on the Electronic Superhighway*. Thunder's Mouth Press, New York, NY. 1994.

Scott, Ronald M. *Introduction to Industrial Hygiene*, CRC Press, 1995.

Sidell, Frederick R. *Management of Chemical Warfare Agent Casualties.* HB Publishing, Bel Air, MD.

Sidell, Fredrick R., MD, William C. Patrick, Thomas Dashiell. *Jane's Chem-Bio Handbook*. Alexandria, VA: Jane's Information Group, 1998.

Smeby, Jr., L. Charles. Ed. *Hazardous Materials Response Handbook, 3rd Edition* National Fire Protection Association, 1998.

Stilp, Richard & Armando Bevelacqua. *Emergency Medical Response to Hazardous Materials Incidents*. Delmar Publishers, 1997.

Stilp, Richard & Armando Bevelacqua. *Hazardous Materials Field Guide*. Delmar Publishers, 1998.

Stutz, Douglas R., PhD and Scott Ulin, M.D. *Haztox, EMS Response to Hazardous Materials Incidents*. GDS Communications, Miramar, FL., 1993.

Tokle, Gary. Ed. *Hazardous Materials Response Handbook, 2nd Edition*. National Fire Protection Association, 1993.

Uncle Fester. *Silent Death*. *2nd Edition*. Port Townsend, WA: Loompanics Unlimited, 1997.

Unknown. *Black Book Companion, State of the Art Improvised Munitions.* Paladin Press, Boulder, CO.

Unknown. *Improvised Munitions, Black Book*, Volumes 1 & 2. Paladin Press, Boulder, CO.

Wieder, Michael, Carol Smith, Cynthia Brakhage eds. *Hazardous Materials for First Responders, 2nd Edition.* International Fire Service Training Association, Fire Protection Publications, Oklahoma State University, 1994.

Wight, Gregory D. *Fundamentals of Air Sampling*, CRC Press, 1994.

Viccellio, Peter, M.D. *Handbook of Medical Toxicology*. Little, Brown and Company, Boston, MA.

Yeshua, Ilan *Chemical Warfare, A Family Defense Manual.* Israel, Center for Education Technology, 1990.

INTERNET REFERENCES

Note: The following locations on the World Wide Web (WWW) are provided without any guarantee of either reliability or currency. WWW content and locations are subject to change without notice.

Aum leader refuses to enter plea as trial opens, *http://www.japantimes.co.jp/news/news4-96/lead4-24.html*

"Aum Shinrikyo" Sarin Attack on Subway and the Role of "Aum Shinrikyo," *http://www.smn.co.jp/keyword/0025k01e.html*

Case Study: Sarin Poisoning of Subway, *http://www.nbc-med.org/csjapan.html*

The CBIAC Homepage, *http://www.cbiac.apgea.army.mil/body.html*

Chemical Agent Material Safety Data Sheets, *http://www.cbdcom.apgea.army.mil/RDA/erdec/risk/safety/msds/index.html*

The Chemical and Biological Weapons Chronicle, *http://www.stimson.org/pub/stimson/cwc/pub-chro.htm*

Chemical Agent Terrorism by Frederick R. Sidell, M.D., *http://www.nbc-med.org/chagter.html*

Chemical Warfare and Chemical Warfare Protection, *http://www.opcw.nl/chemhaz/chemhome.htm*

Chemical Warfare Agent Information, *http://www.opcw.nl/chemhaz/cwagents.htm*

CNN Interactive, US News Story Page, "Blasts probed at Atlanta family planning clinic." (January 1997)

CNN Interactive, US News Story Page, "Report: Feds may have been target of Atlanta clinic bombing." (January 1997)

Crime Scene Investigation, *http://police2.ucr.edu/csi.htm*

Disaster Management Central Resource, *http://206.39.77.2/DMCR/DMR.html*

The Disaster Recovery Journal, *http://www.drj.com/*

Factsheet, Chemical Nerve Agents.

Federal Bureau of Investigation, Explosives Unit, Bomb Data Center, *http://www.fbi.gov/lab/bomsum/eubdc.htm*

The Federal Emergency Management Agency, *http://www.fema.gov/*

Medical Nuclear, Biological and Chemical Information Server, *http://www.nbc-med.org/*

Sarin still haunts the survivors: One year after subway attack, *http://www.japantimes.co.jp/features/feat3-96/sarin.html*

US Army Chemical and Biological Defense Command (CBDCOM), *http://www.cbdcom.apgea.army.mil/cbdcom/*

US Army Medical Research and Materiel Command, *http://mrmc-www.army.mil/*

US Army Medical Research Institute of Chemical Defense, *http://chemdef.apgea.army.mil/*

Vulnerability of the US to CB Terrorism, *http://eaicorp.com/cbvuln.html*

Yahoo! - Society and Culture:Crime:Crimes:Terrorism, *http://www.yahoo.com/Society_and_Culture/Crime/Crimes/Terrorism*

REPORTS AND PROCEEDINGS

Case Study "The Harbor Incident, Anaheim, California."

Incident Action Plan: Harbor Incident, Operational Period, April 14, 1995 0630-1030 April 15, 1995.

Komiya, Takiji. "The Rescue Operations and EMS Activities after the Poison Gas Terror." First Worldwide Conference on Strengthening the Fire and Emergency Response to Terrorism 1995.

"Terrorist Response Plan," Orange County Fire Services Operational Area Annex Plan, Section 15, prepared by Orange County Fire Chief's Association. Issued March 31, 1997.

EXISTING CURRICULUM CONSULTED

The following are National Fire Academy Courses

Advanced Life Support Response to Hazardous Materials

Basic Life Support Response to Hazardous Materials
Chemistry of Hazardous Materials
Emergency Response to Terrorism: Self-Study
Emergency Response to Terrorism: Basic Concepts
Hazardous Materials Operating Site Practices
Health and Safety Officer
Incident Safety Officer

The following are Department of Defense Courses

Domestic Preparedness: Awareness
Domestic Preparedness: Operations
Domestic Preparedness: EMS Provider
Domestic Preparedness: Hospital Provider
Domestic Preparedness: Haz-Mat Technician
Domestic Preparedness: Incident Commander

Appendix B:
Glossary

Absorption	The process of an agent being taken in by a surface (clothing, fabrics, wood, etc.) much like a sponge and water.
Acetylcholine	A chemical compound formed from an acid and an alcohol which causes muscles to contract (neurotransmitter). It is found in various organs and tissues of the body. It is rapidly broken down by the enzyme cholinesterase (acetylcholinesterase).
Acetylcholinesterase	An enzyme (a protein produced in the cells) which stops (inactivates) the action of acetylcholine by separating the acetylcholine into its components of acetic and choline. This occurs as soon as acetylcholine has produced a muscle contraction. Nerve agents combine with acetylcholinesterase to prevent it from performing its inactivation of acetylcholine.
Adsorption	The process of an agent sticking to or becoming chemically attached to a surface.
Aerosol	Fine liquid or solid particles suspended in air; for example, fog or smoke.
Agent dosage	The concentration of a toxic vapor in the air multiplied by the time that the concentration is present.
Alpha particle	A positively charged particle of matter consisting of two protons and two neutrons (such as a helium-4 nucleus). The alpha particle has a marginal ability to penetrate other materials but a strong ability to ionize materials. Alpha particles are not an eternal radiation hazard but alpha-emitting nuclides inside the body as a result of inhalation or ingestion are a considerable internal radiation hazard.
Alpha radiation	The least penetrating type of nuclear radiation; not considered dangerous unless alpha-contaminated or source emitter particles enter the body.
Ammonia Nitrate Fuel Oil (ANFO)	A blasting agent.
AMS	Aerial Measuring System.
Anthrax	A disease of animals. The main sources of human infection are cattle and sheep. The organism that causes anthrax is Bacillus anthracis.

Antibiotic	A substance that inhibits the growth of or kills microorganisms.
Anticholinergic	An agent or chemical that blocks or impedes the action of acetylcholine, such as the (also cholinolytic) antidote atropine.
Anticholinesterase	A substance which blocks the action of cholinesterase (acetylcholinesterase), such as nerve agents.
Antidote	A substance which neutralizes toxic agents or their effects.
Antisera	The liquid part of blood containing antibodies.
Arsenical	Pertaining to or containing arsenic; a reference to the vesicant Lewisite.
Arsine	A colorless, flammable, extremely poisonous gas with an odor like garlic. One of the blood agents.
Asphyxiants	Substances that interfere with oxygen flow during normal breathing. There are two types of asphyxiants: simple and systemic.
Atropine	An anticholinergic used as an antidote for nerve agents to counteract excessive amounts of acetylcholine. It also has other medical uses.
ATF	Bureau of Alcohol, Tobacco, and Firearms.
Bacteria	Single-celled organisms that multiply by cell division and that can cause disease in humans, plants or animals.
BDO	Battle Dress Overgarment; multi-piece suit used by the military for protection against chemical warfare agents (also known as MOPP).
Beta particles	High energy electrons emitted from the nucleus of an atom during radioactive decay. They normally can be stopped by the skin or a very thin sheet of metal.
Beta radiation	A type of nuclear radiation that is more penetrating than alpha radiation, and can damage skin tissue and harm internal organs.
B-NICE	Pertaining to biological, nuclear, incendiary, chemical, or explosives.

Binary device	A chemical device divided into two sections, each containing precursor chemicals that combine and react to release a chemical agent.
Biochemicals	The chemicals that make up or are produced by living things.
Biohazard	A biological agent or condition that constitutes a hazard to humans or the environment.
Biological agents	Pathogens (bacteria, viruses, or fungi) and toxins that have the potential to be exploited for warfare or terrorism.
Biological warfare	The use, for military or terrorist purposes, of biological agents to cause death or incapacitation in humans, animals, or plants.
Biological warfare agents	Living organisms or the materials derived from them that cause disease in or harm humans, animals, or plants, or cause deterioration of material. Biological agents may be used as liquid droplets, aerosols, or dry powders.
Biological warfare	The intentional use of biological agents as weapons to kill or injure humans, animals, or plants, or to damage equipment.
Bioregulators	Biochemicals that regulate bodily functions. Bioregulators that are produced by the body are termed "endogenous." Some of these same bioregulators can be chemically synthesized.
Blister agent	A chemical warfare agent which produces local irritation and damage to the skin (vesicant) and mucous membranes, pain and injury to the eyes, reddening and blistering of the skin, and when inhaled, damage to the respiratory tract.
Blood agent	A chemical warfare agent which is inhaled and absorbed into the blood. The blood (cyanogen) carries the agent to all body tissues where it interferes with the tissue oxygenation process.
Botulism	A highly toxic form of food poisoning. If untreated, the whole body becomes paralyzed, which leads to death by suffocation within a few days.
CAM	Chemical Agent Meter/Monitor.
Causative agent	The organism or toxin that is responsible for causing a specific disease or harmful effect.
CBIRF	Chemical/Biological Incident Response Force.

CCFD	Central City Fire Department.
CDBCOM	Chemical and Biological Defense Command.
Ceiling exposure value	The maximum airborne concentration of a biological or chemical agent to which a worker may be exposed at any time without protective equipment.
Chemical agent	A chemical substance that is intended for use in military operations to kill, seriously injure, or incapacitate people through its physiological effects. Excluded from consideration are riot control agents, and smoke and flame materials. The agent may appear as a vapor, aerosol, or liquid; it can either be a casualty/toxic agent or an incapacitating agent.
Chemical agent symbol	A code usually consisting of two letters that are used as a designation to identify chemical agents, e.g., GB for the chemical agent sarin.
Chemical asphyxiant	Referred to as blood poisons, these are compounds that interrupt the flow of oxygen in the blood or the tissue in three ways: (1) They react more readily than oxygen with the blood. Carbon monoxide is the best-known example. (2) They liberate the hemoglobin from red blood cells, resulting in a lack of transport for oxygen. Hydrazine is one such asphyxiant. (3) They cause a malfunction in the oxygen-carrying capability of the red blood cells. Benzene and toluene are two of these.
Chemical contamination	The presence of a chemical agent on a person, object, or area.
Chemical explosion	A chemical explosion is caused by the extremely rapid conversion of a solid or liquid explosive compound into gases having a much greater volume than the substances from which they are generated. The entire process takes only a fraction of a second, produces extremely high temperatures (several thousand degrees) and is accompanied by shock and loud noise. With the single exception of nuclear explosives, all manufactured explosives are chemical explosions.
Chemical warfare	The military use of chemical agents to kill, injure, or incapacitate humans or to cause adverse effects on materials.

Chemical warfare agent	A chemical substance which, because of its physiological, psychological, or pharmacological effects, is intended for use in military operations to kill, seriously injure, or incapacitate humans (or animals) through its toxicological effects. Excluded are riot control agents, chemical herbicides, and smoke and flame agents.
Chlorine	A choking agent that is typically a nonpersistent, heavy, greenish-yellow gas.
Choking agents	These agents exert their effects solely on the lungs and result in the irritation of the alveoli of the lungs. Agents cause the alveoli to constantly secrete watery fluid into the air sacs, which is called pulmonary edema. When a lethal amount of a choking agent is received, the air sacs become so flooded that the air cannot enter and the victim dies of anoxia (oxygen deficiency); also known as dry land drowning.
CIA	Central Intelligence Agency.
CIRG	Critical Incident Response Group.
CISD	Critical Incident Stress Debriefing.
Classification of chemical agents	Chemical agents are classified according to their physical chemical state, use and physical action.
CNS	Pertaining to the central nervous system.
COG	Continuity of Government.
Cold (support) zone	Clean area outside the inner perimeter where command and support functions take place. Special protective clothing is not required in this area.
Concentration	The amount of a chemical agent present in a unit volume of air or water; usually expressed in milligrams per cubic meter (mg/m^3).
Concentration time	The amount of a chemical agent present in a unit volume of air multiplied by the time an individual is exposed to that concentration.
Contagious	Capable of being transmitted from one person to another.
Conjunctivitis	Redness in the eye.

Consequence management	Measures to alleviate the damage, loss, hardship, or suffering caused by emergencies. It includes measures to restore essential government service, protect public health and safety, and provide emergency relief to affected governments, businesses, and individuals. This role is assigned to FEMA in the FRP.
Contagious	Capable of being transmitted from one person to another.
Containment	The attempt to prevent or limit the spread of contamination by holding it in, enclosing, encapsulating, or by controlling it.
Contamination	The condition resulting from the deposit of radioactive material, biological agents, or chemical agents in or upon structures, areas, bodies of water, personnel and objects or from failure of normal sanitary safeguards. This includes food, water, and medical supplies.
Corrosive materials	A type of chemical, found in liquid or solid form, which causes visible destruction or irreversible alterations in human tissue at the site of contact.
Crisis management	Measures to resolve the hostile situation, investigate, and prepare a criminal case for prosecution under Federal law. This role is assigned to the FBI in the FRP.
Cross contamination	Secondary contamination caused when a person or object is contaminated by coming into contact with another person or object which has not been properly or fully decontaminated. Elements of contamination can be nuclear, biological or chemical.
Cryogenics	Materials which exist at extremely low temperatures, such as nitrogen.
Culture	A population of microorganisms grown in a medium.
Cumulative	Additional exposure rather than repeated exposure. For example, a one-hour exposure of HD followed within a few hours by another exposure of one hour, had the same effect as a single exposure lasting for two hours.
Cutaneous	Pertaining to the skin.
Cyanide	A very poisonous compound that contains a nitrogen and a carbon atom and affects that ability of tissues to use oxygen.

Cyanogen bromide	A colorless or white crystalline, volatile solid with a penetrating odor. One of the blood agents.
Cyanogen chloride	A colorless gas or liquid with a pungent odor. One of the blood agents, its effects are similar to those of hydrogen cyanide.
Cyanogen iodide	A colorless or white needle like solid material with a very pungent odor and acrid taste. One of the blood agents.
CWA	Chemical Warfare Agents.
Decay	The process by which an unstable element is changed to another isotope or another element by the spontaneous emission of radiation from its nucleus.
Decontamination	The process of making any person, object, or area safe by absorbing, destroying, neutralizing, making harmless, or removing the hazardous material.
Defensive staging	Provides for all personnel to remain on the assigned apparatus, ready to respond or move at a moment's notice. It means stopping short of intersections, always having two means of egress from the staging area, having multiple staging areas, and generally being prepared for the unexpected.
Deflagration	A rapid burning process.
Delivery method	The manner in which an explosive or incendiary device was transported or positioned at the site of an explosives incident.
Desorption	The reverse process of absorption. The agent will be "removed" from the surface (outgassing).
Detonation	An instantaneous chemical reaction.
Dilution factor	Dilution of contaminated air with uncontaminated air in a general area, room, or building for the purpose of health hazard or nuisance control, and/or for heating and cooling.
Diphosgene	A choking agent that is a colorless liquid with an odor of newly mown hay.
Distance	One of the three components of the time, distance, and shielding (TDS) response; it refers to the recommendation that one should maintain distance from a hazard if at all possible. Refer to the *North American Emergency Response Guidebook* (NAERG) as an appropriate resource.

Distilled mustard	One of the blister agents that in its normal state is a colorless or amber colored oily liquid with the faint smell of garlic.
DOD	Department of Defense.
DOE	Department of Energy.
Dosage	The concentration of a chemical agent in the atmosphere (C) multiplied by the time (t) the concentration remains, expressed as mg-min/m. The dosage (Ct) received by a person depends upon how long he is exposed to the concentration. That is, the respiratory dosage in mg-min/m is equal to the time in minutes an individual is unmasked in an agent cloud multiplied by the concentration of the cloud.
DOT	Department of Transportation.
Downwind distance	The distance a toxic agent vapor cloud will travel from its point of origin, with the wind.
Dusty agent	A solid chemical agent that can be disseminated as an aerosol. CS (tear gas) is one example of a dusty agent.
EOC	Emergency Operations Center.
EOD	Explosive Ordnance Disposal.
EMA	Emergency Management Agency.
EMS	Emergency Medical Services.
Emergency Operations Plan (EOP)	An EOP is a document that (1) assigns responsibility to organizations and individuals for carrying out specific actions at projected times and places in an emergency that exceeds the capability or routine responsibility of any one agency; (2) sets forth lines of authority and organizational relationships, and shows how all actions will be coordinated; (3) describes how people and property will be protected in emergencies and disasters; (4) identifies personnel, equipment, facilities, supplies, and other resources available for use during response and recovery operations; and (5) identifies steps to address mitigation concerns during response and recovery activities.
ERT	Evidence Response Team.

Emergency Support Functions (ESF)	The Federal Response Plan (FRP) details 12 ESFs to coordinate operations during Federal involvement in an incident: transportation, communications, public works and engineering, firefighting, information and planning, mass care, resource support, health and medical services, urban search and rescue, hazardous materials, food, and energy.
ESE	Emergency Services Environment.
Etiological harm	Involves exposure to a living microorganism, or its toxins, which causes, or may cause, human disease. Biological agents are the most obvious examples of etiological agents.
Evaporation rate	The rate at which a liquid changes to vapor at normal room temperature.
Explosive	As defined by the US Department of Transportation, "a substance fitting into one of these two categories: (1) any substance or article, including a device, designed to function by explosion; or (2) any substance or article, including a device, which, by chemical reaction within itself, can function in a similar manner even if not designed to function by explosion."
FBI	Federal Bureau of Investigation.
Federal Response Plan (FRP)	Developed to help expedite Federal support to disasters. Generally, the FRP is activated when the State's resources are not sufficient to cope with a disaster, and the governor has requested Federal assistance.
FEMA	Federal Emergency Management Agency.
First responder	Personnel, such as firefighters, police officers and EMS teams, who have responsibility to initially respond to emergencies. They will be the first on the scene of an incident and will be responsible for the size-up and determining if additional resources are needed.
Fungi	Any group of plants mainly characterized by the absence of chlorophyll, the green colored compound found in other plants. Fungi range from microscopic single-celled plants (such as mold and mildews) to large plants (such as mushrooms).
GA	See Tabun.
GB	See Sarin.

GD	See Soman.
Gamma radiation	A high-energy, ionizing radiation that travels at the speed of light and has great penetrating power. Gamma rays can cause skin burns, severely injure internal organs, and have long-term, physiological effects.
GEDAPER	An acronym used to describe an incident analysis process developed by Dave Lesak. The steps include (1) Gathering information, (2) Estimating course and harm, (3) Determining strategic goals, (4) Assessing tactical options and resources, (5) Planning and implementing action, (6) Evaluating, and (7) Reviewing.
G-series nerve Agents	Chemical agents of moderate to high toxicity that were developed in the 1930s. Examples are Tabun (GA), Sarin (GB), and Soman (GD).
Hazard	A known or perceived danger.
HazMat	Hazardous Materials.
HD	See distilled mustard.
Herbicide	A chemical compound used to damage or kill plants including defoliants, desiccants, plant growth regulators, and soil sterilants.
High explosive	Those materials which detonate at velocities above 3300 feet per second.
Hoax device	An inactive or dummy device designed and intended to appear as a bomb or explosive material.
Host	An animal or plant that harbors or nourishes another organism.
Hot (exclusion) zone	Area immediately around the incident where serious threat of harm exists. It should extend far enough to prevent adverse effects from B-NICE agents to personnel outside the zone. Entry into the hot zone requires appropriately trained personnel use of proper personal protective equipment.
HN	See nitrogen mustard.
HVAC	Heating, Ventilation, and Air Conditioning.

Hydration	The combining of a substance with water.
Hydrogen cyanide	A poisonous blood agent that is usually a gaseous compound and has a taste associated with bitter almonds.
Hydrolysis	The reaction of any chemical substance with water, moisture, or vapor by which decomposition of the substance occurs and one or more new substances are produced.
IC	Incident Commander.
ICP	Incident Command Post.
ICS	Incident Command System.
IDLH	Concentrations immediately dangerous to life and health.
IED	Improvised explosive device. A homemade device consisting of an explosive/incendiary and firing components necessary to initiate the device.
Incapacitating agents	Produce temporary physiological and/or mental effects via action on the central nervous system. Effects may persist for hours or days, but victims usually do not require medical treatment. However, such treatment speeds recovery.
Incendiary device	Any mechanical, electrical or chemical device used intentionally to initiate combustion and start a fire.
Incident Command System (ICS)	The combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure with responsibility for the management of assigned resources to effectively accomplish stated objectives pertaining to an incident.
Industrial agents	Chemicals developed or manufactured for use in industrial operations or research by industry, government, or academia. These chemicals are not primarily manufactured for the specific purpose of producing human casualties or rendering equipment, facilities, or areas dangerous for use by man. Hydrogen cyanide, cyanogen chloride, phosgene, chloropicrin and many herbicides and pesticides are industrial chemicals that also can be chemical agents.
Infectious agents	Biological agents capable of reproducing in an infected host.

Infectivity	(1) The ability of an organism to spread. (2) The number of organisms required to cause an infection to secondary hosts. (3) The capability of an organism to spread out from the site of infection and cause disease in the host organism.
IG	Instructor Guide.
Initial downwind vapor hazard area	Areas initially established to evacuate all unprotected personnel and to prevent other unprotected personnel from entering and thus encountering agent vapors or any other type of contamination.
Latent period	Specifically, in the case of mustard, the period between exposure and onset of signs and symptoms; otherwise, an incubation period.
LD50	Lethal Dose 50. The amount of exposure required to cause death in 50% of the population.
LD90	Lethal Dose 90. The amount of exposure required to cause death in 90% of the population.
Lethal chemical agent	An agent that may be used effectively in a field concentration to produce death.
Level "A" protection	The level of protective equipment required in situations where the material is considered acutely vapor toxic to the skin and hazards are unknown. Full encapsulation, air tight chemical suit with SCBA or SABA.
Level "B" protection	The level of protective equipment required in situations where the environment is not considered acutely vapor toxic to skin but may cause respiratory effects. Chemical splash suit or full coverage non-airtight chemical suit with SCBA or SABA.
Level "C" protection	The level of protective equipment required to prevent respiratory exposure but not to exclude possible skin contact. Chemical splash suit with air purifying respirator (cartridge respirator).
Level "D" protection	The level of protective equipment required when the atmosphere contains no known hazard, when splashes, immersions, inhalation, or contact with hazardous levels of any chemical is precluded. Work uniform such as coveralls, boots, leather gloves, and hard hat.

Lewisite	A blister agent that is an alipathic arsenic compound. The pure form is colorless to brown or violet liquid with a fruity or geranium like odor.
Liquid agent	A chemical agent that appears to be an oily film or droplets. The color ranges from clear to brownish amber.
Local EOP	The local Emergency Operations Plan focuses on essential measures for protecting the public, to include warning, emergency public information, evacuation and shelter. Local EOPs should include a mechanism for emergency responders and managers to notify and activate State resources.
Low explosives	Those materials that detonate at velocities below 3299 feet per second.
Mechanical explosion	A mechanical explosion may be illustrated by the gradual buildup of pressure in a steam boiler or pressure cooker. As heat is applied to the water inside the boiler, steam is generated. If the boiler is not equipped with some type of safety valve, the mounting pressure will eventually reach a point at which it will overcome the structural or material resistance of its container and an explosion will occur. Such a mechanical explosion will be accompanied by high temperatures, a rapid escape of gases or steam and a loud noise. Another example of mechanical explosion is that of a dust explosion in a grain elevator.
Median incapacitating dosage (ICT50)	The volume of a chemical agent vapor or aerosol inhaled that is sufficient to disable 50% of exposed, unprotected people (expressed as mg-min/m^3).
Median lethal dosage (LCT50)	The amount of liquid chemical agent expected to kill 50 percent of a group of exposed, unprotected individuals.
Methods of dissemination	The way a chemical agent or compound is released into the atmosphere.
Microorganism	Any organism, such as bacteria, viruses, and some fungi, that can be seen only with a microscope.
Miosis	A condition where the pupil of the eye becomes contracted (pinpointed). This condition impairs night-vision. It is a possible indicator of a nerve agent.

M8 chemical agent detector paper	A paper used to detect and identify liquid V- and G-type nerve agents and H-type blister agents.
M256 kit	A kit that detects and identifies vapor concentrations of nerve, blister, and blood agents.
Mustard agent	A clear yellow or amber colored oily liquid with a smell similar to garlic and usually classified as a blistering or vesicant chemical agent. Some examples include sulfur mustard and nitrogen mustard.
Mycotoxin	A toxin produced by fungi.
MAC	Multi-Agency Coordination (Committee, Group and Command are used in various jurisdictions).
Multi-Agency Coordination System (MACS)	The combination of facilities, equipment, personnel, procedures, and communications integrated into a common system with responsibility for coordination of assisting agency resources and support to agency emergency operations. (FIRESCOPE)
MATTS	Mobile Air Transportable Telecommunications System.
MERS	Mobile Emergency Response System.
Mustard (vesicants) agent	See Blister agent.
NAERG	The *North American Emergency Response Guidebook*.
NBC	Nuclear, Biological and Chemical.
Nerve agents	Substances that interfere with the central nervous system. Exposure is primarily through contact with the liquid (skin and eyes) and secondarily through inhalation of the vapor. Three distinct symptoms associated with nerve agents are pinpoint pupils, an extreme headache, and severe tightness in the chest.
NEST	Nuclear Emergency Search Team.
Nitrogen mustard	A blister agent that is colorless or amber colored oily liquid and has a faint geranium smell.
NFA	National Fire Academy.
NFPA	National Fire Protection Association.
NMRI	Naval Medical Research Institute.

Nonpersistent agent	An agent that upon release loses its ability to cause casualties after 10 to 15 minutes. It has a high evaporation rate and is lighter than air and will disperse rapidly. It is considered to be a short-term hazard. However, in small, unventilated areas, the agent will be more persistent.
Nuclear explosion	A nuclear explosion may be induced either by fission (the splitting of the nuclei of atoms) or fusion (the joining together under great force of the nuclei of atoms). When fission or fusion occurs, a tremendous release of energy, heat, gas and shock waves take place.
Organism	Any individual living thing, whether animal or plant.
Organophosphate	A compound with a specific phosphate group which inhibits acetylcholinesterase. Used in chemical warfare and as an insecticide.
Organophosphorus compound	A compound, containing the elements phosphorus and carbon, whose physiological effects include inhibition of acetylcholinesterase. Man-made pesticides (malathion and parathion) and virtually all nerve agents are organophosphorus compounds.
OSHA	Occupational Safety and Health Administration.
Overpacking	The placement of the agent or its container within another container.
Parasite	Any organism that lives in or on another organism without providing benefit in return.
Pathogen	Any organism (usually living) capable of producing serious disease or death, such as bacteria, fungi, and viruses.
Pathogenic agent	Biological agents capable of causing serious diseases.
PEL	Permissible exposure limit. An occupational health term used to describe exposure limits for employees. Usually described in time weighted averages (TWA). Established by OSHA.
Percutaneous agent	Able to be absorbed through the body.
Permeation	The process by which a chemical moves through protective clothing.

Permeation rate	The rate at which a chemical permeates a solid, such as fabric.
Persistence	A measure of the duration for which a chemical agent is effective. The property is relative and varies by agent, method of dissemination, and environmental conditions, such as weather and terrain.
Persistent agent	An agent that upon release retains its casualty-producing effects for an extended period of time, usually anywhere from 30 minutes to several days. A persistent agent usually has a low evaporation rate and its vapor is heavier than air. Therefore, its vapor cloud tends to hug the ground. It is considered to be a long-term hazard. Although inhalation hazards are still a concern, extreme caution should be taken to avoid skin contact as well.
Phosgene	A colorless gas that is a severe respiratory irritant. It smells like new mown hay and imparts a metallic taste similar to tobacco smoke.
Physiological action	Most toxic chemical agents are used for their toxic effects, that is, to produce a harmful physiological reaction when applied to the human body externally, or when breathed, or taken internally. This reaction of chemical agents, within the body or on the body, is the physiological action.
PID	Photoionization Detectors.
PIO	Public Information Officer.
Plan of Action	A written document that consolidates all of the operational actions to be taken by various personnel in order to stabilize an incident.
PPE	Personal protective equipment.
Precursor	A chemical substance required for the manufacture of chemical agent.
Presidential Decision Directive 39 (PDD-39)	Issued in June 1995, PDD-39, *United States Policy on Counterterrorism*, directed a number of measures to reduce the nation's vulnerability to terrorism, to deter and respond to terrorist acts, and to strengthen capabilities to prevent and manage the consequences of terrorist use of nuclear, biological and chemical weapons.

Protection	In the context of chemical, biological, nuclear or radiological, exposure, protective measures may include masks, self-contained breathing apparatus, clothing, buildings and so forth.
PSA	Public Safety Announcements.
Psychochemical	An agent, such as LSD, that incapacitates by distorting the perceptions and cognitive processes of the victim.
Radiation	This course is concerned with nuclear, not heat, radiation. There are three types of nuclear radiation: (1) alpha, (2) beta, and (3) gamma.
Radiological Dispersal Devices (RDD)	A conventional explosive device incorporating radioactive material(s); sometimes referred to as a "dirty" bomb.
Rally point	A predetermined location to which all persons evacuate in an emergency. In industry, facilities are evacuated and a rally point is usually predetermined. It is at this rally point that resources can regroup and a revised plan can be established.
RAP	Radiological Assistance Program.
Rate of action	The rate at which the body reacts to or is affected by a chemical substance or material.
Rate of detoxification	The rate at which the body can counteract the effects of a poisonous chemical substance.
Rate of hydrolysis	The rate at which the various chemical agents or compounds are decomposed by water.
Reconnaissance (RECON)	A primary survey used to gather information.
Respiratory dosage	This is equal to the time in minutes an individual is unmasked in an agent cloud multiplied by the concentration of the cloud.
Rhinorrhea	A runny nose.
Ricin	A plant toxin derived from the coat of the castor bean. Ricin poisoning occurs through blockages of the body's synthesis of proteins.

Rickettsia	Any of a family (Rickettsiaceae) of pleomorphic rod-shaped nonfilterable microorganisms that cause various diseases (such as typhus).
Risk	Being exposed to a known or perceived danger--exposure to a hazard.
Route of exposure	The path by which an agent or micro-organism enters the body (breathing, digestion, skin contact).
SABA	Supplied air breathing apparatus.
Safe Refuge Area (SRA)	An area within the contamination reduction zone for the assemblage of individuals who are witnesses to the incident. This assemblage will provide for the separation of contaminated persons from non-contaminated persons.
SAC	Special Agent in Charge.
SARA	Superfund Amendments and Reauthorization Act of 1986.
SCBA	Self-contained breathing apparatus.
Sarin	One of the G series nerve agents. It is composed of methylphosphoryldifluoride (DF) plus isopropanol.
Secondary device	A device placed by perpetrators at the scene of an incident, specifically designed to harm responders.
SEE Principle:	The idea of establishing strategies based on the principle that actions required will be Safe, Effective, and Efficient.
Sensitize	To become highly responsive or easily receptive to the effects of toxic chemical agents after the initial exposure.
SAC Shielding	On of the three components of TDS; it refers to maintaining significant physical barriers between the responders and the hazard. Examples include vehicles, buildings, walls and PPE.
Short Term Exposure Limit (STEL)	A 15-minute time-weighted average exposure which should not be exceeded at any time during a work day even if the 8-hour time-weighted average (TWA) is within the threshold limit value (TLV). Exposures at the STEL should not be repeated more than four times a day and there should be at least 60 minutes between successive exposures at the STEL.

Simple asphyxiant	Generally, an inert gas that displaces the oxygen necessary for breathing or dilutes the oxygen concentration below the level that is useful to the human body.
Site safety plan (SSP)	An Emergency Response Plan describing the general safety procedures to be followed at an incident involving hazardous materials.
Size-up	The rapid evaluation of the factors that influence an incident. Size-up is the first step in determining a course of action.
Skin dosage	This is equal to the time of exposure in minutes of an individual's unprotected skin multiplied by the concentration of the agent cloud.
SLUD syndrome	Acronym for salivation, lacrimation, urination, defecation. These symptoms are often present in a person exposed to organophosphates, such as nerve agents.
SLUDGE syndrome	Acronym for salivation, lacrimation, urination, defecation, gastric distress, and emesis.
SLUDGE M	Acronym for salivation, lacrimation, urination, defecation, gastric distress, emesis and miosis.
SM	Student Manual.
SOGs	Standard Operating Guidelines.
Solubility	The ability of a material to dissolve in water or another liquid.
Solvent	A material which is capable of dissolving another chemical.
Soman	A G series nerve agent composed of methylphosphonylfluoride (DF) plus pinacolyl alcohol.
Source strength	The weight of a chemical agent that is at the chemical accident/incident site and may be released into the environment.
Specific gravity	The weight of a liquid compared to the weight of an equal volume of water.
Spore	A reproductive form some microorganisms can take to become resistant to environmental conditions, such as extreme heat or cold, while in a "resting phase."

State EOP	The State EOP is the framework within which local EOPs are created and through which the Federal government becomes involved. The States play three roles: (1) they assist local jurisdictions whose capabilities are overwhelmed by an emergency, (2) they themselves respond first to certain emergencies, and (3) they work with the Federal government when Federal assistance is necessary.
Sulfur mustard	See blister agent or distilled mustard.
Tabun	A G series nerve agent.
Tear agents	Produce irritating or disabling effects such as a large flow of tears and intense eye pain and irritation of the skin that rapidly disappear within minutes after exposure.
Terrorism	A violent act or an act dangerous to human life, in violation of the criminal laws of the United States or any segment, to intimidate or coerce a government, the civilian population or any segment thereof, in furtherance of political or social objectives (US Department of Justice).
Terrorism Incident Annex	The annex to the FRP that describes the Federal concept of operations to implement PDD-39 when necessary to respond to terrorist incidents within the US.
Terrorist incident	A violent act, or an act dangerous to human life, in violation of the criminal laws of the United States or of any State, to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives (FBI definition).
Time	One of the three components of TDS; it refers to the amount of time a responder should be exposed to an incident. It is recommended that one should spend the shortest amount of time possible in the hazard area.
Time, Distance and Shielding (TDS)	Three types of protective measures commonly associated with hazardous materials training.
TIMPS	Terrorist Incident Management Plan Study.
Time-Weighted Average (TWA)	The average concentration for a normal 8-hour workday and a 40-hour workweek, to which nearly all workers may be repeatedly exposed without adverse effect.

Toxic	Nonliving poisons that are the products of animals, vegetables, or micro-organisms. These poisons can kill or incapacitate when they are inhaled, swallowed, or injected into humans or animals. Snake venom is an example of a toxin.
Toxicity	A measure of the harmful effect produced by a given amount of toxin on a living organism. The relative toxicity of an agent can be expressed in milligrams of toxin needed per kilogram of body weight to kill experimental animals.
Toxins	Toxic substances of natural origin produced by an animal, plant or microbe. They differ from chemical substances in that they are not manmade. Toxins include botulism, ricin, and mycotoxins.
TRACEM	The acronym used to identify the six types of harm one may encounter at a terrorist incident: Thermal, Radioactive, Asphyxiation, Chemical, Etiological and Mechanical.
Triage sorting	A technique of establishing rescue, decontamination, treatment and transportation priorities in any event where the number of casualties overwhelms the resources of the emergency response organizations.
Unified command	In ICS, Unified Command is a unified team effort which allows all agencies with responsibility for the incident, either geographical or functional, to manage an incident by establishing a common set of incident objectives and strategies. This is accomplished without losing or abdicating agency authority, responsibility or accountability.
Upwind	In or toward the direction from which the wind blows. To be upwind of an item, the wind would be blowing from your position to the item.
Urticant	A chemical agent that produces irritation at the point of contact, resembling a stinging sensation, such as a bee sting. For example, the initial physiological effects of phosgene oxime (CX) upon contact with a person's skin.
Urticaria	A skin condition characterized by intensely itching, red, raised patches.
USAMRIC	US Army Medical Research Institute of Chemical Defense.
USAMRIID	US Army Medical Research Institute of Infectious Diseases.

USAR/US&R	Urban search and rescue. A team specifically trained and equipped for large or complex urban search and rescue operations. The multi-disciplinary organization provides five functional elements which include command, search, rescue, medical and technical.
V-series nerve agents	Chemical agents that are extremely toxic developed in the 1950s. They are generally persistent.
Vaccine	A preparation of killed or weakened microorganism products used to artificially induce immunity against a disease.
Vapor	A gaseous form of a chemical agent. If heavier than air, the cloud will be close to the ground, if lighter than air, the cloud will rise and disperse more quickly.
Vapor agent	A gaseous form of a chemical agent. If heavier than air, the cloud will be close to the ground; if lighter than air, the cloud will rise and disperse more quickly.
Vapor density	A comparison of any gas or vapor to the weight of an equal amount of air. Vapor density < 1 means the substance is lighter than air; vapor density > 1 means the substance is heavier than air.
Vapor pressure	Is the pressure produced or exerted by the vapors given off by a liquid. That is, as a liquid vaporizes, the vapors produce a pressure.
VEE	Venezuelan Equine Encephalitis.
Vesicant agent	An agent that acts on the eyes and lungs and blisters the skin.
Vesicles	Blisters on the skin.
Virus	An infectious microorganism that exists as a particle rather than as a complete cell. Particle sizes range from 200 to 400 manometers (one-billionth of a meter). Viruses are not capable of reproducing outside of a host cell.
Viscosity	The degree to which a fluid resists flow.
Volatility	With chemical agents, it refers to their ability to change from a liquid state into a gaseous state (the ability of a material to evaporate).

Vomiting agents	Substances that produce nausea and vomiting effects, and can also cause coughing, sneezing, pain in the nose and throat, nasal discharge, and tears.
Vulnerability	Being in an exposed position or being at a disadvantage.
VX	A persistent V series nerve agent with a consistency likened to a nonvolatile oil. Also known as O-ethyl S-2 diisopropylaminoethyl methylphosphonothiolate.
Warm Zone	A buffer area between the hot and cold zones. Personnel in this area are removed from immediate threat, but are not considered completely safe from harm. In HazMat incidents, this zone is also the contamination reduction zone where initial decontamination activities occur. This zone requires the use of proper personal protective equipment once contaminated people or equipment enter the zone.
Weapon of Mass Destruction (WMD)	(1) Any explosive, incendiary, poison gas, bomb, grenade, or rocket having a propellant charge of more than four ounces, missile having an explosive or incendiary charge of more than one-quarter ounce, or mine or device similar to the above. (2) Poison gas. (3) Any weapon involving a disease organism. (4) Any weapon that is designed to release radiation at a level dangerous to human life.
Wheal	An acute swelling of the skin. This condition is common to a bee sting.

Appendix C:
Articles from *Security Awareness Bulletin*

The articles in this appendix first appeared in the *Security Awareness Bulletin*, Number 3-96, December, 1996. The *Security Awareness Bulletin* is produced by the Department of Defense Security Institute in Richmond, Virginia.

Their Internet site is: http://www.dtic.mil/dodsi

Antiterrorism Awareness: Changing the Mindset

A renewed challenge for the security educator

by Lynn Fischer, DoD Security Institute

The major focus on this issue of the *Security Awareness Bulletin* is antiterrorism and specifically what the security educator in defense components and industry should be conveying on this subject to the employee or service-member population. The articles included here may be useful as reading material, particularly for personnel who are relatively more vulnerable to a terrorist attempt. And these texts could serve, in content and structure, as the basis for special-focus security briefings for all personnel. With the rash of domestic terrorist incidents, we are moving away from the idea that it's just people who go overseas to high risk areas who need a thorough exposure to personal protection measures and antiterrorism (AT) awareness information. Both policy and common sense dictate that general AT awareness be a standard element in security indoctrination for Department of Defense personnel.

Timely guidance

In the wake of two devastating terrorist bombings in Saudi Arabia (Riyadh in November 1995 and Khobar Towers in June 1996), Secretary of Defense William J. Perry has reissued DoD Directive 2000.12, "DoD Combating Terrorism Program" dated September 15, 1996. This directive has a lot to say about security education in support of antiterrorism programs. As does the earlier directive by the same title, it tasks military department and other defense components to institute antiterrorism awareness programs. It states that attention must be given to: "elevating the awareness of DoD personnel and their families to (a) the general terrorist threat, (b) the terrorist threat in their areas (including temporary duty and/or temporary active duty and leave areas), and (c) personnel protection measures that can reduce personal vulnerability."

What is specifically new about the directive, as described by Dr. Perry, is that the approaches previously set forth as suggestions in DoD Handbook *0-2000.12-H, Protection of DoD Personnel And Activities Against Acts of Terrorism and Political Turbulence,* are now to be implemented as the DoD standard that shall apply to all antiterrorism (AT) force protection efforts.[i] Although currently in revision, the handbook offers a wealth of information that can be incorporated into briefings and awareness publications including personal protection tips for travelers that can reduce personal vulnerability.

A response to the bombings in Saudi Arabia

We can find additional guidance for strengthening the AT element in our security awareness program in both (1) the language of the final report of the Antiterrorism Task Force following the bombing at Riyadh and (2) in the *Downing Report* which assessed the Khobar Towers tragedy.[ii] The earlier report dated May, 1996, states "The entire training program requires new reinforcement, command emphasis, and innovated media methodologies to aid in fulfilling the basic AT training programs. The major challenge noted has been combating complacency--thus making 'changing the mindset' a fundamentally important objective."

The report goes on to say that while sustaining AT focus is difficult despite the training and briefings now being accomplished, "Security consciousness is not adequately emphasized and resource expenditures do not fully support programs. Without continued command emphasis, other problems such as training and program awareness, limited resources, competing priorities, and perceived absence of threat--will endure."

The task force report concludes with several recommendations related to security education that will lead to a DoD AT program of excellence. It endorses the Annual Worldwide AT Conference to consolidate, evaluate, and cross-fertilize AT enhancements; stresses the importance of command support and leadership emphasis required to energize AT training as part of force protection; and identifies the need for specific training actions and educational products for AT awareness. This includes the distribution of a video, now under development by the Joint Staff, a commander's antiterrorism handbook, a personal protection pamphlet for use throughout the Department of Defense, and an AT-Force Protection Card to be used as a personal reminder. Plans are underway by the Joint Staff for the printing and distribution of the following three publications through major military command headquarters.[iii]

These publications are authorized for local reproduction within the Department of Defense:

- *Coping with Violence***,** a Personal Protection Pamphlet
- JS Guide 5260, *Service Member's Personal Protection Guide: A Self-Help Handbook to Combating Terrorism*
- *Security While Traveling,* a tri-fold card with tips about individual protection measures

The need for theater-specific training

The recently-released *Downing Report* (September 1996) reinforces the conclusions of the previous assessment and calls for greater "theater-specific training guidance" for personnel deployed in the command's area of responsibility. Consequently four recommendations were made by the Downing, task force which were immediately accepted by the Secretary of Defense for implementation:

a. Establishment of AT training qualifications and certification procedures for all units and individuals prior to deployment and after arrival in an area of responsibility

b. Mandatory force protection and risk management training for all officers and senior noncommissioned officers deployed to high areas

c. Development of antiterrorism training and educational supporting materials, using innovative media methodologies

d. Refresher training for installation/unit AT officers immediately prior to assignment to a theater

While items a, b, and d concern resident or formal training for higher risk personnel, item c is a direct follow-up to the earlier Antiterrorism Task Force recommendation for AT awareness that calls for a variety of innovative educational products. In his comments to the President which accompanies the Downing Report on the Khobar Towers bombing, Secretary Perry states in addition that local commanders will have operational and full responsibility with regard to force protection matters, and that the Chiefs of Staff has become the principal advisor and focal point for all Department of Defense force protection activities.

Add AT awareness to the educational agenda

The new emphasis on antiterrorism training and awareness demonstrates again that the skills and energies of security educators are indispensable in confronting a international threat to U.S. lives and properties. In the words of the *Task Force Report,* awareness programs should be mobilized to battle complacency and to change the mindset that: "It can't happen to me" or "It can't happen here." This is admittedly a weighty task for the security educator already charged with the indoctrination of personnel concerning information security, personnel security, foreign threat awareness, and other educational objectives.

However, as with awareness programs to confront the threat to national defense information, AT awareness can and ought to be a community effort in which we draw upon the products, ideas and methodologies of security educators who have the resources to generate effective training materials. We at the DoD Security Institute, the Office of the Joint Chiefs of Staff, and others who are involved in the production of awareness publications, videos, posters and other training aids will do our utmost to advertise and disseminate timely threat information and products to support your educational programs. Keep tuned to the *Security Awareness Bulletin* and to our Web Page for up-to-date information and training products: http://www.dtic.mil/dodsi/.

Keeping current on the terrorist threat

The intensity of the terrorist threat not only differs from place to place but changes across time. Part of the job of the security educator is to remain current about new and intensified threat areas by keeping up to date on Travel Security Advisories (TSA) issued by the Office of the Secretary of Defense, and other sources of current information on the terrorist threat such as the Department of State and the Defense Intelligence Agency. On the next page are sources of information, in printed form and via the Internet to keep your awareness communications to employee populations timely and accurate.

Terrorist Intelligence Operations

Introduction

This article assesses the threat posed by terrorism to the United States and examines the role that OPSEC plays in protecting U.S. interests against terrorist attack. In testimony before the House Judiciary Committee in April 1995, Admiral John O. Studeman, the Acting Director of Central Intelligence, summarizes the terrorist threat to the United States in the following manner:

International terrorism remains one of the deadliest and most persistent threats to U.S. security. The motives, perpetrators, and methods of the terrorist groups are evolving in ways that complicate analysis, collection, and counteraction and require the ability to ship resources flexibly and quickly. The rise of the new breed of terrorist who is interested in inflicting mass death and destruction does not bode well for the future security of U.S. interests. These groups can strike at any time, anywhere, spurred by seemingly unrelated events for which they judge the United States to be blameworthy. They have a widening global reach and a high degree of proficiency with more sophisticated weapons and tactics.[iv]

Terrorism is defined as the unlawful use of force or violence against persons or property for the purposes of intimidating or coercing a government, the civilian population, or any segment thereof, intolerance of political and social objectives. There are two categories of terrorism: domestic and international. Domestic terrorism involves groups or individuals whose activities, conducted in the United States without foreign influence, are directed at elements of the United States Government or population. International terrorism involves activity committed by foreign based groups or individuals who are either directed by countries or groups outside the United States or whose activities transcend national boundaries.[v]

Terrorist group categories

Terrorist groups generally are either non-state supported (either indigenous or transnational), state-supported, or state directed. Non-state supported terrorist groups are autonomous and receive no significant support from a government. State supported groups generally operate independently but receive support from one or more governments. Such support may include weapons, training, money, intelligence, or safe havens. State-directed terrorist organizations act as agents of a government. Such groups receive intelligence, logistics, and operational support from the sponsoring government, frequently through diplomatic missions. State-directed terrorism is potentially a deniable and/or relatively inexpensive method of carrying out attacks against an enemy state or its interests.[vi]

The greatest terrorist threat to the United States today comes from fundamentalist Islamic extremist groups. Some of these groups, such as the Party of God (Hizballah), the Palestinian group Islamic Resistance Movement (HAMAS), and the Algerian Armed Islamic Group fit the traditional terrorist mold. These groups have hierarchical structures and receive support from state sponsors. A new Islamic threat is on the rise as a result of the activities of ad hoc terrorist groups. These groups are even more dangerous in many ways than the traditional groups because they lack a well-established organizational identity, and they tend to decentralize and compartment their activities. They are capable of producing sophisticated conventional weapons, as well as chemical and biological agents. They are also less constrained by state sponsors or other benefactors than more traditional terrorist organizations. These new groups seek to punish the United States and other Western nations by inflicting heavy civilian casualties. The World Trade Center bombers are prime examples of this new breed of radical, transnational Islamic terrorists.[vii]

Both the traditional groups and the newer, ad hoc groups have increased their capability to attack U.S. interests. The groups are well funded, and some have developed sophisticated international support networks that provide them great freedom of movement and increase their opportunities to attack the interests of the United States on a global basis. These groups are also attracting more qualified cadres with greater technical skills. Several groups have established supporting infrastructures within the United States that provide financial, logistics, operational, and intelligence support.[viii] Although, there is no evidence that these groups are centrally coordinated, it does appear that they collaborate in terrorist actions. Evidence gathered by Federal investigators in the World Trade Center bombing case, for example, shows that leaders or representatives of five different groups - the Palestinian Islamic Jihad, HAMAS, the Sudanese National Islamic Front, the Pakistan-based al-Fuqrah, and groups funded by Persian Gulf donors - were involved in the plot. The conspirators were aided by Sudanese diplomats affiliated with the National Islamic Front, which provided them with information and credentials. Evidence seized later from the apartment of one of the conspirators revealed detailed intelligence on potential targets and plans for other attacks in the New York area.[ix]

Terrorist tactics

There are six basic types of tactics that terrorist groups have used: hijackings, kidnappings, bombings, assassinations, armed assaults, and barricade-hostage incidents. A group's objectives and organizational capabilities dictate which tactics it uses. Terrorist organizations typically use hijackings, kidnapping, and barricade-hostage incidents when the group wishes to force the targeted company or government into negotiations. The terrorist group frequently is able to obtain the release of prisoners or extort money. Such incidents increase the level of risk to the terrorist organization and require a mature planning, operations, logistics, and intelligence capability to successfully conduct the operation. Bombings, assassinations, and armed assaults are less risky and generally require less organizational capabilities. These tactics tend to be used to accomplish the following goals:

- Create a climate of fear in a targeted group or nation through a sustained campaign of violence;
- Retaliate for previous incidents or situations affecting the terrorist organization or its causes;
- Negatively affect processes that the terrorist organization sees as against its interests; and
- Eliminate specific individuals or groups.[x]

Attaining the terrorist organization's goals depends on receiving adequate information for planning and executing an operation. OPSEC denies terrorist organizations the information they require for planning. The following portions of this section discuss the terrorist threat to the United States and the role of sponsoring nations and terrorist organizations in executing attacks.

Terrorist objectives

Organizations intend their terrorist activities to have an emotional impact on the target audience, causing it to act in a manner that furthers the group's objectives. Terrorist operations generally are categorized in terms of their associated goals. These goals traditionally are divided into five categories: recognition, coercion, intimidation, provocation, and insurgency support. Early in their life span, terrorist groups often carry out attacks designed to gain recognition. The objective of these attacks is national and/or international attention for the group and its stated objectives. Groups often mount such attacks, which may involve protracted hostage seizures, against highly-visible symbols of state control (e.g., national airlines). Groups intend coercion attacks to force individuals, organizations, or governments to act in a desired manner. Using this strategy, terrorists selectively target facilities with the intent of bringing increasing pressure to bear on the targeted activity. Terrorist attacks designed primarily to intimidate are a means of preventing organizations or governments from acting in a defined manner. Provocation attacks aim to force government security forces to take repressive action against the general populace. These attacks generally are against critical infrastructures, popular or high-profile individuals, or important facilities. The goal of these attacks is to demonstrate the weakness of the legitimate government, thus causing an uncoordinated backlash.[xi]

Terrorist threats to the United States

Until recently, many people believed that the United States was largely immune to terrorist attack. This belief was based on the low number of terrorist attacks that took place in the United States during the 1980s and early 1990s. The bombing of the World Trade Center on February 26, 1993, demonstrated the nation's vulnerability to terrorist attack. In retrospect, however, there was no reason to discount U.S. vulnerability to terrorist attacks. Historically, the United States has been the target of over 32 percent of all terrorist attacks worldwide, second only to Israel. Domestically, the United States

averaged 100 terrorist attacks per year in the 1970s, with 112 occurring in 1977 alone. Between 1980 and 1982, 122 terrorist attacks occurred in the United States with 51 of these attacks occurring in 1982. Between 1982 and 1993, a total of 177 confirmed terrorist incidents and 46 suspected terrorist incidents took place. Additionally, law enforcement intervention prevented 81 terrorist incidents, many of which could have resulted in extensive damage to property or significant loss of life. Superior intelligence collection and the infiltration of terrorist groups with informers enabled the Federal Bureau of Investigation, in concert with the Intelligence Community, to prevent these attacks. However, if terrorist groups continue to evolve into more informal, ad hoc structures, gathering information necessary to prevent terrorist incidents may become far more difficult.[xii]

It is likely that the number of terrorist attacks taking place inside the United States will increase within the next several years. According to current projections, worldwide terrorism will increase at a rate of roughly 15 percent per year - a figure in line with historical patterns. Most terrorist attacks against American interests will still occur overseas, but more violent attacks aimed at symbolic targets and vital infrastructure are likely to occur inside the United States. Both domestic and international terrorism are likely to increase. Moreover, as terrorists gain technical skills and attempt to stay one move ahead of counterterrorist and antiterrorist forces, the weapons and operational techniques used by terrorists are likely to grow more complex and more sophisticated.[xiii]

Terrorist sponsors

The Department of State currently considers seven countries to be terrorist sponsors: Libya, Syria, Iran, Cuba, Sudan, Iraq, and North Korea.[xiv]

Libya

Although it has made some cosmetic changes to its terrorism apparatus, Libya retains the capability to commit terrorist acts. Despite its public renunciation of terrorism, terrorism remains an important instrument of Libyan foreign policy, which is managed at the highest levels of government. The United States has successfully sought sanctions against Libya in the United Nations aimed at forcing the execution of the two Libyan intelligence officers implicated in the bombing of Pan American flight 103. However, Libya has still failed to comply with the demands of the U.N. Security Council for the execution of these individuals as well as those suspected to be involved in the bombing of UTA flight 772. In December 1993, the Security Council increased sanctions against Libya to compel compliance. While it has closed some terrorist facilities, Libya still provides safe havens and financial support for the Abu Nidal Organization (ANO) and other terrorist groups. In October 1993, Qaddafi vowed to strike the United States and nations supporting U.N. sanctions against Libya. It is believed that Libya possesses chemical weapons and is actively pursuing other weapons of mass destruction.[xv]

The primary Libyan intelligence organization, the Jamahariya Security Organization (JSO), has been directly implicated in the bombing of Pan American flight 103 and UTA flight 772. The bomb used to destroy Pan American 103 was traced to a station manager for Libyan Arab Airways in Malta. The station manager, a JSO Intelligence officer, checked the bag at Luqa Airport in Malta on to a KLM aircraft flying to London with instructions for transfer to a flight for John F. Kennedy International Airport in New York. Because of his position, the Libyan station manager was able to bypass airport security and forward the suitcase with the bomb without any examination. Authorities in London placed the bag on the next flight to New York, Pan American 103, assuming that it has been checked and determined to be safe in Malta. A defector from the JSO to the United States provided critical information on the role of Libyan intelligence in the bombing of the aircraft.[xvi]

The JSO was also responsible for planning and executing the LaBelle Discotheque bombing in Berlin, Germany which killed U.S. Army personnel in 1986. On December 4, 1992, the Federal Republic of Germany indicted two Libyan intelligence officers for their role in the bombing. The Libyan Embassy in East Germany provided the explosives used in the bombing and collected intelligence needed to target the nightclub. The JSO has also been directly implicated in the attacks by the ANO on the Rome and Vienna Airports in 1985. Libya provided forged passports and intelligence support, and used diplomatic pouches to move weapons into the vicinity of the attacks. The JSO was also involved in the attempted assassination of a U.S. ambassador in 1977. Libyan People's Bureaus throughout the world have been used to provide monetary support, weapons, training, and intelligence to disparate terrorist groups sponsored by Libya. The Libyans have also used front companies, the offices of Libyan Arab Airlines, and the Islamic Call Society as covers for intelligence and terrorist operations. The Libyans have also used these activities to obtain embargoed technologies and information for their program to produce weapons of mass destruction.[xvii]

Syria

To advance its interests in the Middle East, Syria has used terrorism as an integral part of its foreign policy. Syrian intelligence officers and diplomats have been associated with attacks on Jordanian officials and Syrian dissidents living abroad. In January 1986, the Syrian intelligence service was behind a plot to smuggle a bomb through the United Kingdom's Heathrow Airport onto an El Al aircraft. Since the end of 1986, Syrian sponsorship of terrorist activities appears to have been restricted to the Middle East. Syrian intelligence is also involved in the diversion of technologies required for the manufacture of weapons of mass destruction, and for advanced conventional munitions. It is believed that Syria possesses chemical weapons and is developing the capability to produce biological weapons. Syria continues to provide safe haven, training, financial support and perhaps intelligence support for a number of Middle East terrorist organizations. These organizations include the Palestine Islamic Jihad (PU), the Popular Front for the Liberation of Palestine General Command, Hizballah, the Japanese Red Army, and HAMAS.[xviii]

Iran

Iran is the most active sponsor of terrorism in the world. Since the inception of the Islamic state in 1979, the country has used terrorism as an integral part of its foreign and military policies. Iranian leaders view terrorism as a valid tool to accomplish their political objectives. Terrorist operations are reviewed and approved at the highest levels of the Iranian government, and the President of Iran is involved in the approval process of all major terrorist operations. Iran-sponsored terrorism has had two major goals: punishing opponents of the Islamic regime and expanding the Islamic movement throughout the Persian Gulf region. Iran sees terrorism as a means of attacking its enemies that is less likely to result in direct retribution against the Islamic Republic. This view has been reinforced by the United States' decisive victory in the Persian Gulf War.[xix]

Despite the overall decline in state-sponsored terrorist attacks, Iranian-sponsored attacks have actually increased. The number of terrorist attacks and the centralization of oversight of terrorist operations has increased since the election of President Rafsanjani, despite the supposed moderation of his regime. Tehran and its surrogates carried out 35 terrorist attacks between 1989, when Rafsanjani was elected, and 1992. Twenty of these attacks were conducted in 1992 alone, and the trend for these attacks has been toward increased levels of lethality.[xx]

The Iranian government plays a significant role in international terrorism by providing money, training, weapons, intelligence, documentation, and cover for terrorist activities. Three government agencies play primary roles. The Ministry of Intelligence and Security (MOIS) is responsible for intelligence collection to support terrorist operations. The ministry is also responsible for liaison activities with supported terrorist groups and Islamic fundamentalist movements. MOIS has also conducted terrorist operations in support of Iranian objectives. Most of these activities have focused on attacks on Iranian dissidents. The Qods Force of the Iranian Revolutionary Guard Corps (IRGC) is responsible for extraterritorial operations, including terrorist operations. A primary focus for the Qods Force is training Islamic fundamentalist terrorist groups. Currently, the Qods Force conducts training activities in Iran and in Sudan. The Qods Force is also responsible for gathering information required for targeting and attack planning. The final operational element of the Iranian government's terrorist support infrastructure is the Ministry of Foreign Affairs (WA). The WA provides diplomatic cover for terrorist operations, diplomatic pouch service for importation of weapons and explosives, and a safe haven at Iranian diplomatic facilities for execution of terrorist operations.[xxi]

Iran maintains active liaison with Hizballah, HAMAS, the PU, and other terrorist groups. One of these groups - the Islamic Group, an Egyptian fundamentalist terrorist group - was involved in the bombing of the World Trade Center. Subsequent investigations revealed that members of the group who participated in the bombing received bank transfers in Germany from Iran and from Iranian organizations prior to the bombing. While this does not constitute definitive proof of Iranian involvement in the bombing, these facts suggest that the Iranian government supported the activities of the ad hoc terrorist organization

that carried out the bombing.[xxii] The Iranians have also embarked on a long-term program to develop weapons of mass destruction.[xxiii]

The Intelligence Community believes that Iran is likely to continue its support for terrorist operations for the foreseeable future. Iran has never paid a significant price for any of the terrorist activities it has sponsored and has obtained tangible political benefits in the Persian Gulf region. Iran will continue to focus the majority of its attacks on Israel in hopes of derailing the Middle East peace process. The United States will also continue to be a primary target for Iranian sponsored terrorist attacks. Iran and the terrorist groups it sponsors are continuing to develop operational plans to attack the United States and its allies. Iran has an extensive intelligence collection and terrorist infrastructure throughout the world. This infrastructure is particularly well developed in the United States, Europe, and South America. Iran has also formed alliances with Islamic fundamentalists in the Philippines, Pakistan, and Afghanistan.[xxiv]

Sudan

In August 1993, the State Department added Sudan to its list of terrorist states. Authorities now consider Sudan to be second to Iran in its support of Muslim terrorist groups. The government of Sudan has links to radical Arab terrorist organizations, including HAMAS, ANO, and the PU. Sudan also provides safe haven for PLO operatives and for Egyptian fundamentalists fleeing crackdowns by the Mubarak government. The governments of Tunisia, Algeria, and Egypt have asserted that Sudan is providing weapons, funds, training, passports, and safe haven for Islamic terrorist organizations that are attempting to overthrow their governments. To date, no conclusive evidence links Sudan with any terrorist act; however, Sudanese citizens comprised five of the fifteen suspects arrested in June 1993 for plotting to bomb the United Nations Building, the Lincoln and Holland Tunnels, the New York Federal Building, and other facilities in New York City. Senior members of the National Islamic Front (NIF), which dominates the Sudanese government, have also called for attacks against the United States. The United States also suspects that Sudan provided weapons and materiel to Somali groups responsible for attacks on U.S. and U.N. forces deployed in Somalia. Iran has maintained an extremely close relationship with Sudan, and the two nations have entered into agreements for joint military and intelligence activities.[xxv]

Iraq

Since the mass expulsion of its intelligence officers and diplomats from numerous countries during the Gulf War, Iraq has not fully recovered its capability to conduct terrorist operations. Nevertheless, Iraq sponsored 39 terrorist operations in 1992 - activity which was in direct violation of its cease-fire agreement with the United Nations. One notable incident was the planned assassination of former President George Bush on his visit to Kuwait in 1993. The Iraqi government was also implicated in several dozen terrorist incidents in Northern Iraq in 1993. These attacks primarily targeted U.N. food

distribution activities and humanitarian relief agency operations. Indications are that the Iraqi intelligence service has resumed terrorist targeting operations throughout the world. Iraq has a well-developed chemical weapons program and possesses biological agents. U.N. disarmament operations, however, have significantly damaged Iraq's nuclear weapons program.[xxvi]

Cuba

In the past, Cuba was a strong supporter of terrorist activities providing training, funds, weapons, and intelligence support. The Castro regime, which has become preoccupied with its own existence, is no longer able to support armed struggle actively in Latin America or other parts of the world. Currently, the regime's focus is on economic survival, and the government is attempting to upgrade diplomatic and trade relations in Latin America. However, Cuba still provides safe haven for a number of Latin American and European terrorist organizations. It still remains likely that the Castro regime would use terrorist attacks as a means to adversely affect U.S. interests and prevent the collapse of the Cuban regime; or if U.S. military action was anticipated. Cuba has a sophisticated intelligence collection capability that could be used for targeting U.S. facilities by terrorist groups. The Cuban intelligence service, the DGI, has the ability to unilaterally carry out such attacks against United States.[xxvii]

North Korea

North Korea has a worldwide capability to conduct terrorist activities against the United States or its allies. If North Korea wishes, it can mount attacks on U.S. facilities at any time. North Korea has not sponsored any terrorist activity since 1987, when it conducted a mid-flight bombing of a Korean Air Lines aircraft. The North Korean Research Department for External Intelligence (RDEI) was responsible for this attack, and an earlier attack in Rangoon, Burma that targeted an official South Korean delegation headed by South Korea's president. North Korea still provides sanctuary for terrorist groups, and military instructors at terrorist training camps in Lebanon and Sudan. The North Koreans appear to be backing away from terrorism as a means to gain economic aid and advanced technology from the United States and Japan. North Korea is believed to have chemical and biological weapons and is currently believed to be engaged in developing nuclear weapons. A significant concern has been that North Korea may be willing to sell these technologies to state supporters of terrorism or terrorist groups.[xxviii]

Islamic fundamentalist groups

A variety of Islamic fundamentalist and/or radical Arab groups have the ability to conduct attacks inside the United States. Such groups - HAMAS, Hizballah, PU, ANO, and the Islamic Group - are characterized by their increasingly strident assertions of religious justification for terrorist activities against the oppressive regimes of the

developed world. In particular, groups have identified the United States as anti-Islamic. For this reason, Iran and its followers characterize the United States as the Great Satan. It is notable that from 1975 to 1987, the number of religious terrorist groups, many of which were Islamic fundamentalist, increased six-fold. In contrast, the number of Marxist-Leninist groups has remained fairly steady, while the number of ethnic terrorist groups has declined. Not only have religious terrorist groups increased in number, but they have also become increasingly more violent as a way of fulfilling their mandate from God.[xxix]

Islamic Resistance Movement (HAMAS)

Formed in 1987 as an outgrowth of the Muslim Brotherhood, HAMAS is a loosely structured organization. It is the principal political rival of Yasser Arafat's Fatah organization in the occupied territories. HAMAS has engaged in terrorist operations in the Gaza Strip and West Bank and has stridently opposed any settlement with the Israeli government. During 1994, HAMAS worked to undermine the legitimacy of the Provisional Palestinian government in the Gaza Strip and conducted several major acts of terrorism against Israel. The most prominent of these incidents was a suicide attack on an Israeli bus on the main street in Tel Aviv. This incident killed 23 people. HAMAS has links to Iran and has consistently opposed U.S. policy in the Middle East. The organization has been openly involved in propaganda and fund raising operations in the United States.[xxx]

Of all of the Islamic militant groups, HAMAS has developed the most sophisticated U.S. infrastructure, including charitable, political, social, and military activities. HAMAS has conducted training in the United States on military tactics and the building of explosive devices. Musa Abu Marzuk, the international political director of HAMAS, was recently arrested by immigration authorities in the United States, and his extradition to Israel for terrorist activities is currently pending. Marzuk was a resident alien in the United States until 1993 and is credited with creating much of the HAMAS infrastructure in the United States. HAMAS has threatened to conduct terrorist attacks in the United States if Marzuk is extradited to Israel.[xxxi]

Party of God (Hizballah)

Hizballah, a radical Shia group, was formed in Lebanon in 1982-1983 as a result of the merger of Hussein Musawi's Islamic Amal and the Lebanese branch of the Da'wa Party. Hizballah, which is closely allied with Iran, wishes to create an Islamic republic in Lebanon. It is believed that Hizballah was responsible for the bombing of the U.S. embassy in Lebanon and the Marine barracks in Beirut, and the kidnapping and murder of Western hostages in Lebanon. Hizballah has demonstrated the ability to conduct terrorist operations outside the Middle East and has claimed responsibility for the bombing of the Israeli Embassy in Buenos Aires in March 1992. Hizballah receives substantial amounts of financial, training, weapons, explosives, political, diplomatic, and organizational aid from Iran. It is believed that Hizballah has a significant support

infrastructure in the United States capable of carrying out terrorist operations. However, at this time, there is no evidence that Hizballah is contemplating any type of attack against the United States. Hizballah likely would coordinate any operation with elements of the Iranian Revolutionary Guard Corps who are believed to have entered the United States in the late 1980s on student visas.[xxxii]

Palestine Islamic Jihad (PIJ)

The PIJ originated in the Gaza Strip during the 1970s. Rather than a cohesive entity, the group appears to be a loose coalition of factions. The PIJ is dedicated to creating an Islamic state in Palestine and destroying Israel. In 1994, the PIJ carried out a number of attacks against Israel with the aim of destroying the peace accord with the Palestinians. In January 1995, the PIJ claimed responsibility for the bombing of an Israeli bus stop at which Israeli soldiers were awaiting transportation to their base. The attack killed 21 soldiers. The PIJ publicly has threatened to attack U.S. interests as well as Arab governments that the group believes have been tainted by Western secularism. Iran, Sudan, and Syria provide aid to some PIJ factions.[xxxiii] The PIJ also has a sizable presence in the United States with support activities in Tampa, FL; Chicago, IL; and Brooklyn, NY.[xxxiv]

Abu Nidal Organization (ANO)

Since 1974, the ANO has carried out over 90 terrorist attacks in 20 countries, killing or injuring more than 900 people. The ANO has an overseas support structure which includes an intelligence collection activity that is active in the United States. ANO has targeted the United States, United Kingdom, France, Israel, moderate Palestinians, the PLO, and various Arab countries. The ANO has demonstrated the capability to conduct operations worldwide.[xxxv]

Islamic Group (Al-Gama'a al-islamiyya)

The Islamic Group is an Egyptian Islamic extremist group whose spiritual leader is Sheik Omar Abdel Rahman. The group's goal is to overthrow the government of Hosni Mubarak and replace it with an Islamic state. Members of this group's predecessor were involved in the assassination of Anwar Sadat and have conducted terrorist attacks inside Egypt. Having strongly condemned the United States for its participation in Middle East politics and its support of the Mubarak government, leaders of the Islamic Group have urged their followers to punish the United States. The groups financial, logistics, and training support seems to come mainly from Iran and Sudan. Sheik Rahman and a number of his followers were tried in Federal district court in New York for conspiring to conduct a series of terrorist attacks in New York City during 1993.[xxxvi]

Terrorism Trends

As they are becoming more violent, terrorist groups also have expanded the range of targets that they consider legitimate. Brian Jenkins, formerly the director of the Rand Corporation's Program on Subnational Conflict, has postulated three reasons for this trend. First, as generational replacement has occurred in terrorist organizations, new leaders have become less concerned with ideological constraints and adverse public opinion. As a result, they are more willing to use excessively violent or shocking tactics. Second, leaders desire to maintain media attention. Limited acts of terrorism repeated over time have failed to gain desired media attention. To receive attention, terrorists have escalated the level of violence and have used bolder, more shocking tactics designed to force the media and the public to pay attention to the terrorist group and its demands. Finally, the internal dynamics of terrorist groups require that the organization move inexorably toward its goals. Increasingly violent tactics allow group members to perceive that they are increasingly powerful and are likely to achieve their objectives.[xxxvii]

Data gathered from 1968 to 1990 substantiates the trend that the number of terrorist groups is increasing and that groups are also more violent. In 1990, there were 70 active terrorist groups throughout the world, compared to 11 identifiable groups in 1968. Although the number of terrorist incidents identified in the 1980s increased by only one-third over those identified in the 1970s, the level of violence increased dramatically. In the 1980s, the number of deaths worldwide attributed to terrorism doubled. There was a 75 percent increase in the number of terrorist incidents resulting in fatalities, a 115 percent increase in incidents resulting in 5 or more deaths, and a 135 percent increase in incidents resulting in 10 or more deaths. Pinkerton Risk Assessment Services, an organization that tracks terrorist incidents, recorded an unprecedented 5,404 terrorist incidents in 1992, resulting in over 10,000 deaths. These incidents represent an 11 percent increase over 1991 figures. Part of this pattern is attributable to the growth of religious terrorism. Religious terrorists differ from traditional ideological terrorists in that the former are willing to sacrifice to obtain their objective. Consequently, religious terrorists are more likely to use indiscriminate violence. They see themselves as involved in a total war in which there are no innocent parties. In determining operational matters, religious terrorists also are largely unconcerned with public opinion.

As discussed earlier, some terrorist groups are evolving into new organizational structures that are harder to detect and infiltrate. These terrorist groups are often a collection of factions with common interests. Accordingly, the groups form, change, and regroup in response to specific agendas or planned actions. The groups tend to be religious or ethnic organizations that often have major grievances with the United States. The extremist factions of Islamic fundamentalist groups that are currently emerging fit this pattern. While many are funded by Iran or supported by Sudan, the emerging groups are not controlled or directed by either state. Instead, they tend to be autonomous in their planning and decision-making functions. According to William Webster, former Director of Central Intelligence, there may be dozens of such groups in the United States waiting for the opportunity to strike. The large number of these groups as well as their lack of central direction and changing organizational structures, make them very difficult to crack.

Finally, a trend may be developing regarding a sponsoring state's use of terrorists to conduct a proxy war against the United States. Terrorist groups offer the sponsoring state a deniable method to attack primary U.S. interests. In turn, sponsoring states would provide terrorist groups with funding, access to weapons technologies, intelligence, target planning support, logistics support, and secure communications. In times of crisis or conflict, the use of terrorists as proxies is the aspect of terrorism that appears to be the most dangerous to U.S. interests because attacks could be directed at facilities critical to force mobilization or crisis management.

Conclusion

To succeed, terrorist operations require detailed information for planning and executing an attack. Many of these organizations have access to intelligence produced by sponsor states or have the ability to produce intelligence required for an attack. OPSEC can be used to deny adversaries information on the movements of key personnel, or the identity and vulnerabilities of critical facilities. The OPSEC process can assist program managers in determining the best security program to protect against terrorist attack based upon assessed risk levels and the cost of implementing security countermeasures. OPSEC procedures can be used to deny terrorists the critical information that they require to plan an attack, and security countermeasures can be implemented that are commensurate with the assessed level of risk.

The Threat of Domestic Terrorism

by Lynn Fischer

DoD Security Institute

While the international terrorist threat to U.S. persons and property is the continuing concern of U.S. defense and law enforcement organizations, there is another dimension to contemporary terrorism that must receive at least as much attention in security awareness programs: *domestic terrorism.* This brand of programmed violence which also has the objective of influencing governmental policy or public opinion, however, is homegrown. The recent increase in domestic violence is said to be associated with the rise of antigovernment sentiment and the proliferation of self-styled militia and paramilitary groups-some of which take extremist positions on race, religion, federal authority, gun control, or taxation.

Not all bombings in this country fall under the category of domestic terrorism, but most of the violence associated with anti-governmental attacks takes this form. According to a recent Bureau of Alcohol, Tobacco and Firearms (ATF) report, bombings or attempted bombings increased from 2,098 in 1990 to 3,199 in 1994 (the latest year available), a 52% increase.[xxxviii] Property damage from bombings rose to $7.5 million, with 308 people injured and 31 killed. Not included in the report was the tragic Oklahoma City bombing in 1995.

What's going on here?

How can this be explained? Some ATF experts call attention to the ready availability of materials and easy access to instructions and explosives information on the Internet. Others point to the copy-cat effect following Oklahoma City, anger or revenge against specific persons or agencies, or more ominous cultural or sociological trends. The purpose of this article is not to explain the mindset, values, or motivations of those who would commit acts of domestic terrorism, but to document the fact that *there is a growing threat to government facilities and federal employees throughout the nation.*

What we as security educators or entrusted federal employees or service members need to be aware of is that terrorism has become not just a special concern for personnel who travel or live overseas. In very recent years it has become a subject of special interest for all of us, no matter how far from the border or remotely located we are. In fact several of the more-terrorist-related events have occurred in places where we would have least expected it. Although not proven in court to be *domestic* terrorism, the destruction of the Alfred P. Murrah Federal Building in Oklahoma, America's heartland, in April of 1995, was a terrorist act which few of us would ever have thought possible. Over 100 Federal employees and members of their families died in that tragic event.

What follows is a review of some of the lesser known events also involving federal facilities or personnel, most of which followed the Oklahoma City bombing. These successful or attempted acts of terrorism which were reported in the public media clearly have domestic (as opposed to foreign) instigators:

March 1995, Central Minnesota. Two members of an anti-tax Minnesota militia, the Patriots Council, were convicted of making an illegal batch of ricin, a toxic derivative of the castor bean, that they planned to use against law-enforcement officers who had served legal papers on members of the group. Douglas Baker and Leroy Wheeler are the first offenders to be convicted under the Biological Weapons and Anti-Terrorism Act of 1989. In August, indictments were returned against two additional alleged conspirators. According to trial testimony, members of the group planned to poison U.S. agents by placing ricin on doorknobs and to blow up a federal building.

October 11, 1995, The Arizona Desert. Unknown terrorists derail a passenger train 60 miles southwest of Phoenix. One person was killed and 80 injured when the Amtrak train jumped the track and plunged over a bridge. Saboteurs had removed a section of track and bridged the gap with wire to disable the electronic warning system. Notes found at the scene referred to the federal siege at Waco and to Ruby Ridge. At least one note was signed "Sons of Gestapo," a group unknown to terrorism experts.

November 13, 1995, Muskogee, Oklahoma. A self-proclaimed "antigovernment prophet," Ray Willie Lampley and three others are charged with plotting a series of bombings against abortion clinics, homosexual gathering places, welfare offices and offices of the Anti-Defamation League and the Southern Poverty Law Center. The four members of the Oklahoma Constitutional Militia were arrested before any of their plans were carried out and charged with conspiracy to manufacture and possess bombs to blow up federal offices in several cities. Lampley and two others were found guilty of the bomb charges in April 1996.

December 18, 1995, Reno, Nevada. Two unemployed and heavily indebted construction workers, Ellis Hurt and Joseph Bailie attempted to bomb the Reno, Nevada, office of the Internal Revenue Service. The pair placed a bomb made of about 100 pounds of fertilizer and kerosene with a lit fuse in a parking lot next to the IRS building. However, the triggering mechanism failed and bomb did not ignite. Authorities on the scene believe that many deaths and injuries would have occurred had it gone off. Bailie was described by an assistant U.S. Attorney as a man obsessed with the IRS who boasted that he had not paid taxes since 1985. Hurst testified against Bailie and was sentenced to 10 years. Both were convicted of conspiracy, attempted destruction of a government building, and the use of an explosive device while committing a violent crime. Bailie received a 36-year sentence.

January 6, 1996, Espanola, New Mexico: A bomb exploded outside of a U.S. Forest Service headquarters. The blast caused $25,000 damage to the offices but no injuries as it occurred on a Saturday night. A Forest Service employee in Nevada has been targeted twice. His unoccupied office was hit by a pipe bomb in March 1995 and another blew up

a van parked outside his house in August. His wife and daughter were at home, but not injured. The Forest Service has been involved in local controversies over Federal land management, grazing, and logging. To date no significant leads have been reported.

April 15, 1996, Vacaville, California. The Department of Labor, Mine Safety and Health office in Vacaville received a threat from a caller who said "You guys are all dead. Timothy McVeigh lives on." Several hours later a bomb exploded in the truck of a federal employee injuring him and his wife. The employee, an inspector at the mine office, and his wife were driving home when they heard an explosion and lost control of the vehicle. They escaped the truck before it burned, but were hospitalized.

May 20, 1996, Laredo, Texas. An explosion blew out the windows of a five-story office building which was the location of an FBI field office staffed by 12 agents. There were no injuries or structural damage. It is not known whether the FBI was the intended target; the building housed a bank and several other offices. An anonymous caller claiming responsibility for the blast said he belonged to "Organization 544."

August 10, 1996, Austin, Texas. Charles Ray Polk was sentenced to more than 20 years for plotting to bomb the office of the U.S. Internal Revenue Service in Austin. Polk, a car salesman, had been convicted on six counts of explosives and firearms violations. Evidence presented at the trial showed that he had planned to plant more than a thousand pounds of explosives in the IRS service center.

October 11, 1996, Clarksburg, West Virginia. Seven men having connections with a local antigovernment paramilitary group were arrested on charges of plotting to blow up the Criminal Justice Information Services Division complex near Clarksburg. The arrests were made as members of the West Virginia Mountaineer Militia were assembling large quantities of explosives and blasting caps. Militia leader Floyd Raymond Looker is alleged to have obtained blueprints of the FBI facility from a Clarksburg firefighter. Plastic explosives were confiscated by law enforcement officials at five locations in West Virginia, Pennsylvania, and Ohio.

As in the Clarksburg case, effective preventative law enforcement action surely saved many lives. In several instances, domestic terrorists were apprehended before they could implement their deadly plans. And the above examples are not the complete story. Reports of other arrests related to terrorist conspiracies or to the illegal possession of explosives are appearing frequently in the press and news wires. Here is a sample of news items over the same time frame:

In Las Vegas, New Mexico, a district attorney's office is hit with molotov cocktails. A Romanian immigrant is stopped as he attempts to board a flight at Tampa and is arrested for carrying five hand-made explosive devices, weapons, and 180 rounds of ammunition. A man identified as a member of an antigovernment Freeman group is apprehended in Topeka, Kansas, after authorities find a bomb-triggering device in his car. In April of this year, two members of the Georgia Republic Militia are arrested after plotting to make

dozens of pipe bombs. The accused claim they were arming themselves for war against the United Nations and the New World Order.

In June, 12 members of the so-called Viper Militia in Phoenix are arrested for a conspiracy to make bombs and other weapons. On November 17, three of the members are convicted for conspiring to use deadly weapons. In July 1996, the FBI arrests eight people including four members of an antigovernment militia in Bellingham, Washington, for possession of guns and explosives. The eight are accused of arming themselves for a clash with the government. In the same month, four members of the Washington State Militia and four members of a Seattle-based Freeman group are arrested on Federal conspiracy charges. The eight are accused of arming themselves for war against the U.S. Government or the United Nations. In September, a Staten Island, New York, man who was stockpiling weapons for "an up-coming battle with a secret organization" is arrested by ATF agents.

The bottom line for federal personnel

What does all of this mean in terms of effective action on our part to counter the threat of domestic or even foreign-sponsored terrorism? For the security educator, as always, after having established the credibility of the threat, the next step is to tell us what to do about it. Part of the answer is found in remarks of Senator Mike DeWine quoted in the *Cleveland Plain Dealer* following the Oklahoma City bombing.

Commenting on recent acts of domestic terrorism, Senator DeWine stated that strong undercover work has no substitute and that these events reinforce the need for human intelligence penetration into these terrorist groups. He went on to say, "Human intelligence is the only way you find information that will prevent actions such as this." The corollary to this is that good human intelligence depends on the free flow of relevant and timely communications to law enforcement officials who then can take action. The best source of this information is an alert, aware, and committed workforce who are in a position to see things and hear things which might signal a life-threatening situation or conspiracy to destroy U.S. government facilities.

Preventative action

A related article in this issue of the *Bulletin*, focuses on the issue of employee involvement in the process of counterintelligence investigations. In "Looking for the Unexpected" we discuss the recent White House security guidance on anomalies-the recognition and reporting of unexpected behavior, patterns, or events which are clues that an adversarial interest has penetrated our security.

The reporting of anomalies to stop espionage is essentially the same idea as keeping law enforcement and security authorities informed about indicators that might signal an intensified or immediate terrorist threat. In both situations U.S. government assets and

even lives are at risk, and aware and motivated employees and service members have an important role to play.

This raises the question: What should be recognized as important, reportable indicators and events that security and law-enforcement professionals need to know about? The following list has been compiled from suggestions made by counterterrorism experts for use in security education to combat domestic terrorism. (For personal protection measures please consult anti-terrorism publications listed in this issue as available through the Office of the Joint Chiefs of Staff.)

Any of the following events might mean danger and should be a reason for an immediate report or for seeking advice from security or law enforcement officials:

- Anonymous tips, phone calls, or notes of a threatening nature which may identify groups or carry extremist messages.
- Surveillance by suspicious persons of federal offices or federal employees performing official duties.
- Unidentified or unattended packages, cans, or other containers left in or near government offices.
- Unattended and unoccupied vehicles parked in unauthorized or inappropriate locations, particularly those in close proximity to buildings or other structures.
- Requests for plans, blueprints, or engineering specification for federal buildings or commercially-owned buildings that house government offices, by those who have no official reason to have them.
- Unauthorized access even to unsecured areas by unknown or unidentified persons who have no apparent reason for being there.
- Packages or heavy envelopes which arrive in the mail from unknown senders or which have a peculiar odor or appearance--often without a clear return address.
- Confrontation with angry, aggressively belligerent, or threatening persons by federal officials in the performance of their official duties.
- Extremely threatening or violent behavior by co-workers who indicate that they may resort to revenge against a group, company, or government agency.

Living with the threat

We live with many dangers in our lives, ranging from everyday household accidents to natural disasters. We do so without relentless fear. Just as we face the possibility of

having our home burglarized or vandalized, we might also face similar crimes at our place of work. Terrorism is a fact of contemporary life. It is important to be aware of the threat of violence and to take intelligent and reasonable steps to protect ourselves and government facilities. But it is also important to know that we can do something to prevent it. Recent events have demonstrated that those who would use violent acts to achieve political objectives can be stopped in their tracks, before they kill or destroy, by vigilance and timely communications to those entrusted with the job of counterterrorism.

Endnotes

[i] From Defense Secretary Perry's endorsement to the Downing Report as submitted to the President, 15 September 1996.
DoD O-2000-12-H was issued February, 1993 by the Assistant Secretary of Defense for Special Operations and Low-Intensity Conflict and is available through normal publication channels. The Handbook is currently in revision to further delineate the standards and guidance provided. The updated Handbook should be ready for distribution in February 1997. The point of contact for this revision is Lt. Col. Leptrone on the Joint Staff, J-34, Combating Terrorism; (703) 693-8182.
[ii] *The Final Report – Antiterrorism Task Force* is dated 6 May 1996 and was signed by the Chairman of the Joint Chiefs of Staff, John M. Shalikashvili. After the Khobar Towers bombing near Dhahran, Secretary of Defense Perry asked General Wayne A. Downing, United States Army (Retired), to assess the facts and circumstances surrounding the tragedy. *The Report of the Downing Assessment Task Force* is dated 30 August 1996.
[iii] The Center for Security Awareness Information (CSAI) will soon announce a method for the distribution of these products to Defense agencies and to the contractor community.
[iv] U.S. House of Representatives, *Testimony of the Acting Director of Central Intelligence on the Omnibus Counterterrorism Act of 1995*, Hearings before the Committee on the Judiciary, April 6, 1996, 10.
[v] Terrorist Research and Analysis Center, *Terrorism in the United States 1982-1992*, Washington, DC: Federal Bureau of Investigation, July 1993; and Terrorist Research and Analysis Center, *Terrorism in the United States 1993*, Washington, DC: Federal Bureau of Investigation, July 1994.
[vi] Stephen T. Hosmer and George K. Tanharn, *Countering Covert Aggression*, Rand Note 2412-USDP, Santa Monica, CA; Rand Corporation, January 1986, pp. 3-4.
[vii] U.S. House of Representatives, *Testimony of Acting Director of Central Intelligence on the Omnibus Counterterrorism Act of 1995*, Hearings before the Committee on the Judiciary, April 6, 1995, pp. 6-7.
[viii] Ibid., p. 6.
[ix] Steven Emerson, "The Other Fundamentalists: A Report on the Islamic Extremist Network in the United States," *The New Republic*, June 12, 1995, pp. 21-30.
[x] Jeffrey D. Simon, *The Terrorist Trap: America's Experience with Terrorism*, Bloomington, IN: Indiana University Press, 1994.
[xi] *Military Operations in Low Intensity Conflict*, Headquarters, Departments of the Army and the Air Force, December 1990.
[xii] Terrorist Research and Analysis Center, *Terrorism in the United States 1993*, Washington, DC: Federal Bureau of Investigation, July 1994; and United States Senate, *High Tech Terrorism*, Hearings before the Subcommittee on Technology and Law, Committee on the Judiciary, Stat Hearing 100-1078, Washington, DC: USGPO, 1989.
[xiii] Interview, Combating Terrorism Directorate, Office of the Assistant Secretary of Defense for Special Operations and Low Intensity Conflict, September 26, 1994.
[xiv] This article discusses the participation of these nations in terrorist activities.
[xv] Foreign Affairs and National Defense Division, *Terrorism: U.S. Policy Options*, Washington, DC: Congressional Research Service, Library of Congress, July 22, 1993.
[xvi] Diarmuid Jeffreys, *The Bureau: Inside the Modern FBI*, Boston: Houghton Mifflin Company, 1995, pp. 282-283.
[xvii] Office of the Coordinator for Counterterrorism, "Appendix C: Libya's Continuing Responsibility for Terrorism," in *Patterns of Global Terrorism – 1991*, Washington, DC: Department of State, April 1992, pp. 69-74.
[xviii] Office of the Coordinator for Counterterrorism, *Patterns of Global Terrorism – 1994*, Washington, DC: Department of State, April 1995, pp. 23-24.
[xix] Sean K. Anderson, "Iranian State-Sponsored Terrorism," Conflict Quarterly, Fall 1991 (11:4), pp. 19-31.
[xx] United States Senate, Statement of R. James Woolsey, Director of Central Intelligence, in *Terrorism and America: A Comprehensive Review of the Threat, Policy, and Law*, Hearings before the Committee on the Judiciary, April 21 and 22, 1993, Washington, DC: USGPO, 1994, pp. 11-12.

[xxi] Worldwide Terrorist Threat Briefing by Gregg F. Prewitt, Chief, Terrorism Threat Warning Branch, Defense Intelligence Agency, at the DoD Worldwide Antiterrorism Conference, Newport, RI, August 29, 1995; and John Hughes, "Behind Concerns of Iran-Sudan Ties," *The Christian Science Monitor*, September 2, 1993, p. 19.
[xxii] Bruce Hoffman, *Responding to Terrorism Across the Technological Spectrum*, Carlisle, PA: Strategic Studies Institute, U.S. Army War College, July 15, 1994.
[xxiii] Office of the Coordinator for Counterterrorism, *Patterns of Global Terrorism 1993*, Washington, DC: Department of State, April 1994.
[xxiv] Worldwide Terrorist Threat Briefing by Gregg F. Prewitt, Chief, Terrorism Threat Warning Branch, Defense Intelligence Agency, at the DoD Worldwide Antiterrorism Conference, Newport, RI, August 29, 1995.
[xxv] Office of the Coordinator for Counterterrorism, *Patterns of Global Terrorism 1993*, Washington, DC: Department of State, April 1995, p. 23.
[xxvi] Ibid., p. 21.
[xxvii] Ibid., p. 20.
[xxviii] PACOM Terrorist Threat Briefing, COL C.K. Akana, Director of Security Police, Fifth Air Force, at the DoD Worldwide Antiterrorism Conference, Newport, RI, August 29, 1995.
[xxix] Bruce Hoffman, *Terrorist Targeting: Tactics Trends, and Potentialities*, Santa Monica, CA:: RAND, 1992.
[xxx] Foreign Affairs and National Defense Division, *HAMAS. The Organization, Goals, and Tactics of a Militant Islamic Organization*, Washington, DC: Congressional Research Service, Library of Congress, August 19, 1993.
[xxxi] Steven Emerson, "The Other Fundamentalists: A Report on the Islamic Extremist Network in the United States," The New Republic, June 12, 1995, pp. 21-30; and James Brooke and Elaine Sciolino, "U.S. Muslims Say Their Aid Pays for Charity, Not Terror: Bread or Bullets, Money for HAMAS," *The New York Times*, August 16, 1995, p. A1.
[xxxii] Office of the Coordinator for Counterterrorism, Patterns of Global Terrorism 1993, Washington, DC: Department of State, April 1995, pp. 18 and 42; and Robert Kupperman and Jeff Kamen, *Final Warning: Averting Disaster in the New Age of Terrorism*, New York: Doubleday, 1989.
[xxxiii] Office of the Coordinator for Counterterrorism, *Patterns of Global Terrorism 1993*, Washington, DC: Department of State, April 1995, pp. 17 and 53.
[xxxiv] Steven Emerson, "The Other Fundamentalists: A Report on the Islamic Extremist Network in the United States," *The New Republic*, June 12, 1995, pp. 21-30.
[xxxv] Office of the Coordinator for Counterterrorism, *Patterns of Global Terrorism 1993*, Washington, DC: Department of State, April 1995, p. 33.
[xxxvi] Office of the Coordinator for Counterterrorism, *Patterns of Global Terrorism 1993*, Washington, DC: Department of State, April 1994.
[xxxvii] Brian M. Jenkins, ed., *Terrorism and Beyond: Conference on Terrorism and Low-Level Conflict*, Santa Monica, CA: RAND, 1982.
[xxxviii] Based on the ATF 1994 Arson and Explosive Incident Report as described in several news media reports.

Appendix D: Supplemental Information on Self-Protection

UNIVERSAL PRECAUTIONS FOR PREVENTION OF TRANSMISSION OF HIV AND OTHER BLOODBORNE INFECTIONS

"Universal precautions," as defined by CDC, are a set of precautions designed to prevent transmission of human immunodeficiency virus (HIV), hepatitis B virus (HBV), and other bloodborne pathogens when providing first aid or health care. Under universal precautions, blood and certain body fluids of all patients are considered potentially infectious for HIV, HBV and other bloodborne pathogens.

Universal precautions took the place of and eliminated the need for the isolation category "Blood and Body Fluid Precautions" in the 1983 CDC Guidelines for Isolation Precautions in Hospitals. However, implementing universal precautions does not eliminate the need for other isolation precautions, such as droplet precautions for influenza, airborne isolation for pulmonary tuberculosis, or contact isolation for methicillin-resistant Staphylococcus aureus.

In 1996, CDC published new guidelines (standard precautions) for isolation precautions in hospitals. Standard precautions synthesize the major features of BSI and universal precautions to prevent transmission of a variety of organisms. Standard precautions were developed for use in hospitals and may not necessarily be indicated in other settings where universal precautions are used, such as child care settings and schools.

Universal precautions apply to blood, other body fluids containing visible blood, semen, and vaginal secretions. Universal precautions also apply to tissues and to the following fluids: cerebrospinal, synovial, pleural, peritoneal, pericardial, and amniotic fluids. Universal precautions do not apply to feces, nasal secretions, sputum, sweat, tears, urine, and vomits unless they contain visible blood. Universal precautions do not apply to saliva except when visibly contaminated with blood or in the dental setting where blood contamination of saliva is predictable.

Universal precautions involve the use of protective barriers such as gloves, gowns, aprons, masks, or protective eyewear, which can reduce the risk of exposure of the health care worker's skin or mucous membranes to potentially infective materials. In addition, under universal precautions, it is recommended that all health care workers take precautions to prevent injuries caused by needles, scalpels, and other sharp instruments or devices.

GLOVING, GOWNING, MASKING, AND OTHER PROTECTIVE BARRIERS AS PART OF UNIVERSAL PRECAUTIONS

All health care workers should routinely use appropriate barrier precautions to prevent skin and mucous membrane exposure during contact with any patient's blood or body fluids that require universal precautions.

Gloves should be worn:

- for touching blood and body fluids requiring universal precautions, mucous membranes, or nonintact skin of all patients, and
- for handling items or surfaces soiled with blood or body fluids to which universal precautions apply.

Gloves should be changed after contact with each patient. Hands and other skin surfaces should be washed immediately or as soon as patient safety permits if contaminated with blood or body fluids requiring universal precautions. Hands should be washed immediately after gloves are removed. Gloves should reduce the incidence of blood contamination of hands during phlebotomy, but they cannot prevent penetrating injuries caused by needles or other sharp instruments. Institutions that judge routine gloving for all phlebotomies is not necessary should periodically reevaluate their policy. Gloves should always be available to health care workers who wish to use them for phlebotomy. In addition, the following general guidelines apply:

1. Use gloves for performing phlebotomy when the health care worker has cuts, scratches, or other breaks in his/her skin.
2. Use gloves in situations where the health care worker judges that hand contamination with blood may occur, e.g., when performing phlebotomy on an uncooperative patient.
3. Use gloves for performing finger and/or heel sticks on infants and children.
4. Use gloves when persons are receiving training in phlebotomy.

The Center for Devices and Radiological Health, Food and Drug Administration (FDA), has responsibility for regulating the medical glove industry. For more information about selection of gloves, call FDA at 301-443-8913.

Masks and protective eyewear or face shields should be worn by health care workers to prevent exposure of mucous membranes of the mouth, nose, and eyes during procedures that are likely to generate droplets of blood or body fluids requiring universal precautions. Gowns or aprons should be worn during procedures that are likely to generate splashes of blood or body fluids requiring universal precautions.

All health care workers should take precautions to prevent injuries caused by needles, scalpels, and other sharp instruments or devices during procedures; when cleaning used instruments; during disposal of used needles; and when handling sharp instruments after procedures. To prevent needlestick injuries, needles should not be recapped by hand, purposely bent or broken by hand, removed from disposable syringes, or otherwise manipulated by hand. After they are used, disposable syringes and needles, scalpel blades, and other sharp items should be placed in puncture-resistant containers for disposal. The puncture-resistant containers should be located as close as practical to the use area. All reusable needles should be placed in a puncture-resistant container for transport to the reprocessing area.

General infection control practices should further minimize the already minute risk for salivary transmission of HIV. These infection control practices include the use of gloves for digital examination of mucous membranes and endotracheal suctioning, handwashing after exposure to saliva, and minimizing the need for emergency mouth-to-mouth resuscitation by making mouthpieces and other ventilation devices available for use in areas where the need for resuscitation is predictable.

National Center for Infectious Diseases
Centers for Disease Control and Prevention
Atlanta, GA
Updated: 03/19/97 10:42:26

Appendix E:
Related Course List

The following National Fire Academy (NFA) and Emergency Management Institute (EMI) courses can assist fire and emergency services personnel in preparing for consequence management of terrorism incidents. Readiness for such occurrences is a logical extension of normal major incident preparation. These courses have components or modules that contribute to the development of skills, knowledge, and abilities of those who must be ready to respond to terrorist incidents. Supplemental material added at the end compare some of the offerings and suggest points of contact.

PART I--NATIONAL FIRE ACADEMY (NFA) COURSES

Hazardous Materials

O234 Chemistry of Hazardous Materials
A two-week course that focuses on the basic knowledge required to evaluate the potential hazards and behaviors of materials considered to be hazardous.

R243 Hazardous Materials Incident Management
A six-day course that focuses on the duties and responsibilities of the emergency response personnel who will assume the Incident Commander (IC) role in hazardous materials emergencies.

R229 Hazardous Materials Operating Site Practices
A two-week course that focuses on the strategies and safe procedures for alleviating the danger at hazardous materials incidents.

F809 Initial Response to Hazardous Materials Incidents: Basic Concepts
A two-day course that gives students an understanding of the basic concepts and techniques of first response to hazardous materials incidents.

F808 Initial Response to Hazardous Materials Incidents: Concept Implementation
A two-day course that expands upon the above course. New concepts and more detail are provided on procedures, usage, and related considerations following the basic chronology of a hazardous materials incident.

Emergency Medical Services

R151 Advanced Leadership Issues in Emergency Medical Service
A two-week course designed for upper-management personnel who have organizational responsibility for emergency medical operations in their agency. Situational, scenario-based instruction is the foundation for this course.

R150 Management of Emergency Medical Services
A two-week course that focuses on current and emerging management practices as they relate to EMS in the fire service.

Emergency Medical Services/Hazardous Materials

R247 Advanced Life Support Response to Hazardous Materials Incidents
A two-week course that focuses on in-depth chemistry, toxicology, and the medical management of victims for paramedic personnel.

F246 Basic Life Support and Hazardous Materials Response
A two-day course that focuses on critical concerns for emergency medical responders at hazardous materials incidents.

Safety

F719 Incident Safety Officer
A two-day course that focuses on the Safety Officer's role at emergency responses, specifically on the Safety Officer role within the Incident Command System (ICS). Response to all-hazard types of situations is emphasized.

F720 Health and Safety Officer
A two-day course that focuses on the Health and Safety Officer's role in identifying, evaluating, and implementing policy and procedures that affect health and safety aspects for first responders.

Command and Control

R306 Executive Analysis of Fire Service Operations in Emergency Management
A two-week course that is designed to prepare senior staff officers in the administrative functions necessary to manage the operational component of a fire and rescue department.

R304 Command and Control of Fire Department Operations at Multi-Alarm Incidents
A two-week course, using intensive simulation, that focuses on the command officer's responsibility while conducting major operations involving multialarm units.

R308 Command and Control of Fire Department Operations at Natural and Man-Made Disasters
A two-week course that focuses on fire and rescue department operations at natural and manmade disasters that may require interagency or inter-jurisdictional coordination.

R314 Command and Control of Fire Department Operations at Target Hazards
A six-day course designed to introduce command officers to the complexities involved in commanding incidents at high-risk areas.

R801 Fire Command Operations
A six-day course where volunteer fire officers are introduced to incident command and study proper fire command techniques for control and extinguishment of fires ranging from small, residential structures to multi-occupancy, commercial complexes.

Managing Company Tactical Operations
A series of four two-day courses that focus on fire and rescue practices dealing with confinement, extinguishment, water supply, salvage, and offensive and defensive firefighting operations. Courses are divided into Preparation (F375), Decisionmaking (F450), Tactics (F451), and Simulation (no course number assigned).

Command and Control/Emergency Medical Services

F160 Incident Command System for Emergency Medical Services
A two-day course that focuses on the concepts of EMS-specific incident command using lecture, role play, simulation, case studies, and graphics.

Arson

R205 Fire/Arson Investigation
A two-week course that addresses the basic skills needed to conduct fire investigations. Students will be equipped to identify the origin and cause of fires, to conduct a technically and legally sound investigation, and to pursue the case through the judicial system.

R811 Fire Cause Determination for Company Officers
A six-day course that addresses the skills needed to conduct initial fire cause determinations.

R207 Management for Arson Prevention and Control
A two-week course that focuses on innovative concepts and practical skills for managing a synergistic response to arson prevention and control.

R216 Initial Fire Investigation
A six-day course that focuses on the needs of personnel whose duties include determining origin and cause, and responsibility for fires and explosions based primarily on examination of the incident scene.

Emergency Response to Terrorism

Emergency Response to Terrorism: Self Study (ERT:SS)

Course Description:

This home study course is a self-study, self-paced, paper-based document and is designed to provide the basic awareness training that first responders need to increase the chances for successful and safe response to incidents involving terrorism.

The target audience for ERT:SS includes fire, emergency medical, HazMat, incident command, and law enforcement responders. At present the intent is to produce 100,000 copies of the ERT:SS document. This would provide, initially, one for every fire department in the U.S. (approximately 35,000).

ERT:SS will provide a basic overview of the following:

- definition and historical background of terrorism;
- recognizing suspicious circumstances and identifying key indicators (outward warning signs or cues);
- implementing self-protective measures (time, distance, and shielding);
- initial scene control; and
- making appropriate notification (activating response resources based on local/State emergency plans).

Emergency Response to Terrorism: Basic Concepts (ERT:BC)

Course Description:

The intent of this two-day course is to prepare first responders for terrorist-related incidents primarily at the operations level. The key learning objectives focus on life safety and self-preservation.

The target audience for ERT:BC includes fire, emergency medical, HazMat, incident command, and law enforcement responders.

ERT:BC will provide a basic overview of the following:

- understanding and recognizing terrorism;
- implementing self-protective measures;
- scene control;
- tactical considerations; and
- incident management overview.

Content will include information on detection and monitoring for various hazards

Emergency Response to Terrorism: Tactical Considerations (ERT:TC)

These courses will be three two-day NFA courses dealing with emergency medical, hazardous materials, and company officer issues. These courses will be designed primarily for technician- and specialist-level personnel who will be directly involved with advanced tactical operations. Proposed content for this course will be

- emergency medical issues;

- tactical HazMat operations (detection and monitoring, suit selection); and
- company officer tactical considerations.

Emergency Response to Terrorism: Incident Management (ERT:IM)

This course will be a six-day NFA resident course designed for Incident Commanders who would be responsible for managing terrorism incidents. Content for this course will be:

- Incident Command (unified command, mass casualty issues);
- Federal Response Plan (PDD-39);
- activating Federal resources; and
- planning (all-hazard approach, threat/capability assessment).

In addition, a job aid (reference guide) is proposed for development. The intent of this document would be as a small reference document that could be used on-scene by emergency responders to assist them with mitigating the incident.

Degrees at a Distance

Disaster and Fire Defense Planning

A course offered through the NFA's Degrees at a Distance Program that focuses on the concepts and principles of community fire risk assessment, as related to group fires and disasters (no course number assigned).

Managerial Issues in Hazardous Materials

A course offered through the NFA's Degrees at a Distance Program that focuses on the issues that confront hazardous materials program managers, from planning to post incident phases (no course number assigned).

PART II--EMERGENCY MANAGEMENT INSTITUTE (EMI) COURSES

E417 Community Emergency Response Team (CERT) Train-the-Trainer Course

A two-and-a-half-day course conducted in residence at EMI prepares participants to institute a CERT program in their communities. Topics include fire suppression, disaster medical operations, light search and rescue, and team organization and management.

G357 Emergency Response to Criminal and Terrorist Incidents

A six-hour workshop course that sensitizes responders to the special issues involved in responding to an event that may involve a crime. Topics such as preservation of evidence are covered in detail.

G120 Exercise Design Course
A two-day course designed to enable participants to conduct community emergency management exercises to test the communities' emergency operations plans and to rehearse key response personnel.

G130 Exercise Evaluation Course
A two-day course that enables participants to manage exercise evaluation activities before, during, and following an exercise.

G191 Incident Command System (ICS)/Emergency Operations Center (EOC) Interface
A one-and-a-half-day field course designed for delivery to ICS and EOC personnel in a community. Course provides an opportunity to develop a working interface between the IC and the EOC. The course reviews ICS and EOC concepts and uses exercises to demonstrate key points.

G190 Incident Command System (ICS) for Law Enforcement Personnel
A 12-hour field course introduces police and other law enforcement personnel to ICS and provides opportunities for exercising the concepts learned.

G192 Incident Command System (ICS) for Public Works Officials
A one-and-a-half-day field course that introduces public works personnel to ICS and provides opportunities for exercising the concepts learned.

S105 Integrated Emergency Management Course (IEMC): Consequences of Terrorism
A five-day exercise-based course that focuses on preparing for, responding to, and recovering from the emergency consequences of a terrorist act. Special attention is placed on the response among agencies when the disaster area is also a crime scene.

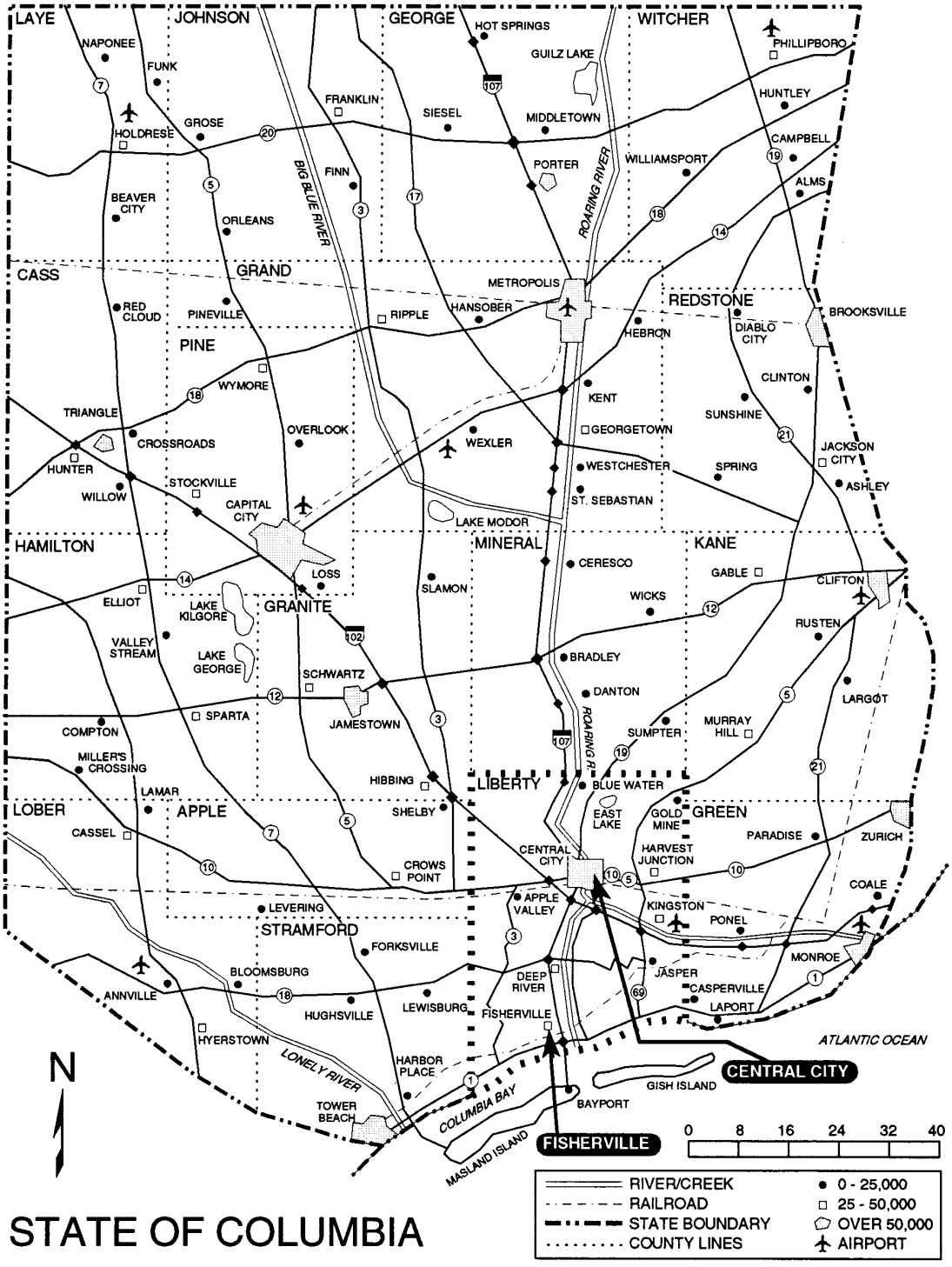
Joint Information Center (JIC)/Joint Information System (JIS) Course
A 16- to 24-hour course that introduces participants to the JIC/JIS concept and details the functions to be performed in establishing a single location for the dissemination of coordinated emergency information.

G386 Mass Fatalities Incident Course
A one-week field course designed to prepare local and State response personnel and other involved personnel to manage incidents involving large numbers of fatalities effectively.

For More Information…

For more information on any of these courses, please contact the National Emergency Training Center at (800) 238-3358, or (301) 447-1000.

Appendix F:
Blue Water County Model


LAYE
JOHNSON
GEORGE
WITCHER
NAPONEE
FUNK
HOT SPRINGS
GUILZ LAKE
PHILLIPBORO
HUNTLEY
FRANKLIN
SIESEL
MIDDLETOWN
HOLDRESE
GROSE
CAMPBELL
PORTER
WILLIAMSPORT
ALMS
BEAVER CITY
ORLEANS
FINN
BIG BLUE RIVER
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CASS
GRAND
METROPOLIS
RED CLOUD
PINEVILLE
RIPPLE
HANSOBER
REDSTONE
BROOKSVILLE
HEBRON
DIABLO CITY
PINE
WYMORE
CLINTON
KENT
TRIANGLE
SUNSHINE
OVERLOOK
GEORGETOWN
CROSSROADS
WEXLER
JACKSON CITY
HUNTER
WESTCHESTER
SPRING
WILLOW
STOCKVILLE
ASHLEY
CAPITAL CITY
ST. SEBASTIAN
LAKE MODOR
HAMILTON
MINERAL
KANE
CERESCO
GABLE
CLIFTON
ELLIOT
LOSS
SLAMON
WICKS
LAKE KILGORE
GRANITE
RUSTEN
VALLEY STREAM
LAKE GEORGE
BRADLEY
SCHWARTZ
DANTON
LARGO
COMPTON
SPARTA
JAMESTOWN
SUMPTER
MURRAY HILL
MILLER'S CROSSING
HIBBING
LIBERTY
BLUE WATER
LAMAR
LOBER
APPLE
SHELBY
EAST LAKE
GOLD MINE
GREEN
CASSEL
PARADISE
ZURICH
CENTRAL CITY
HARVEST JUNCTION
CROWS POINT
COALE
APPLE VALLEY
KINGSTON
LEVERING
PONEL
STRAMFORD
FORKSVILLE
MONROE
BLOOMSBURG
DEEP RIVER
JASPER
ANNVILLE
CASPERVILLE
HUGHSVILLE
LEWISBURG
FISHERVILLE
LAPORT
HYERSTOWN
ATLANTIC OCEAN
LONELY RIVER
HARBOR PLACE
CENTRAL CITY
GISH ISLAND
TOWER BEACH
COLUMBIA BAY
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MASLAND ISLAND
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RIVER/CREEK
RAILROAD
STATE BOUNDARY
COUNTY LINES
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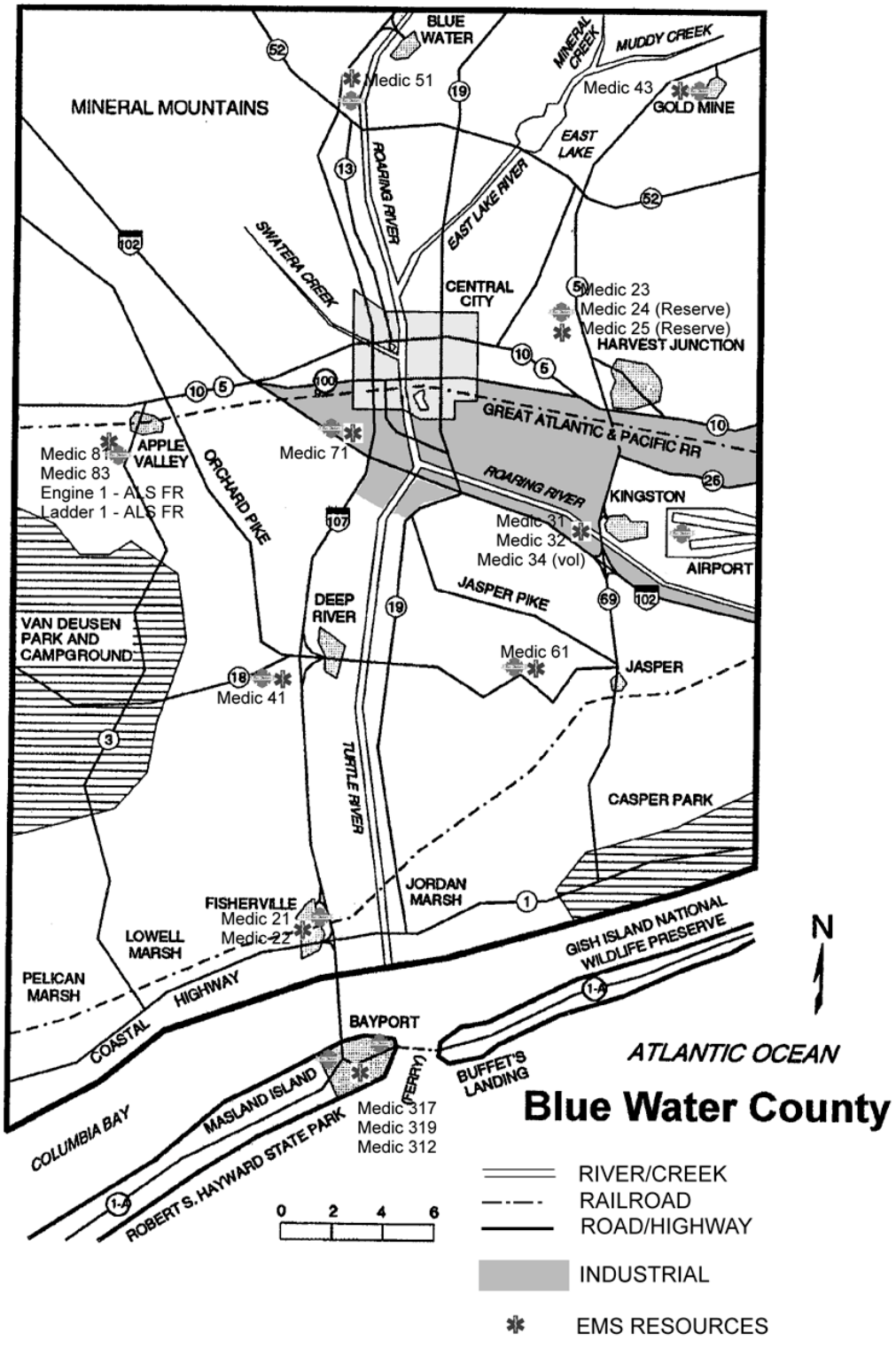
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MUDDY CREEK
Medic 51
Medic 43
GOLD MINE
MINERAL MOUNTAINS
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ROARING RIVER
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SWATERA CREEK
CENTRAL CITY
Medic 23
Medic 24 (Reserve)
Medic 25 (Reserve)
HARVEST JUNCTION
GREAT ATLANTIC & PACIFIC RR
Medic 71
APPLE VALLEY
Medic 81
Medic 83
Engine 1 - ALS FR
Ladder 1 - ALS FR
ORCHARD PIKE
ROARING RIVER
KINGSTON
Medic 31
Medic 32
Medic 34 (vol)
AIRPORT
JASPER PIKE
DEEP RIVER
VAN DEUSEN PARK AND CAMPGROUND
Medic 61
JASPER
Medic 41
TURTLE RIVER
CASPER PARK
JORDAN MARSH
FISHERVILLE
Medic 21
Medic 22
LOWELL MARSH
GISH ISLAND NATIONAL WILDLIFE PRESERVE
PELICAN MARSH
COASTAL HIGHWAY
BAYPORT
ATLANTIC OCEAN
BUFFET'S LANDING
(FERRY)
MASLAND ISLAND
Medic 317
Medic 319
Medic 312
COLUMBIA BAY
ROBERT S. HAYWARD STATE PARK
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RIVER/CREEK
RAILROAD
ROAD/HIGHWAY
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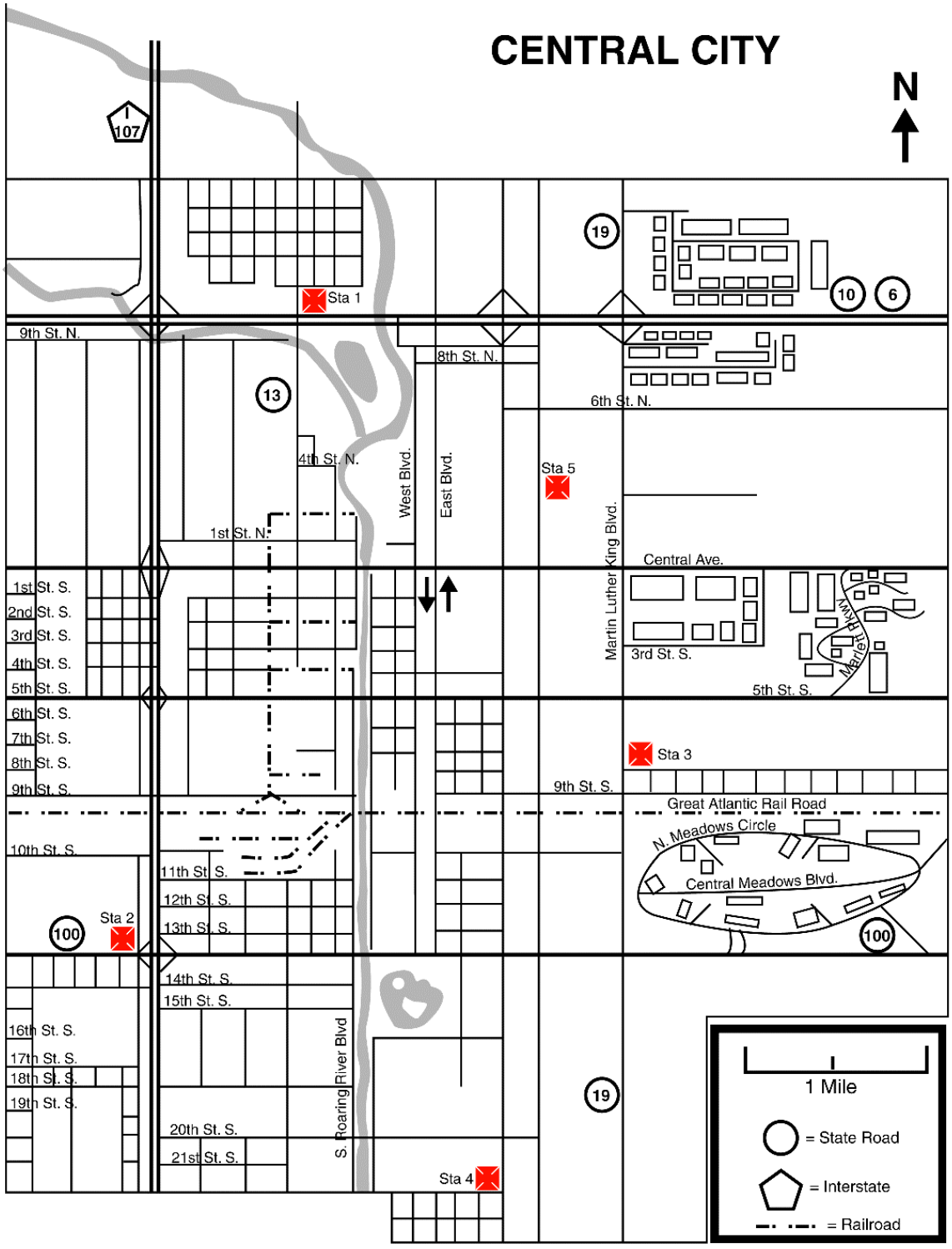
EMS RESOURCES


CENTRAL CITY
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West Blvd.
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1st St. N.
Martin Luther King Blvd.
Central Ave.
1st St. S.
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5th St. S.
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Market
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6th St. S.
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9th St. S.
Great Atlantic Rail Road
N. Meadows Circle
10th St. S.
11th St. S.
Central Meadows Blvd.
12th St. S.
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100
Sta 2
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Sta 4
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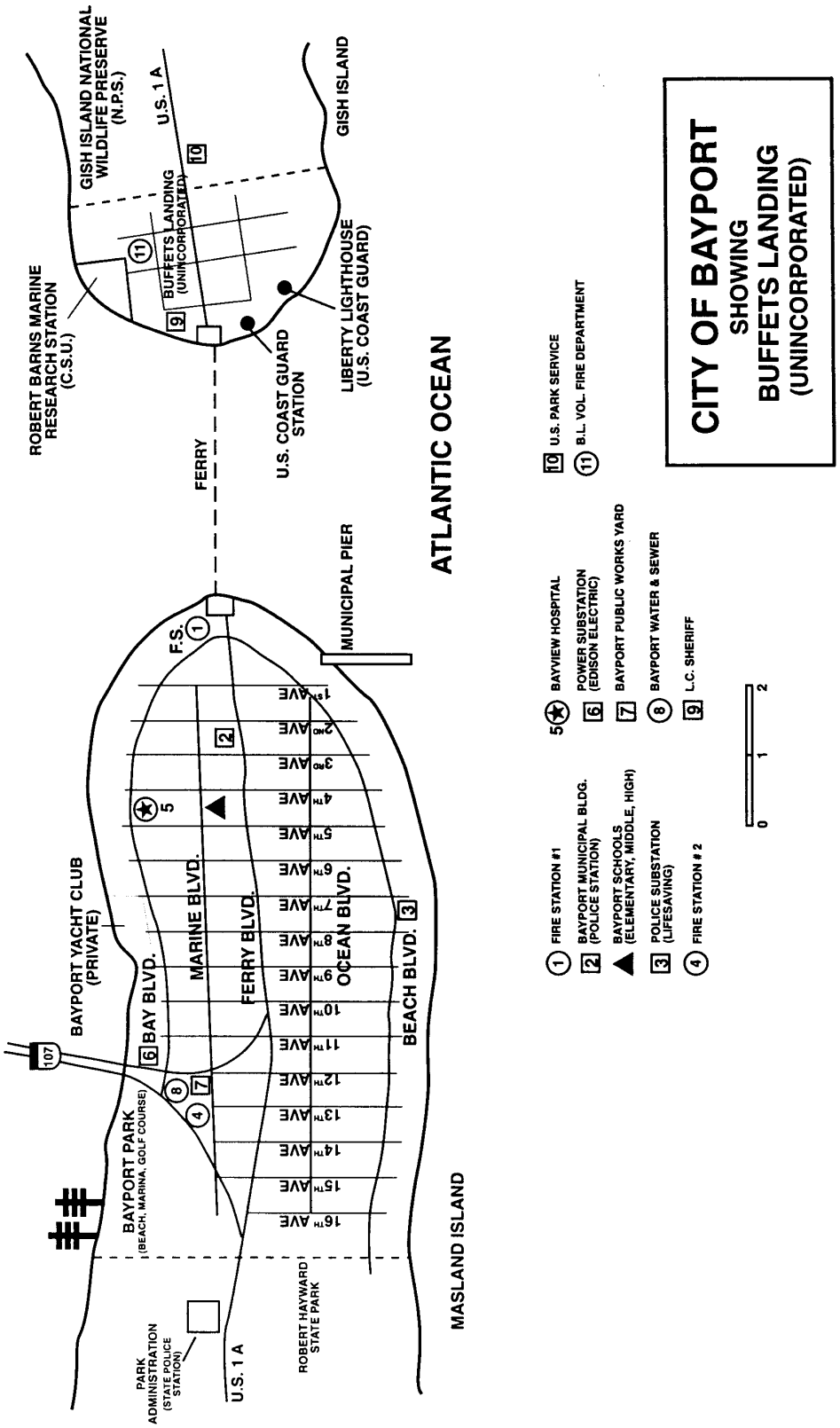
= State Road
= Interstate
= Railroad


COLUMBIA BAY
ATLANTIC OCEAN
MASLAND ISLAND
GISH ISLAND NATIONAL WILDLIFE PRESERVE (N.P.S.)
U.S. 1 A
BUFFETS LANDING (UNINCORPORATED)
GISH ISLAND
ROBERT BARNS MARINE RESEARCH STATION (C.S.U.)
FERRY
U.S. COAST GUARD STATION
LIBERTY LIGHTHOUSE (U.S. COAST GUARD)
MUNICIPAL PIER
F.S.
BAYPORT YACHT CLUB (PRIVATE)
BAY BLVD.
MARINE BLVD.
FERRY BLVD.
OCEAN BLVD.
BEACH BLVD.
BAYPORT PARK (BEACH, MARINA, GOLF COURSE)
PARK ADMINISTRATION (STATE POLICE STATION)
ROBERT HAYWARD STATE PARK
1ST AVE
2ND AVE
3RD AVE
4TH AVE
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6TH AVE
7TH AVE
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16TH AVE
1 FIRE STATION #1
2 BAYPORT MUNICIPAL BLDG. (POLICE STATION)
BAYPORT SCHOOLS (ELEMENTARY, MIDDLE, HIGH)
3 POLICE SUBSTATION (LIFESAVING)
4 FIRE STATION # 2
5 BAYVIEW HOSPITAL
6 POWER SUBSTATION (EDISON ELECTRIC)
7 BAYPORT PUBLIC WORKS YARD
8 BAYPORT WATER & SEWER
9 L.C. SHERIFF
10 U.S. PARK SERVICE
11 B.L. VOL. FIRE DEPARTMENT
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CITY OF BAYPORT
SHOWING
BUFFETS LANDING
(UNINCORPORATED)

Appendix G: State Of The Art Terrorism

KYLE B. OLSON, Research Planning Incorporated
Washington, DC March 1997

INTRODUCTION

The March 20, 1995 Tokyo subway nerve vapor attack, with its sensational details and intense international media coverage, was the first event to really force most people to seriously consider the danger of nerve vapor and other weapons of mass destruction in a terrorist context. This paper provides a brief summary of a study that actually began months before the Tokyo attack, in the fall of 1994. In October of that year I was approached by a Japanese television network seeking an on-camera expert to investigate the apparent release of the nerve agent, *sarin,* during the previous June in the city of Matsumoto.

I subsequently visited Japan for two weeks in December 1994. In the course of my studies there, I concluded that the nerve agent attack had been deliberately planned and executed by an unknown but technically sophisticated group; that this attack had probably been a demonstration or field-test of a newly acquired capability; and that, in all likelihood, the terrorists would use sarin again, probably striking at a higher profile objective. In a report published in January of 1995 in both Japan and the United States, I speculated that a likely target might be the Tokyo subway at rush hour.

In the six months following the now infamous March 20, 1995 poison vapor attack on the Tokyo subway, I visited Japan eight more times and Russia once, gathering the information presented in this paper. The

timeline of interest here roughly stretches from June 27th, 1994, the Matsumoto event, on through the Tokyo attack, and up to the present time.

THE TOKYO ATTACK

Tokyo, March 20, 1995, 8:00 a.m.. Packages were placed on five different trains during a Monday morning rush hour in the world's busiest subway system. Over the next several minutes, the packages began to leak a toxic chemical mixture including a significant quantity of sarin.

The original plan of attack had been to place the nerve vapor on six different trains on three separate lines, all converging on the center of Tokyo. Because of an insufficient supply of sarin, the attackers chose to attack only one train on the Chiyoda line, so as a result there were only five trains attacked.

A map of the Tokyo subway system clearly demonstrates that the pattern of injury reports converged from the outskirts of the city toward Kasumigaseki, a central station for all three subway lines that serves most of the important Japanese government agencies, including the headquarters of the National Police Agency (NPA) which is directly above the station. Based on confessions obtained from some of the attackers themselves, we now know that the NPA, itself, was the actual target of the attack; more precisely, the targets were NPA officers and arriving for work during that morning rush hour.

By the end of the day, at least fifteen different subway stations had been affected and reported injuries, the heaviest casualty reports--in some cases, four or five hundred injuries at a single station--were reported along the Hibiya line, the oldest subway in the city.

The ultimate count of injuries would total 3,796. Some initial reports suggested more than 5,500 victims, but Tokyo authorities now lean toward the lower number. Of those 3800 injured, approximately 1,000 required hospitalization, some of those victims still being hospitalized at this time. Twelve men and women were dead or dying. (Another fatality, a heart attack which was not directly attributed to the vapor itself, is usually not counted but was nonetheless probably brought on by the stress of the incident.)

TOKYO: THE RESPONSE

The official response to the incident was remarkable. In fact, it may have been somewhat too remarkable. Police and emergency personnel were very quickly on the scene, and in force. A number of reports have noted the extra police presence on Tokyo's streets that day. Japan Ground Defense Force chemical troops mobilized and moved from their base, located approximately two hours north of Tokyo, into the center city within four hours of being notified. Chemical troops were in Tokyo by 1:00 p.m.

Even casual observers noted the remarkable police and army efforts, inevitably leading to suggestions that some prior knowledge or warning of a threat against Tokyo must have been in the hands of authorities. In fact, police and army planners had staged a tabletop exercise around a possible CW attack in the city only a few weeks earlier. During the preceding week, JGDF specialists had provided the Tokyo police with chemical protective gear and training in its use, in anticipation of a series of police raids, scheduled to begin March 20th.

Interestingly, neither the medical community nor the fire and emergency agencies had been pulled into the planning process. Police determined, for one reason or another, that it was not necessary to have them involved. As a result, it is little more than a miracle that Tokyo's hospitals and emergency physicians responded as well as they did. It is also perhaps not surprising that a significant number of the casualties were firefighters and transit personnel who went into subway stations in an effort to try and address the problem that morning.

Within hours of the subway attack, Japanese police publicly focused their attention on a relatively obscure religious sect, the Aum Shinrikyo ("Supreme Truth"). Police raids and arrests began within 48 hours and have continued to the present day. In the course of raids on cult facilities, police found -- much to their shock -- not only precursor chemicals and equipment for the manufacture of Sarin, but also well equipped laboratories for the production of deadly biological organisms, including

the agents responsible for cholera, anthrax, and botulism. On a more conventional front, police also found an automated assembly line for the manufacture of AK-47 style assault rifles.

Since March of 1995, there have been at least five additional vapor attacks on train stations in Japan, as well as dozens of scares and false alarms involving everything from sewer gas to mis-adjusted gas cooking stoves. Two of the follow-on train station incidents were nuisance attacks, the work of a copycat inspired by the subway attack, involving a tear gas or mace-type compound. In three other instances, however, attacks linked to the Aum Shinrikyo cult involved the use of devices designed to produce cyanide gas.

Because of these acts, documented with relentlessly singular focus by the omnipresent Japanese media, fear is a lingering element in the country. Small wonder the Japanese have come to refer to 1995 (which was also marked by a continuing weak economy and the destructive Kobe earthquake) as having been their *annus horribilis,* or "horrible year." It would be difficult to argue with them.

Although the Tokyo attack caught most people around the world by complete surprise, it did not occur without warning. In fact, there were actually a number of highly visible warnings and precursors, which can only lead an observer to one possible conclusion: the Tokyo attack was anticipated. As previously noted, there was at least some preparation on the part of the military and the police regarding the possibility of a

terrorist chemical weapons attack. There is overwhelming reason to assume that Japanese authorities had specific knowledge of the danger posed by the Aum Shinrikyo, probably months before the attack.

By comparison, there is little question that foreign intelligence services, including the Central Intelligence Agency and the rest of the American intelligence community, either misunderstood or simply dismissed a number of threat warnings. As a result, the subway attack caught the world's governments completely by surprise, initiating a furious round of re-evaluations of counter-terrorism preparedness that continues to this day. The failure to note and anticipate the threat of Aum Shinrikyo, however, continues to raise questions about our capacity to anticipate and deter other, more subtle terrorist threats. For those who paid attention, the indications that something was very wrong in the Land of the Rising Sun were obvious.

PRECURSOR EVENTS

The most dramatic and obvious warning of things to come was the June 27, 1994, release of sarin vapor in the city of Matsumoto, Japan, which left seven people dead and more than 200 injured. A mysterious terrorist attack involving the unprecedented use of nerve vapor, this incident received virtually no media play outside of Japan. Reports and Japanese newspaper accounts provided to Washington by the US Embassy

in Tokyo were very quickly sent to the intelligence community's dead letter file.

On July 14th, less than three weeks later, in the village of Kamakuashiki near Mount Fuji, dozens of townspeople reported mysterious fumes that caused general nausea and a disorientation or tunneling of their vision. The results of a police investigation, not made public until January 1, 1995, revealed the presence of a unique degradation product of sarin.

March 6, 1995, a few weeks before the Tokyo attack, toxic fumes were released on a Yokohama-Tokyo commuter train.

Less than a week before the subway attack, three briefcase devices were found in the Tokyo subway system which, as will be seen, was perhaps the most ominous warning of all.

JUNE 27, 1994: MATSUMOTO

Located 200 miles northwest of Tokyo, Matsumoto is a city of light industry and tourism. Its primary claims to fame include a large Shogunate era castle, and the city's status as a gateway to the winter resorts of the Japanese Alps.

On a warm evening between 8:30 and 9:00 o'clock at night, a nondescript truck pulled up next to an empty parking lot on the edge of an undistinguished residential neighborhood less than a mile north of the old castle. Inside the truck were several members of the Aum Shinrikyo,

tending to an assembly of equipment which pre-heated liquid sarin to its vapor point and released it through a vent on the side of the truck. Nerve gas is at its most dangerous as an aerosol, floating on the wind currents and being readily inhaled by potential victims. It was in this deadly form that a sarin cloud was released onto the unsuspecting residents of this typical Japanese neighborhood made up of medium rise apartments, some private homes, and an older, four story dormitory.

The following narrative is taken from my report of January, 1995, following my investigation of the incident. Note that a significant amount of the report is intended to help convince skeptical readers that sarin had actually been used:

Late on the evening of June 27, 1994, authorities in Matsumoto, Japan began to receive calls from frightened citizens in the area around the Kaichi Heights apartment building, a neighborhood near the old heart of the city. Over the next several hours, emergency responders would transfer dozens of persons to area hospitals where they would be treated for acute exposure to toxic chemicals. Doctors were astonished to find dramatically reduced cholinesterase levels in virtually all the victims, and followed a course of treatment for organophosphoric poisoning.

Through the efforts of the medical teams, several very seriously afflicted persons were saved, while others with less severe symptoms received appropriate treatment and were made comfortable. Some cases, however, were beyond help. The toll would ultimately number seven dead

and more than 200 injured, with a number of the injured requiring lengthy hospital stays. One survivor suffered permanent and massive brain damage.

Subsequent sampling and analysis identified the presence of the supertoxic nerve gas sarin--a true chemical weapon--at several sites in the affected area.

I had the opportunity to visit Matsumoto in December, 1994, for the purpose of collecting information on this case, which has been little reported outside of Japan. The following pages detail my findings, based on interviews with victims, medical personnel, and government officials in Matsumoto. In addition, it reflects information compiled and reported by Japanese sources.

JUNE 27, 1994

Matsumoto is located 100 miles west of Tokyo on the Japanese main island of Honshu. An industrial and tourist city of several hundred thousand people, it sits at the feet of the rugged Japanese Alps. The city is still dominated by the majestic moated castle constructed by a powerful daimyo nearly 400 years ago.

On June 27, between 8:00 PM and midnight, overwhelming evidence indicates sarin vapor was released in the area around the Kaichi Heights apartment block. The vapor was apparently generated or released from a vacant lot, near a small fishpond. Although no containers or

related equipment were found, significant damage to plant life that occurred that evening--apparently caused by another gas (HCl? HF?) released at the same time as the sarin--radiated from that point. In addition, dead fish found in the pond, and the water and soil in the immediate area, showed traces of sarin.

While the trees around the fishpond and the darkness of night apparently prevented anyone from observing the exact source of the vapor, there were several reports of odd, sharp smells. Two eyewitnesses reported seeing a white, mist-like cloud emanate from the area.

CHRONOLOGY

The following is an edited chronology of the events of the evening of June 27, 1994 and the following days:

11:00 PM: A man visiting a friend in the neighborhood suddenly complained of a headache, dizziness, and narrowing of vision.

11:09 PM: A call was received by Matsumoto emergency officials from a man, Yoshiyuki Kini, saying that his wife was in pain and asking for an ambulance. The fire department medical team that arrived five minutes later was greeted by Kono, who was disoriented and ill himself. His wife, unconscious and not breathing, lay on the floor of the family dining room. The couple and one of their daughters was transported to Kyoritsu Hospital, the wife receiving CPR from the emergency medical technicians.

11:30 PM: Police were notified by the fire department of the "accident". All officers were placed on alert. There were numerous emergency calls, and many victims were taken to hospitals by ambulance.

12:45 PM: Police used loudspeakers to warn persons of toxic gases and to close their windows and doors.

1:00 AM: A police officer patrolling the area complained of stinging eyes.

1:20 AM: A shout from the Meiji Life Insurance Co. dormitory summoned help for a collapsed person on the 3rd floor, who ultimately died.

By 2:45 AM: Twelve out of eighteen persons brought in to Kyoritsu Hospital were hospitalized. Nurses handling the intake of victims, and in close physical proximity to them, subsequently reported having symptoms similar to those of the patients they assisted. Doctors observed physical symptoms of constricted pupils, nausea, and spasms, while blood tests revealed severely depleted cholinesterase levels in the persons brought to the hospital. Assuming organophosphoric poisoning of some kind, physicians prescribed atropine injections. Subsequent interviews with doctors also indicated a pattern of excessive salivation (a secondary characteristic of sarin poisoning) by many victims.

4:15 AM: Police announced that six persons had died. Another death was reported later that day.

5:00 AM: Five police officers investigating the scene were taken to Marinouchi Hospital complaining of nausea and stinging eyes.

5:35 AM: Rescuers wearing protective clothing and portable air supplies entered the Kaichi Heights neighborhood.

Approx. 7:00 AM: Matsumoto police set up a special investigation headquarters to look into the "accident".

10:30 AM: The city established a command post to work out a solution to the poison vapor.

Sometime after 11:00 AM: Investigators from the Matsumoto Health Center checked the air and water around Kaichi Heights. Chief Yoko Midorikawa announced that, based on the symptoms of the victims, it appeared the toxic chemical was an organophosphorus compound.

3:00 PM: The Department of Medicine at Shinshu University conducted autopsies on three of the seven dead.

July 3: Local police authorities announced that they had found residual traces of the nerve vapor, "sarin", at six different sites in the Kaichi Heights. The identity of the nerve vapor was determined through gas chromatography of samples taken in the afflicted neighborhood.

One of the confounding elements for the police charged with investigating the crime was the total absence in the neighborhood, and indeed in the city, of any prominent political, military or symbolic target. Without any claims of responsibility or associated demands attached to the incident, the authorities were at a loss to provide a theory. In fact, the

regional police were clearly over-matched by this convergence of bizarre factors. One Japanese writer described the situation as "a 21st Century crime investigated by a 19th Century police force."

At a loss for an obvious suspect, the police initially--and very publicly--focused their investigation on Yoshiyuki Kono, the man who had first called in a notification to the authorities. They based their allegations on the discovery of a modest quantity of gardening and photographic developing chemicals in Kono's home and outbuildings. The police theorized that Kono had somehow taken these garden chemicals and, accidentally or deliberately, produced *sarin,* which was then released from his property into the other residences. Police seemed unconcerned that Kono's own wife was left in a vegetative state by the attack, that his oldest daughter was significantly affected and was hospitalized for several days, or that Kono himself--losing forty pounds in the process--was in a Matsumoto hospital for nearly three weeks. Much of the police's investigation would be justified by Kono's neighbors, many of whom pointed to his history of idiosyncratic behavior: in pursuit of higher paying jobs he had, on several occasions, changed employers, and he had a small collection of Volkswagen "Beetles". In the Japanese maxim, he was the "nail that stuck up too high."

Ultimately, the world would learn that the attack in Matsumoto was an attempt by the Aum Shinrikyo "Doomsday Cult" to prevent a local court from handing down a ruling in a real estate dispute involving the

sect. Aum leaders, convinced that the judges would rule against them, had determined to kill the three man panel. (The ruling was scheduled for June 28. One judge was killed, one was seriously injured. No ruling has ever been handed down in the land dispute.) It was decided to make use of a powerful new weapon developed by the cult's scientists, a toxic chemical called *sarin*.

Driving an old truck, specially modified for the release of the gas, and accompanied by lookout men in another car, the cult hit squad arrived in Matsumoto too late in the day to attack the judges in their downtown offices. Determined to carry out their mission without delay, they took advantage of the fact that all three members of the panel were staying in the same dormitory. Thus it was that the attack was staged, not in broad daylight in a crowded downtown area, but at night in a residential community.

When the gas was released, impurities in the heated chemical reacted with water vapor in the cooler air to form a white cloud, described by the witnesses mentioned earlier. While the puffy white cloud frightened the cult's lookouts, watching for police from a block away (convinced that something had gone wrong, they frantically drove back to the cult's compound thinking the attack team was dead), it quickly dissipated. The killing sarin gas moved slowly toward the residences, with lethal consequences.

JULY 14, 1994: KAMAKUISHIKI

A second precursor to the Tokyo attack occurred less than three weeks later in the rural hamlet of Kamakuashiki, at the foot of Mount Fujiyama. A rural community, Kamakuishiki boasts tidy farms, dairies, golf courses, and several small villages. The bucolic charm of the area is marred, however, by a notable anomaly: several ugly, litter strewn dormitory and factory compounds that constitute the headquarters of the Aum Shinrikyo.

On July 14 , dozens of people in the area around the largest of the cult compounds reported experiencing distress from some sort of chemical that they could smell in the air. This incident was the last in a series of releases of foul smelling and irritating chemicals from the large cult building known as Satian 7, but it was by far the most serious. A number of villagers reported difficulty breathing, disorientation and nausea, and, most significantly, a peculiar tunnel vision effect. The police also received revelatory reports from townspeople who described seeing members of the Aum Shinrikyo lying outside Satian 7 along the road, obviously ill, gasping for air, in some cases evidently having seizures.

It was around this time that the Aum Shinrikyo began a slick print and television public relations campaign alleging that its people had been targeted by the US and Japanese governments with chemical weapons attacks. Using video tape of actual overflights by aircraft en route to a nearby US Marine base and member testimonials, the cult claimed it was

being sprayed with sarin from planes and helicopters. Aum concurrently began indoctrinating its own members, particularly children, into believing that chemical attacks were actually being carried out, staging frequent "air raid" exercises.

In the course of their investigation into the townspeople's complaints stemming from the July 14 incident, police scientists took environmental samples and tested them for various chemical agents that might have caused the reported symptoms. Nearly a half year later, on New Years Day, in an account buried on the slowest news day of the year, the National Police Agency reported finding dimethyl phosphonic acid, a unique degradation product of sarin. Coming as it did on the heels of the Matsumoto attack and given where the chemical was found, many knowledgeable observers in Japan began pointing accusing fingers towards the Aum Shinrikyo. Japanese police would eventually follow that lead, although meaningful action would come too late for a dozen Tokyo commuters.

MARCH 15, 1995: THE FIRST SUBWAY ATTACK

Less than a week before the subway nerve vapor attack, Tokyo bomb squads were alerted when three abandoned briefcases were found under an escalator in the Kasumigaseki subway station. One of the cases appeared to be giving off a visible vapor. The briefcases were very carefully removed and disassembled. The police examination revealed

that each contained identical components: a cylinder containing an "unidentified" substance, an ultrasonic vaporizer, and an electric fan and vents system, all powered by a camcorder battery. Both the fan and battery had been part of a large order placed and filled in the United States.

Although authorities have never chosen to formally identify what was in of the cylinder, word has been authoritatively leaked that it contained botulin toxin. The testimony offered by cult members in the trials now underway in Tokyo confirms the horrible truth: less than a week before the subway nerve gas attack, someone attempted a biological weapons attack using botulin toxin, the same deadly organic poison--a thousand times more lethal than sarin--that causes botulism. The attack, although unsuccessful, was the world-at-large's first clue that the Aum was working with supertoxic biological materials. It was also the last warning before the tragic events of March 20, 1995.

TOKYO'S SUBWAY, THE PERFECT TERRORIST TARGET

What are the attributes that define a terrorist target? First, you need victims, and in most cases, the more the better. A high body count can virtually guarantee an appearance on the evening news; since obtaining publicity and the attendant panic are central justifications for terrorism, this is no small consideration.

If a chemical or biological weapon is to be used, it is best if the target population is within a confined space. This maximizes the likelihood that lethal concentrations of the weapon agent will be delivered to the victims. For the same reason, a controlled environment is also highly desirable. Adverse conditions--too wet, too hot, too cold, too windy--can degrade the effectiveness of CBW, particularly in the relatively small quantities available to most terrorists.

If ensuring that the terrorists themselves can escape the weapons' effects is important, then it is also desirable to attack a site that offers a number of usable escape routes, ideally with sufficient twists, turns, and forks in the road to make apprehension after the fact unlikely.

Finally, to ensure maximum impact, the target should possess high symbolic value. The physical site or public event might be of political, military, or economic importance, but it should be an essential, trusted element of everyday life.

Given these criteria, the Aum decision to attack the Tokyo subway was highly predictable.

THE AUM SHINRIKYO--THE DOOMSDAY CULT

"Who could have done something like this?" That was the obvious question that crossed everyone's mind in the immediate aftermath of the subway attack. The answer was anything but obvious. In fact, the incredible truth behind the Aum Shinrikyo is still difficult to accept.

Aum Shinrikyo, or "Supreme True", was ostensibly a Buddhist sect; in fact, it's theology was an amalgam of beliefs drawn from Eastern and Western religions. For example, the cult had elevated Shiva, the Hindu god of destruction and rebirth, to a prominent position in its pantheon. Aum erected a shrine to Shiva as a means of camouflaging its nerve gas production facility at Kamakuishiki. Concepts from the Bible, notably including the notion of Armageddon, were also incorporated into Aum Shinrikyo's belief system. In reality, the cult was less about religion and dogma than about the pursuit of naked, temporal power for its allegedly divine leaders.

While many Westerners might be forgiven for believing the cult burst onto the world scene without warning with the subway attack, the fact is the Aum Shinrikyo enjoyed a rather high profile in Japan. The cult's leader, Shoko Asahara, was a frequent guest on television talk shows in Japan, discussing various issues of religion and society. Cult members proselytized in the streets of most major Japanese cities, but its dark ministry had extended well beyond the borders of Japan. In early 1995, Aum Shinrikyo could legitimately say the sun never set on its operations.

Established in the early 1980s as a yoga school, (originally known as the Mountain Wizards Aum, or Sect), by the mid-'80s it had changed its name and gone corporate; using a variety of methods both illegal and legitimate, the cult was able to build a business and real estate empire in Japan. At the time of the subway attacks, Aum Shinrikyo's net value was

estimated at somewhere between 500 million and one and a half billion dollars.

The cult is closely--and rightly--identified with its founder, the now infamous Shoko Asahara. Born Chizuo Matsumoto, he has claimed various titles, including Yogi, Holy Pope, and Venerated Master. On several occasions he has even declared himself to be the reincarnation of Jesus Christ. By all accounts highly charismatic, Asahara is at least partially blind, though he reportedly has pushed his chauffeur aside and driven his Rolls Royce around Tokyo on occasion.

There is no question that he is financially and politically ambitious. Asahara and nearly two dozen of his followers ran for election to the Diet, Japan's Parliament, in 1990. All were soundly defeated, which apparently surprised and embittered him. Some Japanese analysts believe the voters' rejection of his candidacy convinced Asahara that the system was inalterably rigged against him and that he would have to develop a more radical strategy to seize power.

His graphically apocalyptic writings and utterances fueled the sect's travels down this new path. He enthusiastically preached about the coming "Armageddon", a Third World War he said would start sometime in 1997, pitting most of the West against Japan. He taught that the war would devastate Japan, killing almost everyone save for true believers of Aum Shinrikyo.

In his prophecies, he specifically targeted the United States as a foe of both the cult and Japan. He also identified Jews and rival Buddhist sects, such as the politically influential Soko Gakkai, as enemies.

Asahara had a dream. He saw Aum Shinrikyo as a sovereign nation existing within Japan; that illusionary shadow state status in turn drove him to acquire a military capability with which to achieve his objectives and defend his conquests. Asahara knew that he couldn't build a large enough army nor acquire the conventional firepower needed to overthrow the authorities, and therefore logically pursued a trumping strategy. This was the genesis of Aum Shinrikyo's program to acquire weapons of mass destruction.

Just as Iraq's Saddam Hussein determined to pursue nuclear, chemical, and biological weapons in order to offset the greater military capabilities of Iran and Israel, so too did Asahara see weapons of mass destruction as a means of leveling the playing field *vis a vis* the Japanese police and military. In fact, Asahara became enraptured with the potential of such weapons at least in part after seeing CNN Gulf War reports showing huddled Israelis wearing gas masks waiting out the Iraqi Scud attacks on Tel Aviv. The combination of powerful television images and the associated media speculation on the possibilities of what Saddam's weapons could do led Asahara to vow that he would have such weapons at his disposal.

Pursuit of that vision required three things: will, money and talent. The first two Asahara had in abundance. The last he could acquire.

The cult was remarkably successful at recruiting new members from among the ranks of highly educated and technically sophisticated young adults. Relatively junior in the pecking order of Japanese corporations and research institutions, they were open to the combination of spiritual guidance and material support offered by the Aum. Always an important target audience for the cult's marketing efforts, the decision to press forward on building superweapons placed a new emphasis on bringing scientists and engineers into the fold.

The most dangerous Aum Shinrikyo scientist may have been Dr. Hideo Mori. The cult's "Minister of Science and Technology", Mori was in charge of developing weapons of mass destruction and was, by some accounts, second only to Asahara in the cult's hierarchy. By training a nuclear physicist, he left a position with a prestigious Japanese university to join Aum Shinrikyo. While he seems to have become enamored with Asahara's teachings, his commitment to the cult stemmed, at least in part, because he was provided better laboratory facilities and more of a research budget there than he had enjoyed in his relatively junior university position.

Aum found a receptive audience among the young, well-educated, but unworldly Japanese in their final years of college or early in their

professional careers. But the cult's appeal reached beyond the population of its home territory.

AUM SHINRIKYO'S GLOBAL REACH

As mentioned before, Aum Shinrikyo operated around the world. In the early 1990's the cult established a tea plantation in Sri Lanka and a business and recruiting office in Bonn. They had opened an office in New York by 1986, and retained an agent in California to procure certain bits of technology, such as lasers, computer parts, and gas masks. He had filled an order for 200 small fans and camcorder batteries only a few weeks before the March 15, 1995 "briefcase attack" at Kasumigaseki, and had several hundred gas masks sitting in his warehouse at the time of the Subway Attack.

By March of 1995, Aum Shinrikyo had already bought, used and sold a 500,000 acre sheep station in western Australia. Authorities in the continent nation were invited in by the new owners following reports of the horror in Tokyo and the links to Aum Shinrikyo. They discovered the remnants of a chemical laboratory, as well as two dozen sheep carcasses buried well away from the ranch houses. Each carcass was tested and found to have been killed with the nerve agent, Sarin. Further investigation would reveal that the Aum had staked the animals out and

tested the nerve gas on them early in 1994. A local aboriginal woman also described having seen a number of persons wearing what appeared to be spacesuits during an hot summer day near where the sheep were uncovered.

Perhaps more ominously, the cult had originally purchased the station for its uranium ore deposits. Investigators found that while some uranium had been mined and packed in barrels for shipment, the Australian government's refusal to issue an export permit to Aum Shinrikyo had apparently persuaded Asahara and company to pursue fissionable materials another way.

It should not, perhaps, then come as a surprise that the cult's greatest investments outside of Japan, and in many respects their greatest successes, were in the former Soviet Union. Some informed estimates suggest Aum Shinrikyo spent $6 million in a highly effective campaign to buy its way into Moscow's elite circles. The cult enjoyed regular contacts with well placed officials in the Kremlin, perhaps most prominently with Oleg Lobov, a Boris Yeltsin confidante and head of the Russian Security Council. Lobov apparently encouraged Aum financial support for his Japan-Russia University which, other than taking care of the needs of Oleg Lobov, seems to have little reason for being. The University, situated in a prestigious address across the street from the Bolshoi Theater near Red Square, was a favorite recipient of cult funds and a co-sponsor of many Aum-flavored activities.

As a consequence of its willingness to spread money around in Russia, Aum Shinrikyo gained a number of valuable concessions including offices and apartments, regular broadcasting time on Russian radio and television, introductions to leading scientists and engineers (even at some of the most sophisticated weapons research centers), and opportunities to have cult paramilitary personnel trained at *Spasnatz* (Special Forces) bases by the cream of the Russian Army. Asahara, on the occasion of trips to Russia, would routinely receive the treatment normally accorded to the head of a medium sized country, and clearly had entree to the nation's leadership. It is known that he met on several occasions with Prime Minister Chernomyrdin and others on the cabinet. And of course, there was always Lobov, the great fixer. Cult membership in Russia, driven in part by public perceptions of the influence wielded by Aum leaders may have numbered 30,000 at the time of the subway attack.

Total manpower of the cult, worldwide, has been estimated at somewhere between 20,000 and 60,000, with 10,000 in Japan. In evaluating this number, however, it is important to recognize the continuum that existed for membership. The membership might well include everyone from a young student lured by a pretty girl or a handsome boy to visit a cult storefront and watch one of their indoctrination videos; to members of a yoga class; to those people--and there were a significant number--who turned over all of their own earthly goods (and, in many cases, the possessions of their families) to the cult.

These true believers were given new names and frequently lived in cult facilities.

Among the membership of Aum Shinrikyo were people from every walk of Japanese life. As previously noted, they had recruited heavily from colleges and businesses. But Asahara had another specific audience in mind when he sent his people out looking for converts. He had decided that in order to effectively wage a war on the government of Japan, he needed to know what that government, and particularly its police and military, were planning.

To this end he launched an aggressive campaign to bring police and army personnel into the sect. His recruiters were remarkably effective, enlisting officers and enlisted men in both organizations, and accomplishing what to many Japanese was unthinkable: the corruption of the National Police Agency and the Defense Forces. His success would lead directly to the attack on the Tokyo Subway.

COUNTDOWN

Despite the ham-handed efforts of police in Matsumoto and elsewhere, it was only a matter of time before Japanese authorities tumbled to the true nature of Aum Shinrikyo and the threat that it represented. For Westerners used to frequent updates from their police forces on the status of investigations, trying to piece together the path of police activity in this case is a difficult exercise. The reluctance to share

what was done and when it occurred reflects aspects of the Japanese police method that seem alien, and which may have ill-served the people of that nation in this instance. Still, we can reconstruct the general pattern and reach some conclusions.

Given the extraordinary coincidence of events involving sarin at Matsumoto and Kamakuishiki, it requires little speculation to suggest that Tokyo-based officers in the National Police Agency had turned their attention to Aum Shinrikyo by August of 1994. Certainly there was already a buzz on the streets of Tokyo linking the violent, poison gas-loving cult to the Matsumoto incident, even before the Kamakuishiki test results.

The incredible brazenness of the cult's leadership makes it seem even more certain that police knew. Asahara routinely spoke of sarin in his sermons and writings; an Aum Shinrikyo song, similar in nature to the corporate anthems of "straight" Japan and extolling the virtues of sarin and the ways in which it could be used, was frequently sung at cult gatherings; even the Aum propaganda machine's protestations of innocence seemed to be constructed along lines intended to draw attention to the sect's shadowy activities, loudly identifying enemies and discussing what should be done to them.

How could the actions of this high profile group not have drawn a preemptive response? How could such openly dangerous and antisocial

behavior not have called down the authorities' wrath? That is a simple question with several complex answers.

First, it is important to remember that Aum Shinrikyo operated under the protection of a Constitution imposed on the Japanese by the United States following the Second World War. That Constitution provides strong guarantees for the freedom of religion, which the Japanese have strongly embraced and even extended in the intervening decades. For example, it is almost impossible to obtain a search warrant to inspect a religious facility; in the case of the Aum, this even extended to commercial operations of the church, such as its computer manufacturing and retailing businesses. Similarly, the cult's financial dealings--many of which were, to say the least, shady--were effectively hidden from government oversight by this shield. It is interesting to note that in the aftermath of the Subway Attack and the police investigation, calls for changing the protections that Aum abused have been opposed by other religious groups concerned about possible infringements on their freedoms.

Second, the Japanese criminal justice system is built around the notion of proving guilt before making an arrest. Police procedure is to take as much time as it takes to assemble proof and build its case beyond a shadow of doubt **prior** to making an arrest. By comparison, the test in the US is not "proof of guilt" but "probable cause". This distinction is important, because it means that Japanese judges expect the police to

spend far more time collecting and building a case before making an arrest and allowing them to question accused parties and examine their residences and places of business for incriminating evidence. As a consequence, although the conviction rate in Japan is extremely high (98%+), it often takes the police several years to build a case, particularly in a high profile situation.

Third, the Aum Shinrikyo appears to have benefited from the help of some very influential friends who may have been effective in keeping the police from the door. It is no coincidence that three senior members of the ruling party in the Diet each decided to resign for health reasons in the days immediately following the gas attack in Tokyo. Each had rather openly received large cash contributions from the Aum Shinrikyo for a number of years in a mutually beneficial relationship, with one having been instrumental in providing Asahara with entree to Russia's leaders during the early 90's. Their association with the cult was a profound cause of disgrace. Resignation from their legislative posts was the political equivalent of hara kiri.

Members of the police and Japan Defense Forces had also been recruited by Asahara's minion as a source of both muscle and intelligence. This successful--and unprecedented--infiltration enabled the Aum to stay a step or two ahead of the authorities at several turns, and, when the end loomed near, helped precipitate the nerve gas assault on the Tokyo subway.

In the early spring of 1995, cult members on the police force and in the Japan Ground Defense Forces warned Asahara that the authorities were finally planning to move against Aum. On Friday, March 17, 1995, Asahara's informants delivered the fateful news that the JGDF had just completed training 500 Tokyo police officers in chemical weapons defense procedures, and provided them with chemical protective gear. Police officials had decided to begin a series of raids against Aum facilities, including Kamakuishiki, on Monday, March 20.

Asahara convened his "war council", including Dr. Mori. He directed his chemists to produce as much sarin as they could and to carry out an attack on the Tokyo subway during the morning rush hour on Monday, two days hence. By attacking the rail lines serving Kasumagaseki Station, the station nearest National Police Agency headquarters, the objective was to kill as many NPA officers as possible. Asahara hoped, at minimum, to deter the police from their plans to raid Aum and, at best, to cripple the NPA even as the cult's plans for a coup moved forward.

Of course, the attack failed in both those objectives. Japan's police responded to the subway attack without hesitation, conducting an aggressive and overwhelming series of raids on cult facilities throughout Japan and ultimately shattering the once strong sect. Still, the plan to carry out simultaneous attacks around the perimeter of the city center was a clever one. If not for technical deficiencies in the weapons (see below),

the cult might have realized one of its intermediate goals by killing significant numbers of police officers, as well as many others.

THE TECHNOLOGY OF TERROR

The sarin used in the subway attack was literally manufactured on a desktop, using a piece of apparatus purchased in downtown Tokyo for less than $300,000. The device, manufactured in Switzerland by Metraum Contlabo, is commonly used in laboratories around the world for producing small, research quantities of chemicals. The short period of time and the equipment's low throughput capacity limited the subway attackers total sarin production to only about seven liters. Still, even such a small quantity of nerve agent could have been expected to cause hundreds of fatalities in Tokyo's crowded tunnels

Because of a number of critical technical and procedural compromises made by cult officers to accommodate Asahara's March 20 deadline for action against the police, the attack was extremely inefficient. Fortunately.

A key example of this was the tremendously inefficient method selected to release the sarin in the subway cars. The cult literally filled plastic bags with a sarin soup, containing various impurities and chemical additives, placed them on subway car floors, and then punctured the bags. Once punctured, the agent's principle mode of dispersal was either slow

evaporation into the air or through contact of the liquid chemical on the train floor with passengers and subway personnel. Those at greatest risk were people who were actually touched by the sarin in its liquid form, either directly or secondarily, through contact with sarin residues on the persons of others who had been exposed to the chemical.

At Kasumigaseki station an assistant station manager ran on-board one stricken train and picked up the leaking package wearing no protective equipment other than his white cotton uniform gloves. He tried to remove the troublesome package and dispose of it. Directly in contact with the lethal compound, he carried the package nearly a hundred meters before he collapsed and died on the station platform.

A maintenance worker boarded the same train to clean what he thought was a simple chemical spill. Not having a mop at hand, he got some rags and old newspapers, went down on his hands and knees and started soaking the chemical up. He died on the train.

Each package consisted of one or more cult-manufactured two-ply polyethylene bags, filled with the hellish mixture, and sealed. The plastic bags were then wrapped in a newspaper, which served three functions:

First, it camouflaged the package. Japanese commonly wrap their lunches in newspapers and carry them around.

Second, the newspaper prevented any splashing when the plastic bags were punctured. This is particularly important considering Aum

Shinrikyo never carried out suicide attacks; the cult's assassins always ensured they had a backdoor.

The third function of the newspapers was a bizarre and unsuccessful attempt to throw police off the cult's trail. The bags were wrapped in the newspaper of a rival Buddhist group. It was Aum's hope that the police would assume the other sect had staged the attack and then carelessly incriminated themselves. But while the subway attack was cobbled together with relatively little preparation, there was another, far more ominous aspect to their chemical weapons program, which went by the name of Satian 7.

SATIAN 7: TERROR ON AN INDUSTRIAL SCALE

Satian 7 was the large, ugly complex at Kamakuishiki that housed Aum Shinrikyo's full-scale nerve gas production plant designed to produce hundreds of tons of sarin as part of the cult's military buildup in anticipation of the November Coup. Hidden behind a false front shrine to Shiva, the Hindu and Aum god of destruction and rebirth, the plant was probably never successfully operated at full capacity. In fact, there are compelling reasons to believe that the July 15, 1994 incident at Kasumagaseki was probably an industrial accident.

As discussed earlier, several dozen villagers in the hamlets surrounding Satian 7 reported physical distress and peculiar chemical smells in mid-July, only a couple weeks after the Matsumoto incident.

The descriptions of their symptoms matched with those of organophosphorous poisoning, including difficulty breathing, disorientation, and vision problems. Police also found traces of a chemical degradation product associated with sarin.

Residents also described to police having seen cult members lying outside the largest building at Satian 7, clearly in distress. Some were said to be convulsing and spasming, while others were said to be disoriented or having difficulty breathing. It is clear that the chemical, detected in modest amounts by the villagers and responsible for their symptoms, was generated by the nerve agent complex.

In photographs taken by an Italian journalist shortly after the police raids began on Aum facilities in March 1995, details of the plant can be seen, including an extraordinary, Rube Goldbergian assembly of reactor vessels, chemical storage tanks, and processing equipment. Examining several of the photographs in detail, however, offers a remarkable insight into the problems the cult must have confronted. In one picture, a number of pipes and feedlines are wrapped in plastic sheeting to apparently prevent contact with escaping chemicals. In another shot, a large barrel has clearly been positioned under a flange where two pipes join in an attempt to catch leaking material.

A principle common to most chemical weapons production processes is that leaking pipes are not a good thing.

The cult may well have been able to design a chemical production line that could theoretically perform all the steps required in the synthesis of sarin and other agents (The relatively high quality sarin used in the Matsumoto attack was produced in this facility.), but it appears to have lacked the experience required to maintain and operate that facility safely in the face of the high temperatures and highly corrosive properties of the chemicals in the process. In short, once the plant went on line, the Aum Shinrikyo scientists and engineers didn't know how to keep it on line. As often happened with cult activities, enthusiasm proved no substitute for practical knowledge. When the plant failed in mid-1994, Asahara and his lieutenants were desperate to find a way to get it fixed and to initiate full-scale production.

A few months later, in the early autumn of 1994, the Aum Shinrikyo dispatched people from the cult's Moscow offices to the Russian city of Volgograd (formerly Stalingrad). At Volgograd, they specifically attempted to recruit help from engineers at the facility known as Chimprom, a large, integrated Soviet-style chemical complex which, among its many industrial and civilian product lines, had at one time manufactured, sarin and other nerve agents for the Soviet military. Cult representatives offered Russian engineers with nerve gas production experience round-trip tickets to Japan and a payment of $1500.00 to assist in getting the Kamakuishiki plant up and running. Interestingly enough, there is no evidence that any of the Chimprom engineers took the Aum

recruiters up on their offer. It may be that the amount of money offered was too low; $1500 doesn't go very far in the New Russia. It is equally likely, however, that the cult's hamfisted efforts to solicit nerve gas experts caught too much attention from the assertive and suspicious security personnel that still maintain a tight rein on life in this landmark to Soviet force of arms. Volgograd is still, in many ways, a Soviet city, and in this particular instance, that may have been a fortunate circumstance.

That Satian 7--a factory intended to manufacture thousands of kilos of nerve agent on an annual basis--was completely unable to produce sarin at the time of the Tokyo subway attack meant hundreds, if not thousands, of lives were spared.

Cult scientists who have been interrogated by the police have acknowledged making deadly chemical agents other than sarin, as well. We know that they made VX, an oily, more lethal nerve agent, which they used as a weapon of assassination. On at least three occasions they attacked "enemies" with VX, once killing their target and on the other putting him into a coma for nearly two weeks. The method involved filling a hypodermic syringe with VX, walking up behind the target, and spraying it on exposed skin.

The cult experimented with Tabun, another World War II-vintage nerve agent, and mustard, a World War I weapon that causes painful, and sometimes fatal chemical burns to moist tissues such as the eyes and lungs. Aum also dabbled in cyanide compounds. When members of the

cult involved in the attack on the subway went into hiding, each of them was given five pounds of hydrogen cyanide as a potential weapon of last resort.

This deadly chemical resurfaced later in the spring of 1995 when Tokyo's Shinjuku train and subway station was attacked with a crude cyanide gas weapon. That device consisted of two plastic bags stacked atop one another, the top bag containing hydrochloric acid, the lower sodium cyanide. A condom in the acid-filled bag protected a timer-controlled thermal igniter. When the igniter caught fire the two bags would melt and the acid would react with the sodium cyanide, creating hydrogen cyanide gas.

Fortunately, a cleaning woman found the device while servicing the lavatory in which it had been concealed. Not knowing the nature of the weapon, she set the bags out by the front door of the men's room -- separating them in the process--and called maintenance people to come get them. When the igniter went off, acid did spill out but, failing to come in contact with the cyanide, no hydrogen cyanide gas was released.

A few weeks later, there was a simultaneous double attack involving very similar devices at two different subway stations. While one device failed to go off, the other did function properly, generating toxic gases that injured about twelve people, though none seriously. The potential of such a device is significant, since the quantities of chemical involved could theoretically kill thousands. Fortunately, the relatively crude delivery

method, which in turn produced a chemical reaction rate much slower than the terrorists had hoped for, helped to minimize the injuries.

BIOLOGICAL WEAPONS

One of the most shocking discoveries in the weeks after the police raids began involved the cult's interest in biological weapons. Chemical weapons, it seems, were not Asahara's first love. In fact, his first choice for a super weapon was BW. Aum Shinrikyo had an ongoing BW research and development program at least as early as 1990, with a dedicated laboratory for toxin production. That facility was subsequently replaced by two different laboratories, both of which were in operation at the time of the subway attack. One was located at Kamakuishiki, the other in a downtown Tokyo cult office building. Among the agents on Aum's R&D inventory: botulin toxin, anthrax, cholera, and Q fever. The cult attempted to release biological weapons in Tokyo on at least four occasions between 1990 and 1995. Three involved the release of botulin toxin, while the other involved anthrax.

In April of 1990, the cult released botulin toxin near the Diet and surrounding government office buildings. There were no reports of any injuries. The attack was deliberately staged while virtually all of the cult's followers were out of the country, on retreat at an island resort near

Okinawa. Asahara, who had prophesied a great calamity for this time, assumed that, with the retreat as an alibi, blame for the attack would be directed toward other parties. As it turned out, the release went completely unnoticed.

Three years later, confident that they had solved the problems that had caused the first attack to fail, Aum's scientific warriors struck again. On June 3, 1994, in conjunction with the wedding of the Crown Prince, the cult again used a mobile release system, this time spraying an aerosol of botulin toxin from a car driven through the Ginza and districts surrounding the Imperial Palace. Asahara himself was reportedly in the car, until he apparently became nervous, directed the spraying to stop, got out of the vehicle, and then directed those inside to continue the spraying once he was out of the area. Once again, there are no official reports of any injuries.

Frustrated, but not prepared to back away from this potent source of power, Asahara's forces tried again. Three weeks after the failed attack on the royal wedding, the cult's new BW laboratory in eastern Tokyo came on-line. At Asahara's direction Aum scientists attempted, over a period of several days, to send a cloud of bacillus anthracis spores out over the city. There were, at that time, a number of reports from nearby residents of foul smells emanating from the cult's building and sticky, brown substances on cars parked nearby. Plants and small animals died, and several people

complained of feeling ill. Once again, however, there were no official reports of anthrax.

Of course, nobody at this time in Japan was looking for anthrax releases, nor is there any evidence that the Japanese government has examined the records from that time to determine whether there were any deaths that might, upon reconsideration, be properly attributed to the cult's efforts.

Still, while it is true that biological weapons agents are easy to produce in the laboratory, it is much more difficult to transform them into weapons of mass destruction. It is possible that in their production process the cult's scientists may have denatured the anthrax. They may have overprocessed it to the point where it was no longer viable. Another possibility is that the anthrax may have released in a hardy spore form which might not produce immediate casualties but which, under certain conditions and over a long period of time, might still be in the environment waiting for the right conditions to trigger its lethal effects.

The fourth and final Aum BW incident was the March 15, 1995 briefcase incident. Reports attributed to police sources, as well as cult members' statements indicate that this was intended to be another botulin toxin release. Although unconfirmed, Tokyo rumors suggest that the Aum technician responsible for filling the cylinders with the incredibly lethal toxin may have had second thoughts at the last moment, substituting

regular water for the weapons agent. We do know that there were no casualties in this final runup to the sarin attack.

Concerning the Aum Shinrikyo BW program, what we don't know far exceeds those things we do in both number and importance.

We know the cult's BW program predated its CW program, probably by several years. We don't know the details of its genesis nor of the sources of technology upon which it drew. Did it obtain military BW knowledge from open sources, as it did with CW?

We know they had a dedicated BW laboratory at least as early as 1990, and that they subsequently built two new laboratories. We know they had research underway involving a variety of organisms, including the nightmare flavor of the month, the Ebola virus. Where did they obtain their equipment and their bio-organisms, and what did it cost them? Do those sources exist for other would-be worldbeaters?

Asahara apparently embraced nerve gas only once it became clear that the BW wasn't working. Why didn't it work? Can it really be that the hurdles of weaponization are so great that the Aum, with its almost limitless resources couldn't lick the problems?

In an extensive conversation with a former member of the cult who had worked in the Aum's original BW laboratory, details were provided regarding the daily routine in the facility. He described the large, industrial-scale fermenters, the process of collecting the resulting biomass, walking it through a rudimentary airlock into a preparation area, where

various cold and heat dryers, grinders, and aerosols were employed in pursuit of the ultimate weapon. Testing of the agent consisted of mixing the toxins and spores with water and then spraying it on guinea pigs. He also described, in some detail, Shoko Asahara's displeasure when the guinea pigs initially refused to die. The Holy Pope of Aum Shinrikyo needed a killing weapon.

There is a further question that begs asking. During 1996 there were approximately 8,000 victims in Japan of food poisoning caused by a bacteria called E. coli 0157. Nearly a dozen deaths have been attributed to the poisonings. The incidents were concentrated at three widely different locations: Osaka in the west, a small city in the far north, and another in a Tokyo suburb. Three outbreaks, widely scattered but very similar scenarios. In each instance, the epicenter of the food poisoning seems to have been a school lunch program.

Each school is separated from the others by hundreds of miles. Even with the involvement of a team from the US Centers for Disease Control (CDC), no clear source or cause for the outbreak has been identified. Speculation that contaminated water or radishes were responsible has been undercut by the failure of researchers to find any such contamination.

While incidents of this kind do happen--an outbreak at *Jack-in-the-Box* fast food outlets in the Pacific Northwest claimed several lives in the United States several years ago--a critical aspect makes this case stand out.

Japan's media, including five national broadcasting television networks and dozens of major newspapers and magazines, is very competitive (in fact, a single network will routinely send out several news teams to compete among themselves for the sake of getting the best story). Despite the inevitable tendency to link the two, there has been virtually no speculation in the media tying E. coli 0157 to the biological weapons work of the Aum Shinrikyo. It seems unlikely that would be the case unless the government of Japan had specifically instructed the media, which largely defers to political wishes, not to speculate on that possibility.

SOME OBSERVATIONS

One of the central questions in the days following the attack centered on the relatively few deaths; why were there only a dozen fatalities?

First, the cult used a small quantity (<7 liters) of nerve agent, which was all they had time to produce in the two-day window that Asahara gave them, working night and day. Furthermore, the agent was very poor quality, perhaps only 25-30% pure, because the equipment that they had at hand did not allow them an easy way to distill the sarin.

Second, the dispersal method used in the subway was laughably inefficient. Water guns or spray bottles could have potentially delivered lethal doses to a much higher number of people. Such methods would, however, have required placing the cult attackers at greater risk than any

of them were prepared to accept. The Aum Shinrikyo--unlike other extremist groups--did not believe in suicide attacks. They much preferred martyring others for their cause.

Third, the cult did not factor the subway's air circulation system into their thinking. The ceilings in Tokyo's newer subway stations are relatively low, with large air vents spaced relatively closely together. The air intake system is so strong from those vents that a small piece of paper, held over a person's head, will be sucked immediately into the system and kicked out through vents on the street above. As a result, that sarin that did evaporate was promptly diluted and removed. It is not a coincidence that the stations with the highest casualties were on the Hibya line, which is Tokyo's oldest. Hibya stations laid out as long, narrow, tunnels with two large air exchange vents in the middle. As a consequence, the much less efficient air cleaning provided little in the way of a dilution effect.

A fourth factor was Aum's inexperience. Cult members were very good at building things, but largely inept at turning theory into practice. Even their senior officers had precious little background in the art of making things work. This was certainly a key reason the nerve gas plant at Kamakuishiki was never successfully operated for any length of time.

From a policy perspective, it is important to keep in mind that the cult's weapons-related activities were perfectly legal under Japanese law, right up to the point where they began killing people. It was not illegal to

manufacture Sarin. It is now. It is still not illegal to manufacture biological weapons agents in Japan.

The cult blatantly and rather openly pursued weapons technologies, both in Japan and abroad. Russian and American military manuals on chemical and biological weapons production and use doctrine have been recovered from the cult facilities. A husband and wife medical team crisscrossed the United States on several occasions, obtaining information from public and private sources on chemical, biological, and nuclear weapons technology.

The cult's Russian ties do not appear to have been central to the cult's successes with its weapons of mass destruction program. This is not to minimize that those ties could have been useful. That cult "soldiers" received training at Speznats bases from Russian special forces is more than a little distressing. Aum had purchased and then shipped a large Russian military helicopter to Japan, which they subsequently reassembled with the intention of using the craft to help deliver CBW against government targets during the planned November 96 coup.

But the Russian ties do not appear to have given them any significant edge that they weren't able to obtain from US or other foreign sources. As a case in point, the helicopter's pilots were both trained and licensed in Florida.

THE FUTURE

The impact of chemical weapons use on Tokyo has certainly been noted by terrorists and potential aggressors. A taboo was erased with the attack in Tokyo. It is no madness to believe that someone could use a weapon of mass destruction like this in a terrorist strike.

Those who follow in the footsteps of Aum Shinrikyo are not going to make the same, frankly elementary mistakes that Asahara and his disciples made. As a result, the consequences of the next chemical or biological terrorist strike will undoubtedly be more devastating.

Most of the technologies of mass destruction are now more than 50 years old, largely routine techniques well within the reach of terrorists around the world. It is an inescapable conclusion that a terrorist event orders of magnitude more destructive and costly in terms of human life than the Tokyo Subway attack could happen anywhere.

It is equally inescapable to conclude that it will happen, somewhere.

Appendix H:
Supplemental Lecture
Identification

Terminal Objective

- Upon completion of this unit, the student will be able to recognize the importance of terrorism identification through the use of information gathered from intelligence, the 911 caller, and first arriving units.

Enabling Objectives

The students will be able to:

- Identify outward warning signs and recognize clues of an act of terrorism.
- Identify clues that can be obtained through the pre-event intelligence process.
- Identify clues that may present themselves through the 911 center for a potential terrorism incident.
- Identify potential information sources and associated agencies within their community.
- Identify considerations for recon, including entry, rescue, site characterization, and safe refuge areas.

TERRORISM DEFINITIONS AND TYPES

The Department of Justice defines terrorism as a violent act or an act dangerous to human life, in violation of criminal laws of the United States or any segment, meant to intimidate or coerce a government, the civilian population or any segment thereof, in furtherance of political or social objectives. In short, terrorists are willing to use violence to create fear in order to achieve their objective(s). This means that not the target, but more importantly the motivation, defines an act of terrorism.

It is important to recognize that a B-NICE (Biological/Nuclear/Incendiary/ Chemical/Explosive) weapon used in conjunction with a crime is not automatically a terrorist incident. You must consider the motivation of the perpetrator(s). For an incident to be considered terrorism, its aim must be to intimidate or coerce a government or some segment of the population. For example, one person trying to poison another as an act of revenge would not constitute a terrorist attack, even if the poison used were one such as ricin, an agent sometimes used by terrorists. In this case, the motive would not be to intimidate a government or the civilian population at large.

The Federal Bureau of Investigation (FBI) takes the definition of terrorism one step further. The Bureau divides terrorism into two categories: domestic and international.

- Domestic terrorism involves groups or individuals whose terrorist activities are directed at elements of our government or population without any foreign direction. The Oklahoma City bombing is an example of domestic terrorism.

- International terrorism involves groups or individuals whose terrorist activities are foreign based and/or directed by countries or groups outside the United States or whose activities transcend national boundaries. The World Trade Center bombing is an example of international terrorism.

While individual definitions of terrorism may vary slightly, all sources agree that a terrorist incident will almost always contain two elements: criminal activity and technological hazard(s).

Criminal activities are any illegal actions such as robbery, arson, murder, extortion, hostage taking, kidnapping, etc. Technological hazards include the list of B-NICE materials. HazMat incidents involve technological hazards, as do incidents that could potentially occur at a fixed nuclear site.

Even when criminal activity and technological hazards are involved, it is still vital to consider the motivation of the perpetrator(s) before labeling

the incident as terrorism. Some incidents, such as environmental crime, industrial sabotage, and many bombings, may include both elements, but still would not be terrorist in nature.

As stated previously, knowing the individual's or group's motivation is the key element to understanding what is, and isn't, terrorism. Studies, both past and ongoing, have focused on terrorist methodology and motivation in attempts to better understand, and hopefully predict and prevent, terrorist incidents.

TERRORISM IDEOLOGY

What makes a terrorist tick? Why do they do what they do? How can all these different causes lead to terrorism? There are three criteria that must be met for an ideology or activity to be considered terrorism.

The first criterion is an extremist viewpoint. An extremist viewpoint starts with the belief that the individual, movement or group knows the *one truth*. This truth commonly involves a social, political, or religious belief system or a perceived ill or injustice.

One extremely important aspect to understand is that not all people who believe that they know the one truth are extremists or terrorists. For example, most religions, political parties, special interest groups, etc. believe they know the one truth. In some instances, these beliefs are extreme, but in most cases they are not.

Heaven's Gate cult is an example of an extremist belief system. The members of the cult believed a spaceship was located in the tail of the Hale-Bopp Comet and that they could go to the spacecraft if they committed suicide. Over forty members of the cult followed through and died. By any measure, these people were convinced that they knew the one truth, and they were willing to die for that truth. However, even though this was an extremist viewpoint, it was not terrorist in nature.

The transition toward terrorism begins with a fundamental intolerance of other viewpoints and perspectives. In other words, there is an inability to accept differences of opinion. When this intolerance becomes extreme, the second step toward terrorism occurs. This extreme intolerance manifests itself in the perspective that anyone who does not believe in the "truth" is the enemy.

The final step toward terrorism is when those with other beliefs are not only considered the enemy, but are also vilified. All enemies are evil, the devil incarnate and so on. The enemy has thus become a hindrance to accomplishing the belief, correcting the ill or relieving the injustice. Once

this shift in thinking occurs, the enemy loses all value. The enemy is thus worthless, and any means necessary to defeat or overcome the enemy is acceptable. In other words, the end justifies the means.

The most dangerous situation is when this perspective is taken to the extreme. In such a case, even those who are not the enemy are also worthless because they are not actively fighting to destroy the enemy. This allows attacks on anyone regardless of their age, sex or relationship to the enemy.

Obviously only a very small minority of individuals even in extremist groups will descend into this completely fringe belief system. It also explains how terrorists can show so little concern for any of their victims and why the cause is the central focus of their beliefs.

PRE-INCIDENT RECOGNITION AND IDENTIFICATION

Recognition and identification of potential terrorist incidents, as with many other types of incidents, begins before the alarm sounds. At the most basic level, the identification of possible target hazards is a critical step. Further, responders must become more vigilant to situations or occurrences that could indicate a potential terrorist incident. In that respect terrorism is very similar to a HazMat response in that responders must use basic indicators to help identify potential incident types.

Another key aspect of recognition and identification is the emergency operators and dispatchers. The entire dispatch system must become aware of the potential problem of terrorism and use screening questions to gather as much information as possible about potential terrorist incidents. These screening protocols must include identification of target hazards, types of incident events, nature of injuries in conjunction with the occupancy and location of the incident. Such information must be communicated to responders so they are made aware of the need to exercise caution.

The following are a few examples of situations, occupancies and locations that should cue the dispatch system to consider the possibility of terrorism:

- A report of multiple seizures in a public location such as a shopping malls, transportation hub, etc.

- A report of multiple people down in an office building, assembly occupancy, etc.

- A reported explosion at a movie theater, department store, office building, government building, etc.

This is not to imply that every incident described above is definitely a terrorist incident. Rather, such situations should be considered indicators of an unusual situation that requires additional caution and investigation before decisive action is implemented.

RECOGNITION AND IDENTIFICATION TOOLS

Occupancy/Location

The occupancy and location of the incident or target hazard are simple indicators of potential terrorist incidents. They include:

- Symbolic and historic targets (e.g., B'inai B'rith, Liberty Bell, Veterans of Foreign Wars, etc.).
- Governmental buildings (e.g., City Hall, public safety buildings, courts, State and Federal agency offices, etc.)
- Assembly occupancies (e.g., offices, shopping malls, schools, etc.)
- Controversial occupancies (e.g., fur stores, animal labs, abortion clinics, religious organizations, etc.)
- Infrastructure locations (e.g., transportation terminals and hubs, power stations, communication systems, etc.)
- Chemical production, handling or storage facilities (e.g., SARA Title III planning facilities, bulk storage facilities, pipelines, etc.)

Types of Events

The second recognition and identification tool is the *type* of emergency event. This is not to imply that every event listed is always a terrorist incident; rather, the type of event can provide early warning of the potential. Such events include the following:

- Explosions or incendiary fires involving target hazard occupancies and locations or chemical containers.
- Incidents involving firearms, especially when mass casualties are involved.
- Non-trauma, mass casualty or mass fatality incidents, especially at target hazard occupancies and locations.

- Protests.
- Olympics.
- Religious.

Timing of Events

The timing of an event can also provide a clue. Timing issues include the following:

- Historically significant days or anniversaries (e.g., conviction or execution of terrorists, Middle Eastern events, previous bombings, etc.)
- Day of the week (e.g., a fire in a government office building that is closed for the weekend, a holiday, etc.)
- Time of day (e.g., fire in a government building at 0500 hours, etc.)

On-scene Situation

The exact occurrences on the scene can be major clues for responders. Such situations include the following:

- The unexplained sudden onset of mass illness or death.
- Mass casualties with little or no trauma.
- Unexplained vapor clouds, mists or plumes.
- Odd or unusual odors (e.g., garlic-like, fruity, onion-like, almond-like, hay, etc.).
- Victims with unexplained skin, eye and mucous membrane irritation and blistering.
- Presence of containers, devices, sprayers, trucks that are out of place or in an odd location.
- Containers or objects that may hide secondary devices.
- Unusual fire behavior.

- Anything that appears unusual.

Mass illness may be difficult to identify, at least initially. For example, if a biological agent were used, it might take days for victims to become symptomatic. When they do, hospital emergency rooms, private medical offices and EMS call volume may be the first indicator of a problem. Multiple semi-conscious or unconscious victims at an intersection in the heart of town or at the bus terminal would be another indicator.

Another point that deserves mention is the existence of mass casualties or fatalities with little or no trauma. This should be a give-away that something is not right. About the only causation of such a situation is some type of chemical exposure. It will be almost impossible to tell immediately whether the chemical release was accidental or intentional or an act of terrorism. However, the fact remains that it is a potential terrorist incident.

Victims exposed to chemicals can rapidly become unconscious and thus may receive fall type trauma. Trauma could also result from the chemically induced seizures. For example, in Tokyo, some reports indicated that victims had blood coming from their mouths, noses and ears. This was not the direct result of the chemical exposure but rather secondary injuries from falls and seizures.

TERRORIST WEAPONS--ARMED ATTACK, AND B-NICE

Terrorism is a form of warfare and its attacks are carefully designed to meet a specific goal. In terrorism, inflicting actual damage is a secondary concern after the psychological impact of the attack. The psychological effect may be even more profound than the physical damage, and it may last long after all signs of the attack are gone.

Because terrorists are so intent on achieving their objectives, they choose their weapons for specific reasons with a distinct purpose in mind. Terrorists want to use weapons that will instill fear. Many terrorist weapons (such as radiation and some biological and chemical agents) are undetectable without special equipment and do not immediately affect the victims. Even the threat of such an attack can send the general population into panic. People feel they have no way of defending themselves against a weapon they cannot even see.

Those feelings of fear help terrorists achieve another goal of convincing the public that their government is unable to protect them. In time, the public becomes angered and loses confidence in the government. The government, in order to appease an increasingly disapproving public, is coerced into complying with the terrorists' agenda.

Terrorists also choose weapons that will quickly attract the public's attention. Any large explosion quickly draws emergency response, news crews and a crowd of on-lookers. Should they claim responsibility, terrorists know that such an attack ensures rapid and wide exposure for their cause. Because these attacks attract such attention, terrorists know these weapons make excellent diversions to cover up other crimes (such as robberies to fund additional activities).

Biological weapons are organic in nature. The pathogenic effects may be caused by the actual organism or by its spores, which are protected reproductive packets. Toxins produced by living organisms may also be used as weapons, many with lethal results.

Bacteria and viruses are both organisms with direct pathogenic effects. Bacteria which are dangerous to humans (and hence, possible terrorist weapons) include anthrax, the plague (bubonic or pneumonic), tularemia and cholera. Dangerous, sometimes deadly, viruses include viral hemorrhagic fevers, Venezuelan Equine Encephalitis (VEE), and smallpox.

Ricin is a toxin derived from a plant. It is made from the beans of the castor plant and its inhalation or ingestion can lead to death. Abrin is a similar toxin, but seventy-five times more powerful than Ricin. Botulinum Toxin (Bot Tox) is made from bacterial byproducts and is a highly potent toxin. It is three thousand times more powerful than Ricin and one hundred thousand times more powerful than Sarin.

Mycotoxins are also dangerous biological toxins. These toxins can be introduced via almost any route, including absorption through skin contact. Their effects are similar to blister (mustard) agents except that symptom onset is more rapid, usually occurring within minutes. Because these toxins are not sensitive to heat or ultraviolet light (unlike viruses and many bacteria), mycotoxins could be used effectively as terrorist weapons.

When many people think of the possibility of a terrorist attack, they think of scenes from Hollywood movies where one man holds a city in siege with the threat of a nuclear device. While the plans for nuclear devices are available, the odds of a terrorist group having the resources, finances, expertise, materials and time to build a nuclear bomb are very remote. Terrorists must be very secretive about their actions; building a bomb would take a large staff, sizable facility and years to complete, not to mention the exorbitant cost. In short, it would be far from the ideal weapon depicted in the movies. For such an attack to ever occur, it would almost certainly have to be carried out by a government-backed terrorist group.

A much more likely use of radiation would come in the form of a radiation dispersal device (RDD), sometimes referred to as a "dirty bomb." An RDD uses a combination of conventional explosives and radioactive materials. The radioactive material is placed around the explosive so that when the device detonates, the material is dispersed. Terrorists may use any type of radioactive matter for an RDD, whereas a nuclear bomb requires high-grade, specially processed source matter.

A third possible scenario involving radiation is an attack on a fixed nuclear facility. Examples include military bases, nuclear powered vessels, nuclear power plants, nuclear waste facilities, and fuel reprocessing facilities. Due to security at these facilities, durability of containment vessels and multiple redundant safeguards, the likelihood of such an attack succeeding is low.

Incendiary weapons are especially appealing to terrorists for a number of reasons. They are highly flexible in deployment. They make effective and efficient weapons because, while they are inexpensive and simple to construct, incendiary weapons readily produce casualties, property damage, monetary loss and damage to infrastructure. Incendiary weapons have been used effectively in Northern Ireland and earlier this century in this country.

Incendiary devices have a wide range of trigger, delivery and construction options, so terrorists may tailor a device to their specific needs. Triggers may be chemical, electronic, or mechanical. Delivery options include planted (pre-positioned), hand-thrown and self-propelled. Flammable gases, flammable and combustible liquids, oxidizer enhanced substances and hypergolic chemicals (substances which ignite on contact with one another) can all be used in constructing an incendiary weapon.

Chemical weapons are made from substances that can produce injury or death. Types include nerve agents, blister agents, blood agents, choking (pulmonary) agents, irritants (riot control agents) and industrial chemicals.

Nerve agents all share certain properties. All act on the nervous system and are composed of chemicals similar to those found in commercial organophosphate insecticides.

Like all organophosphates, nerve agents are cholinesterase inhibitors. Cholinesterase is an enzyme that removes the neurotransmitter acetylcholine from the small gap between nerve cells (synapse). As a result of cholinesterase inhibition, acetylcholine accumulates in the synapse and is interpreted as another nerve impulse. This causes miosis (pinpoint pupils), muscular tremors, convulsions, SLUDGE (Salivation, Lacrimation, Urination, Defecation, Gastric distress, Emesis) and

ultimately results in death from exposure. Another pneumonic device for remembering the symptoms is DUMBELS (Diarrhea, Urination, Miosis, Bronchospasm, Emesis, Lacrimation, Salivation).

Blister agents, sometimes referred to as vesicants, are severe irritants with a degree of systemic toxicity. These substances affect skin, eyes, mucus membranes and the gastrointestinal tract.

Mustards are the most common blister agents. There are several different types, but they are all based on sulfur (distilled) or nitrogen (nitrogen and ammonia based) compounds. The initial symptoms from dermal exposure manifest themselves in as little as two hours, or as long as six hours.

Lewisites, also blister agents, are a series of arsenic-based compounds. They are local and systemic toxins. Dermal exposure symptoms are immediate, causing effects ranging from severe stinging to searing pain. If a victim's eyes are exposed, Lewisite can cause blindness if the victim is not decontaminated within one minute. Lewisite is rapidly hydrolyzed by humidity and water.

Blood agents interfere with the body's ability to process oxygen. These agents are commonly referred to as cyanides, because it is now known that many other chemical agents are carried in the blood. Hydrogen cyanide, a blood agent, occurs as a highly flammable liquid or vapor that is lighter than air (vapor density 0.69) and has an extremely high vapor pressure at 68°F (over 650mm mercury).

Severe cyanide poisoning causes rapid unconsciousness, convulsions, arrested respiration and death within ten minutes if untreated. With prompt medical attention, any victim who still has good circulation has a promising chance of survival.

Many cyanide compounds, including hydrogen cyanide, are widely used by industry. Two other examples of cyanides used by industry are cyanogen chloride and arsine. Both are over twice as heavy as air and are gases at room temperature (68°F). Cyanogen chloride is nonflammable, while arsine is extremely flammable.

Choking agents are pulmonary poisons. These agents damage the tissue of the lungs causing pulmonary edema (the filling of the lungs with fluid). Because casualties choke, just as if drowning, the symptoms are sometimes called "dry-land drowning." Examples of choking agents include chlorine, Phosgene and other industrial chemicals. They are all gases and must be inhaled to cause harm. All have high vapor density and are extremely toxic.

Irritant agents are customarily employed for riot control activities. They are relatively common and easy to obtain. Common types are Mace (CN), tear gas and pepper spray. The symptoms they cause (eye, skin and mucus membrane irritation) are generally non-persistent and non-lethal. There have been cases, however, where people have died from irritant agents when they were used in high concentrations in a confined, poorly ventilated area.

Some industrial chemicals could be used as weapons by terrorists. Examples of such chemicals include sulfur dioxide, hydrogen chloride, and many cyanide compounds.

Of all agents, explosives are by far the top choice of terrorists. Explosives are used in over 98 percent of all terrorist incidents in the United States according to the FBI. They can also be used to disperse other agents (e.g., nuclear, biological, incendiary or chemical).

Experts refer to explosive agents as either high explosives or low explosives. A high explosive is a substance that detonates rapidly, producing enough force to create a shock wave and a large thermal discharge. Examples include dynamite, TNT, C-4 and RDX. A low explosive does not detonate (change form from a solid or liquid into a gas) rapidly enough to create a shock wave unless it is held in some kind of a container (such as a pipe). Black powder is an example of a low explosive. Low explosives are sometimes used to detonate high explosives.

Terrorists often use improvised explosive devices. These include vehicles, pipes, satchels and other devices. When dealing with terrorist incidents where explosive agents are possible (or even probable), responders should keep in mind the time, distance, shielding rules of protection.

ON-SCENE DETECTION

Victim symptoms can be a very useful tool to help identify the agent involved in an incident. Although this approach may seem callous, it is routinely used when chemical exposure is possible and can be very informative. To understand the big picture, it is also important to understand that different chemicals produce different symptoms. These symptoms help reduce the number of potential substances involved or possibly provide the exact identity. To be most effective, the Incident Commander must have input from EMS, HazMat and medical personnel.

Miosis is the first symptom to consider. Miosis is pinpoint pupils and is indicative of a cholinesterase inhibitor such as a nerve agent.

Organophosphate and carbamate insecticides also produce miosis and can be weaponized.

Seizure (convulsion) is the second symptom to consider. Seizures can accompany exposure to several different chemical agents but, when considered with other symptoms, help rule out some agents. Nerve agents and carbamate insecticides can produce seizures. Mustard at high levels can also produce seizures but does not produce miosis. Further, mustard produces erythema (red skin), blistering and mucous membrane irritation. Blood agents (cyanides) can also produce seizures but there is no miosis, only dilation. Further, cyanide compounds show no other cholinergic symptoms.

SLUDGE (Salivation, Lacrimation, Urination, Defecation, Gastric distress, Emesis), as previously mentioned, is a symptom of nerve agents (organophosphates) and carbamate insecticides.

Skin and mucous membrane (including eyes) irritation is the final symptom that will be considered. One differential diagnosis involving irritation is the speed with which the symptoms develop. Immediate symptoms can be produced by riot control agents, Lewisite and Mycotoxin. Latent symptoms would indicate mustard.

SUMMARY

Recognition and identification is an extremely important aspect of all types of emergency response including terrorist incidents. Once it is recognized that the incident may be or is a terrorist incident, responders must have a strategic and tactical system under which to operate.

Appendix I: Improvised Explosive Devices

RECOGNITION OF IMPROVISED EXPLOSIVE DEVICES (IED'S) AND BOOBY TRAPS

Political, religious, racial and labor disturbances have provided a breeding ground for terrorists and extortionists in many areas of the world. And many of those terrorists are being trained in the preparation and use of improvised devices. In recent years there has been an increase in the printing and dissemination of books and pamphlets detailing the construction of improvised devices. As a result, bombings and other acts of terrorism and extortion have intensified, producing a variety of improvised devices that are becoming more and more sophisticated.

The hazards of improvised devices include all those related to conventional and nuclear munitions plus the additional hazards of diversity and unpredictability of design compounded by the ingenuity or incompetence of the designer. Practically any container or material may be used to house or construct an improvised device.

The unpredictability of the improvised device demands more caution on the part of fire and emergency service personnel. Each suspected item must be treated as an unknown and should not be approached by fire and emergency service responders.

Improvised devices are generally homemade and limited in quantity. They may be made with rudimentary tools and be of crude design. However, groups have been known to produce devices on an assembly-line basis. Since these devices are nonstandard, there are no specific guidelines to enable fire and emergency service responders to positively identify or categorize them. Today's improvised devices are extremely diverse and may contain any type of firing device or initiator, plus various commercial, military, or contrived fillers.

Generally, emergency response personnel recognize the dangers associated with managing incidents that involve explosives. An understanding of associated dangers of explosive devices is important. Once this association is made, an effective responder protection plan can be achieved.

Terrorists will have no regard for the traditional transportation restrictions. IED's are designed and assembled for one purpose--to explode. Remember that explosive materials come in many sizes, shapes and containers.

Explosive devices placed specifically to harm emergency services personnel or to hinder emergency operations should be considered a definite possibility at any terrorist incident and should be addressed in

both the development of operational guidelines and the training of personnel.

Improvised explosive devices are nonstandard devices fabricated from common materials, incorporating explosives or destructive, lethal, noxious, or pyrotechnic chemicals.

In addition to standard military and commercial explosives and incendiary mixtures, improvised fillers can be manufactured from available chemicals and materials. Some explosive mixtures in a confined state are considered incendiary. Some incendiaries, when confined, may detonate.

Any container or material can be used to house or construct an IED. In addition to ordinary containers, plaster-of-paris, cement, concrete, incendiary resins, or similar materials can be cast into any shape to form a container.

Fire and emergency services personnel should never approach a suspected improvised explosive device. Only trained Explosive Ordnance Disposal personnel should approach the suspected device. If you suspect an improvised explosive device, you should immediately clear the area in and around the suspected device and notify the appropriate EOD personnel in support of the incident.

Recognizing Explosive Synergy

Explosives require a synergistic effect to occur between four components: (1) a combustible chemical or solid material, (2) and oxidizer to support the rapid burning process, (3) a device to cause ignition, (4) and confinement of the ingredients. If any of the four parts is altered or fails to interface with the process, the explosion will be influenced or may not occur.

Hazards of Improvised Devices

Bombs will vary in size and will be relative to the intended target. Terrorists use an assortment of dangerous materials in bomb formulas, many of which are their own recipes. It is important to know that terrorists will dedicate many hours to planning and developing strategies to cause harm and destroy property. The terrorist becomes very familiar with the potential targets and the local emergency response capabilities.

The use of improvised explosive devices is not a new concept. However, they have become more complex, more destructive and should no longer be considered just a law enforcement issue.

Recognizing the hazards and risks involved with IED's is important. In 1995 the United States experienced a total of 5,296 explosive incidents. Of those incidents 1,979 were bombings, 598 were incendiary and 2,619 were other types of explosive incidents. The majority of incidents involved was pipe bombs and numbered 667.

Of significant importance is the amount of explosives that is being stolen throughout the United States. In 1995 a total of 3,429 pounds of explosives were stolen. In 1996 a total of 9,138 pounds of explosives were stolen and in 1997 from January through August a total of 6,013 pounds of explosives has been stolen. As you can see, there is a lot of unaccounted explosives throughout the United States that a terrorist group can easily get their hands on.

Of primary concern to fire and EMS responder is the possibility that the primary blast may not have detonated all of the explosive material. Unexploded materials may be lying among the debris.

To deal with this potential hazard, initial operations at a terrorist bombing scene should be directed towards establishing and managing control zones, similar to those of a hazardous materials incident. Response procedures should provide direction for the initial responder to create and designate specific zones of operations.

Recognize Distraction Techniques

Previous bombing incidents have proven that terrorists use various distraction techniques to attract attention and draw in crowds. Once the audience of onlookers and emergency responders has assembled a larger, more powerful bomb will be detonated. This delayed attack technique is commonly known as the "secondary device."

Another deceptive tactic used is to display a countdown timer designed to give the observer a false sense of security. The bogus timer may indicate 30 minutes remaining on the display, while the device is actually programmed to explode at the 10 minute mark.

Maximizing Responder Survivability

One technique in maximizing responder survivability is to establish within your local operational plans that only personnel with IED hazard training are allowed to enter the blast zones to identify unexploded ordnance or a potential secondary device. Once a device is identified or suspected the plan should direct the initial responders to back off and call for trained EOD technicians. In cases were there is a threat of potential terrorist acts, it may be advisable to pre-position an EOD technician along with fire and EMS services. The EOD technician can then respond initially to the site to provide direction for safe fire and rescue operating practices.

Establish a clear and concise methodology of informing the public which emphasizes efforts at the scene and downplays the cause of the incident. Radio communications should be controlled so as to minimize bomb or IED related language.

Hoax Devices Tactics

One must keep in mind that many "hoax" devices are planted each year specifically to disrupt daily activities. Determining whether a device is real or fake is not the role of a first responder. Regardless of the presenting conditions, maximum precautions must be observed until experts render the scene safe. Untrained personnel should never be routinely used for bomb searches in the primary target area.

Ambush Tactics

The ambush tactic presents an extremely dangerous scenario for first responders. The terrorist may attempt to bait responders by using a distracter technique to facilitate an emergency incident. Fire and EMS units that arrive on site may become victims of a secondary explosion intended for a larger crowd. Reconnaissance of the incident site can minimize the possibility of a secondary device being used against the responders. Recognition training is important in order to effectively identify the existence of a secondary device. Remember, law enforcement personnel should conduct the incident site reconnaissance.

Terrorists have mastered the art of transforming common containers and packages to disguise bombs and IED's.

Conditions Likely to Affect Response Operations

- Disposition threat upon arrival, pre-blast or post-blast
- Size of the device and type of explosives
- Proximity of device to exposures
- Evacuation and protection variables
- Number, location and condition of casualties
- Condition of damaged structure
- Response capabilities, available technical resources
- Response time of needed resources
- Duration of the incident
- Training level of responders
- The commitment level of resources must be in concert with the technical capabilities at the incident site.
- Effective risk analysis of post-blast structural conditions requires the expertise of structural engineers.

Outward Warning Signs of Bomb and IED's

- Any abandoned container out of place for the surroundings.
- Obvious devices containing blasting caps, timers, booster charges, etc.
- Unusual or foreign devices attached to compressed gas cylinders, flammable liquid containers, bulk storage fixtures, and other chemical containers.
- Abandoned vehicles that are not conducive to the immediate environment, gasoline tanker in front of a potential terrorist target site.
- Entrance thresholds that present wires or attached hardware that appear out of place.

- Detection of strong chemical odors for no apparent reason.
- Apparent trip wires.
- Written or verbal threats.
- Recognizing five basic Bomb/IED incidents that first responders may encounter (Tactical Objective).
- Devices that have completely exploded (no residual materials present).
- Partially exploded devices (fragmented material present).
- Bombs/IED's found intact.
- Hoax devices.
- Bomb threats (actual presence of a device is not substantiated).
- Types of firing devices used in IED and Booby Traps (Tactical Objective).

Improvised devices, regardless of how they are employed, are classified as closed or open devices.

In a closed device the working parts are enclosed by a container and hidden from view. In an open device the container is open or absent, allowing the working mechanism to be viewed without disturbing the device.

SEE FIGURE 1

IED's may be initiated mechanically, chemically, electrically, or by a combination of these methods.

There are a number of different types of firing devices used in improvised devices:

Pressure: Pressure is applied directly on a moveable plunger or flexible material to complete an electric circuit, release a spring loaded firing pin, or merely drive a sharp object into an initiator. Materials often used in construction of pressure operated firing devices are sponges, rubber strips or blocks with retaining springs, and sharp nails.

SEE FIGURE 2

Pull: A pull is exerted against a wire or cord to complete an electric circuit, release a spring loaded firing pin, or pull an abrasive material through a match compound. Materials often used in construction are clothespins, knives, hacksaw blades and nails.

SEE FIGURE 3

Pressure-release: Pressure is released by lifting a weighted object or otherwise releasing a spring loaded firing device. Used universally as a boobytrap, the pressure-release-firing device is deceptive, sensitive and easy to conceal. Materials often used in construction are household mousetraps, spring-loaded plungers and electric microswitches.

SEE FIGURE 4

Tension-release: Tension is released as when a taut wire or cord is cut or broken, releasing a spring-loaded firing pin or closing electrical contacts.

SEE FIGURE 5

Tilt: A tilt-activated firing device may be used in an improvised device. Materials used in construction may be a ball bearing, sliding contacts, test tube, mercury switch, salt water or cooper sulfate solutions, or a stick (tilt rod).

SEE FIGURE 6

Barometric pressure: A change in barometric pressure initiates the device. With increasing altitude, air pressure drops, allowing air trapped in a balloon or bellows to expand and close a switch to either arm or fire the device. This type of initiating method is usually used on aircraft, but will not work in a pressurized cabin. Variations of the barometric pressure device include devices containing a bellows placed in either a pressurized container or a container on which a vacuum has been drawn. Any change to the ambient pressure of these devices would arm or fire the device.

SEE FIGURE 7

Disturbance: Any movement is sensed, as when objects or their wrappings are moved or disturbed, initiating a firing device. Sensitive mechanisms such as vibratory or trembler switches may be used.

Probe insertion (antiprobe): This firing device contains an open electrical circuit connected to two layers of conductive material separated by an

insulator. Any attempt to probe or penetrate the package with an object may short one layer to the other. This completes the electrical circuit and initiates the device.

SEE FIGURE 8

Dissolution: Two elements are separated by a soluble material. An example would be metallic sodium is placed in a gelatin capsule and dropped into a vehicle's gas tank. The capsule dissolves and the metallic sodium reacts with any water in the gas tank.

X-Ray: This firing device is used primarily to limit the use of x-ray techniques to determine the contents of a suspected device. One method employed is to use a piece of intensifying screen and a sensitive photocell. X-rays illuminate the screen, which activates the photocell.

Hydrostatic pressure: A hydrostatic pressure change is sensed by bellows which expand or contract when lowered into various depths of water.

SEE FIGURE 9

Light, Heat and Sound: A change in any of these is sensed and used to initiate a firing device. A transistorized circuit employing a light, heat or sound sensing element, and/or a switching transistor such as those used in radios, televisions and computers could be used as a circuit breaker or triggering mechanism.

Electrochemical delay (E-cell): An E-cell consists of a case, two electrodes, and an electrolyte. This method of initiating a device involves the process of plating and deplating silver and gold. In this process when the platable silver has been transferred, the voltage rises sharply (resistance increases sharply). This increase in voltage may be used to operate an appropriate switching device or to complete a firing circuit to a detonator.

Collapsing circuit: An electrical field collapses when wires are severed or broken, a battery decays to a low energy level, or a component such as a battery is removed. The device is armed when a relay is energized. When the timing battery is depleted, or a wire in the holding circuit is broken, the relay energizes and the firing battery discharges through an initiator.

Proximity: This firing device is designed to fire as the victim approaches. One circuit works on the principle that the human body acts like half of a capacitor; the other half is contained in the circuit. When someone touches or gets near an antenna the circuit is completed, firing the device. Magnetic, acoustic, seismic, ultrasonic, microwave, and active or passive

infrared sensors are some of the proximity devices that may be encountered.

Time delay: Delay devices introduce the additional danger of a time limit, usually unknown, into the IED procedures. These devices are most dangerous when used with an booby trapped-improvised device. Some delays, such as electrochemical delay, battery decay in the collapsing circuit, and dissolution (dissolving capsule), has been already mentioned. The most common delays are clockwork delays using alarm clocks, kitchen timers, wristwatches, to timers taken from home appliances. Another method is known as material fatigue (when a material is placed under stress). After a predetermined time the material separates and an electrical circuit is completed or a spring-driven plunger functions.

SEE FIGURE 10

Controlled: Initiation is usually wire or radio controlled by a operator. Controlled devices in entrapment or saturation bombing situations are definite possibilities. The initiation device could consist of intricate circuits designed to function by electrical or radio signals such as:

SEE FIGURE 11

- Radio control systems used with model airplanes, cars or boats.
- Paging systems.
- Remote control garage door openers.
- Remote control television tuners.
- Remote control joysticks used with video games.
- Remote appliance controllers.

Improvised Nuclear Devices

Improvised nuclear devices are devices that are constructed for nonmilitary use and which have, appear to have or are claimed to have, the capability to produce a nuclear explosion or produce radioactive contamination of an area without a nuclear explosion.

Types of Chemical Reaction Bombs

- Acid Bombs
- Caustic Bombs
- Dry Ice Bombs
- Blow Torch Bombs
- Bleach Bombs

Questions that EOD Personnel Will Ask

If a device is suspected there are generalized questions that trained EOD personnel will ask the first responder. What is the exact location of the device, size, shape and appearance, sounds. Additionally, any information concerning a disturbance to the device (items moved or jarred, lights turned on or off in the room, etc.) should be known. Be prepared to describe to EOD personnel the path that you traveled to exit the suspected device location.

Note whether the device has been placed on or near any hazardous materials and utilities. Evacuation of the immediate area, if not already begun, should commence.

Device Location

As a general rule, the easiest place to plant a device outside is often a vehicle or a shrubbery surrounding a building. If personnel are evacuated, they may be increasing rather decreasing their risk of injury. The most likely place to conceal a device inside of a building is in an area to which the public has the easiest access. Therefore, any evacuation that requires personnel to move through public areas (such as halls near restrooms, waiting rooms, or lobbys) will increase the risk in the event of detonation.

Courses of Action for Suspected Devices

There are three possible courses of action when a device is suspected. (1) take no action, (2) evacuate and search, (3) search without evacuation. Evacuation appears to be the appropriate response to any bomb threat situation. However, there are factors that may weigh against the evacuation response. Even when total evacuation is possible and desirable, the process itself is not a simple one.

Evacuation Considerations

Request assistance early when resources have been committed. Identify the type of technical assistance needed (EOD, HAZ/MAT, Rescue, radiological, etc.).

Request law enforcement assistance to control access to the outer perimeter and for assistance in evacuation procedures.

A sudden evacuation may cause panic and unpredictable behavior leading to unnecessary risk of injury.

When there is reason to believe that occupants of a building will panic if advised of a bomb threat, it may be advisable to have evacuation ordered on some other pretext. It should be noted that the pretext of a fire should not be used.

During fire drills, windows and doors are closed and are often locked. For evacuation involving improvised explosive devices doors must be left open so that rooms are readily available to search teams; doors and windows should be open so that a detonation (should it occur) will not be contained within the building.

Remember, that when an evacuation is ordered for a suspected improvised device, you may need to alter established routes in favor of an exit pattern that will provide the greatest protection in the event of a detonation during evacuation. Greater supervision and control will be required, especially if a decision has been made not to announce the purpose of the evacuation.

Gather as much information from the dispatch center or units operating on the scene. Early information should be used to determine initial "stand off" distance.

When actual explosive devices have been located identify at least a 500 meter (1,650 ft.) isolation perimeter for staging personnel and apparatus, relay coordinates via radio (make sure that you are at least 100 meters (300 ft.) from the hazard).

Do not intervene, carry out only essential tasks that support public protection measures. Maintain defensive posturing and use the minimum number of personnel to achieve the task.

Deny access to the immediate hazard area; attempt to control main points of entry such as streets, front and rear access to structures; do not relay on banner tape to restrict movement of people, request law enforcement assistance to accomplish this task.

Utilize the highest level of personal protective equipment available. Structural fire fighting clothing will offer limited protection from shrapnel and cut hazards. Use protective clothing and breathing apparatus when operating inside the hazard area.

Use of Communications Precautions

Restrict or discontinue radio, cellular and mobile data terminal communication when explosives are suspected. Radio transmitters can create a field of electric energy sufficient enough to trigger electric blasting caps. Low frequency transmissions are more dangerous to use.

When possible, prevent exposure of explosives to excessive ambient heat and attempt to eliminate static (electric) discharges.

Power Source and Utilities Consideration

Gain control of utilities, but do not disconnect or engage circuitry until the scene has been evaluated by trained personnel. If a device is suspected or discovered do not change the condition of the surroundings to include moving power or light switches to a different position.

Staging Areas

When establishing staging areas consider using structures and natural barriers that will provide blast protection. Be sure to plan for reflecting overpressures and stay upwind.

All staging areas should be located away from any buildings containing large amounts of glass and away from line of sight of the target area.

When evacuees are located inside buildings remote from the target, open all windows and doors to prevent pressure differentials.

Be sure to identify water supply sources and prepare to establish water supply lines for fire fighting operations.

If explosives are involved in the fire, do not attempt to fight the fire. Isolate the area and protect exposures. The isolation distance will depend on the conditions present and the type of material. Prepare to isolate for distances up to at least one mile in all directions.

If Detonation Occurs

If a detonation has occurred, estimate the number, status and condition of any casualties and, if necessary, initiate mass casualty incident protocols.

Identify what type of rescue equipment will be needed for entrapped victims.

Establish command and activate a personnel accountability system. Clearly identify the person responsible for command and control and the location of the command and control. Make an attempt to accomplish this face to face due to security concerns.

Think before you rush in. It is important to not become complacent and it is important to change the way that you respond when responding to an explosive device incident.

Use of Pyrotechnics

Pyrotechnics are mixtures of solid chemicals and are designed to function in the absence of oxygen. Pyrotechnic mixtures produce light, color, smoke, heat, noise, and motion. The chemical reactions involved are of the electron-transfer, or oxidation reduction type.

The reaction rates can vary from very low burning to instantaneous detonations with rates greater than a kilometer per second. Pyrotechnics is closely related to fields of explosives and propellants, and exactly where one field ends and another begins can be debated at great length. Fireworks are perhaps the most common form of pyrotechnic devices, although highway flares and air bag inflaters are other examples of civilian pyrotechnics. The military also uses a broad assortment of pyrotechnic devices for signaling, screening (with smoke), illumination and training simulation.

Numerous devices are made using pyrotechnic compositions. These devices produce a visible or audible effect by combustion, deflagration, or detonation for entertainment purposes. Remember, pyrotechnics can easily be used by a terrorist organization to initiate an attack.

Secondary Device Considerations

Perimeters should be established quickly and access allowed only to remove the injured until a thorough search for secondary devices has been completed.

Searches should only be conducted by trained EOD personnel.

Improvised explosive devices can easily be disguised and may be concealed in seemingly harmless objects.

Do not touch or move anything at or near a bomb scene. Any suspicious items should be brought to the attention of trained EOD personnel.

Considering that secondary devices target first responders, the bomber may anticipate where staging areas and command posts are likely to be located. Searches for IED should include these areas.

Extensions of the isolation areas can save lives.

Command posts should be located upwind of the scene of an explosion to reduce the possibility of exposure to airborne toxins or hazardous vapors that may have been released or caused by the blast.

Access should be strictly controlled until a search for secondary devices is completed and thereafter to protect the crime scene.

Record the scene with a handheld video camera, photographs and/or sketches or some type of drawings. This will help for time sequencing of the event and may reveal valuable information in later review.

Rapid Evacuation Considerations

Modify the traditional "load and go" principle, treat the bomb scene as you would a car engulfed in flames--the potential for further danger and harm is very real.

Remove the victims from the scene and take them to a safe distance away from the scene to render first aid.

Be aware of damage to infrastructure in the area of the explosion, such as gas lines and tanks, electrical transformers, downed power lines, etc., which may create other hazards to first responders.

Key Points for Public Safety Development

- Are the necessary agreements, response plans and protocols in place in your area of responsibility?
- Do public safety agencies train together to respond effectively to bombing incidents?
- Know and list the location and contact numbers of your nearest Bomb K-9 support, EOD technicians and other related resources.

- Start all searches with the public access and parking areas, as well as outside of the buildings.

General Media Rules for Bombing Incidents (Tactical Objective)

- Do not comment on device components or allow filming or photographing of detail evidence from the device.
- Do not speculate on the amount of damage or injuries the device could have caused.
- Do not speculate when the incident scene may be released unless you are absolutely certain.

Responsibilities When a Suspected Explosive Device Is Found

When in the process of conducting search operations, or when responding to an incident, and a suspected explosive device is discovered, the following actions will take place:

- Cease all search operations and ensure that the building or area is evacuated and that a secure perimeter is established. Only trained EOD personnel should conduct further operations.
- Inform law enforcement and fire dispatch by radio (at a safe distance), runner, or telephone and request that proper notifications are made (police, EOD, public works, gas, electric, phone, etc.).
- Designate safe response routes of approach for incoming equipment and personnel.
- Ensure that a written chronological events log is maintained to include responding units, times and locations, displaced individuals, injuries and other pertinent information. Remember the incident will be designated a crime scene and all of the above mentioned information will serve to assist law enforcement during the crisis management phase of the incident.
- All fire fighting and EMS personnel will remain clear of the incident site until the all clear is sounded by trained EOD personnel and law enforcement.

Dispatch Procedures During a Terrorist or Criminal Bomb Incident

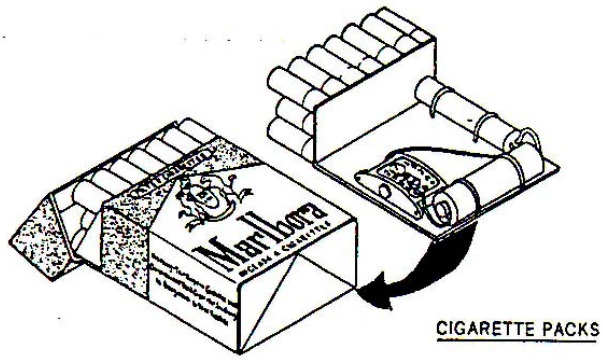
If the dispatcher receives a telephonic bomb threat while first responders are en route to the incident site or are at the incident site the following questions should be asked:

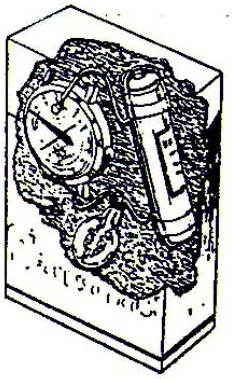
- When is the bomb going to explode?
- Where is the bomb located?
- What does the bomb look like?
- What kind of bomb is it?
- What will cause it to explode?
- Did you place the bomb?
- Why did you place the bomb?
- What is your name or the name of your group?

The dispatcher should ensure that the exact time is noted.

After receiving as much information as possible, immediately notify the On Scene Incident Commander and advise him/her that a bomb threat has been received at the incident site. Provide law enforcement with the details of the caller's responses.

Immediate evacuation of all responders must take place. Only trained EOD personnel should breach the established safety perimeter to locate or identify the suspected device.





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3718-03/1

Figure 1

) EXAMPLES OF CLOSED DEVICES

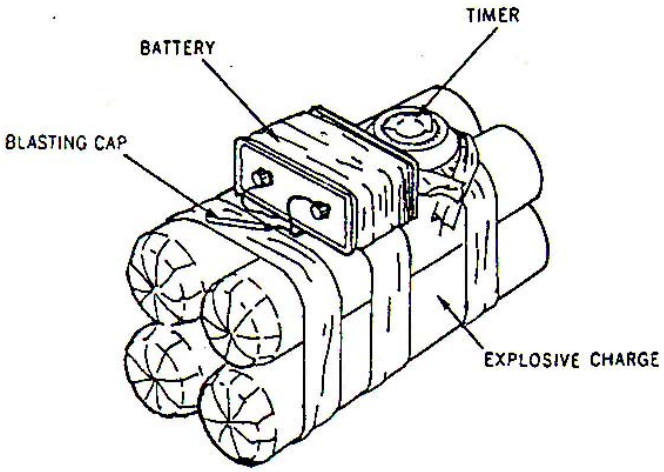

Figure 2

EXAMPLE OF OPEN DEVICES

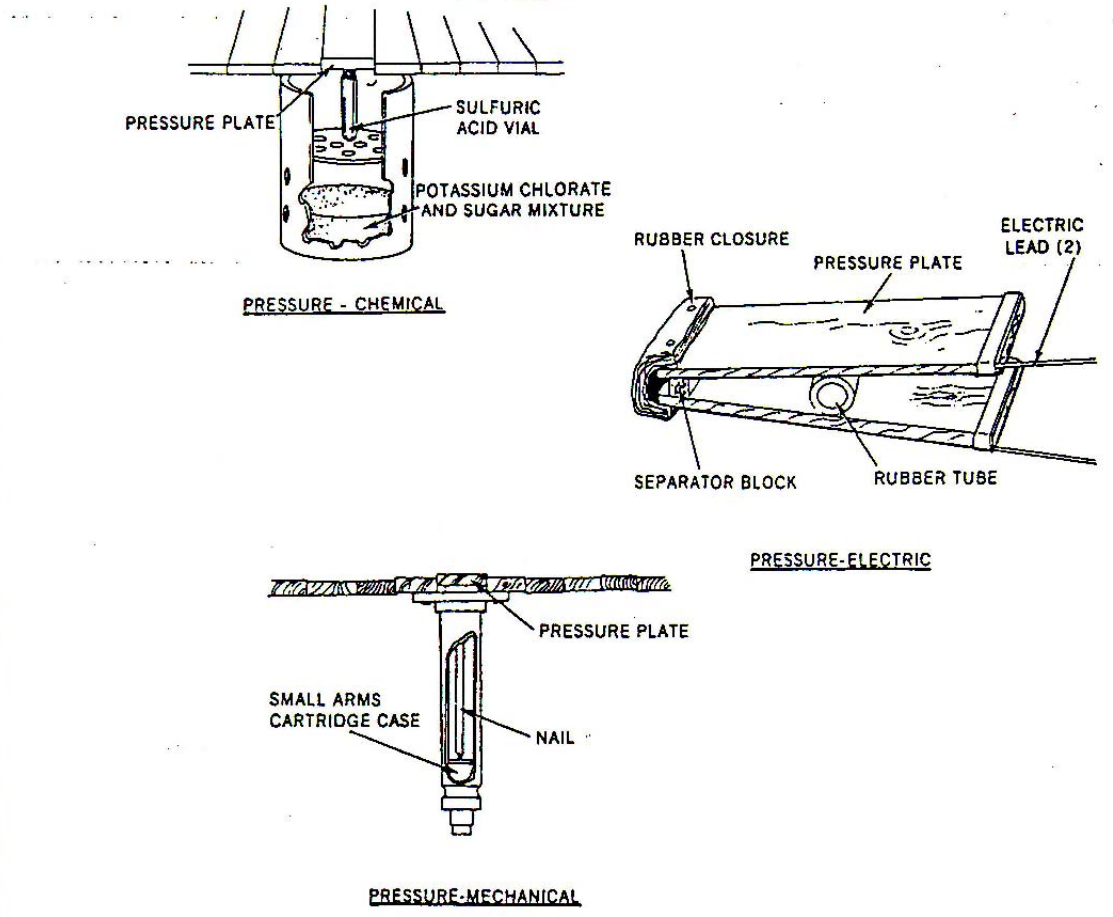

Figure 3

J) PRESSURE FIRING DEVICES

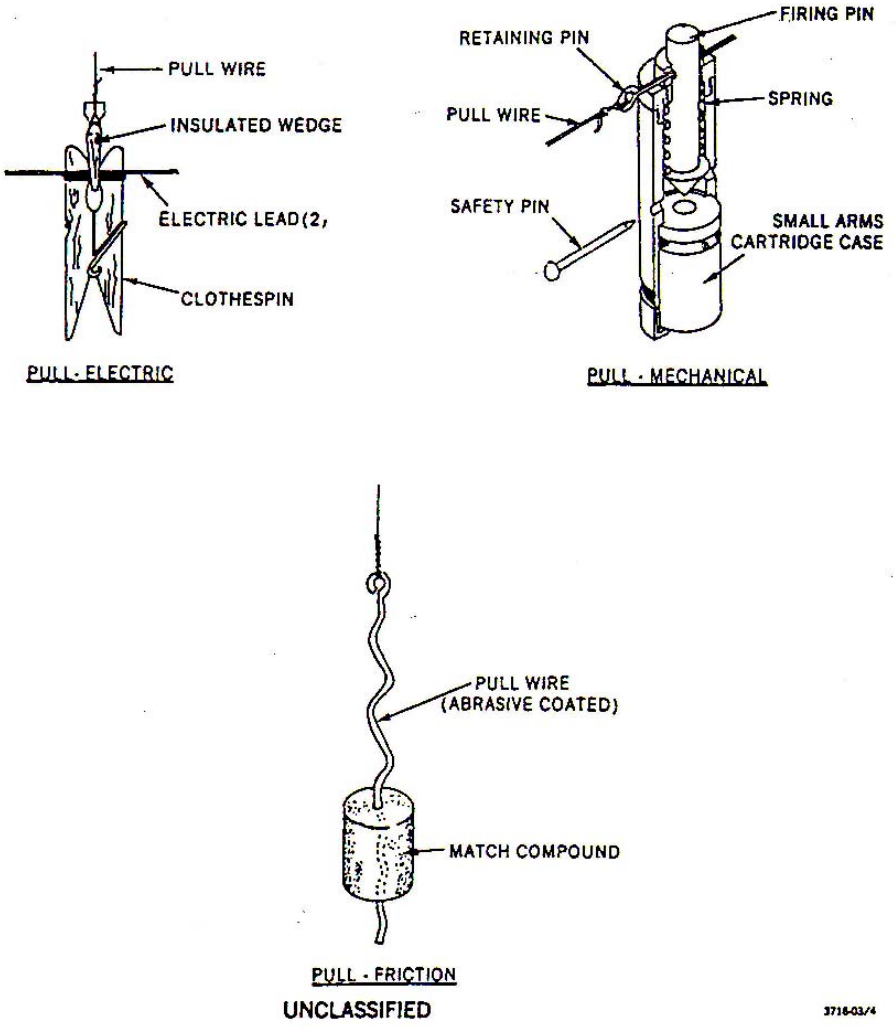

Figure 4

J) PULL FIRING DEVICES

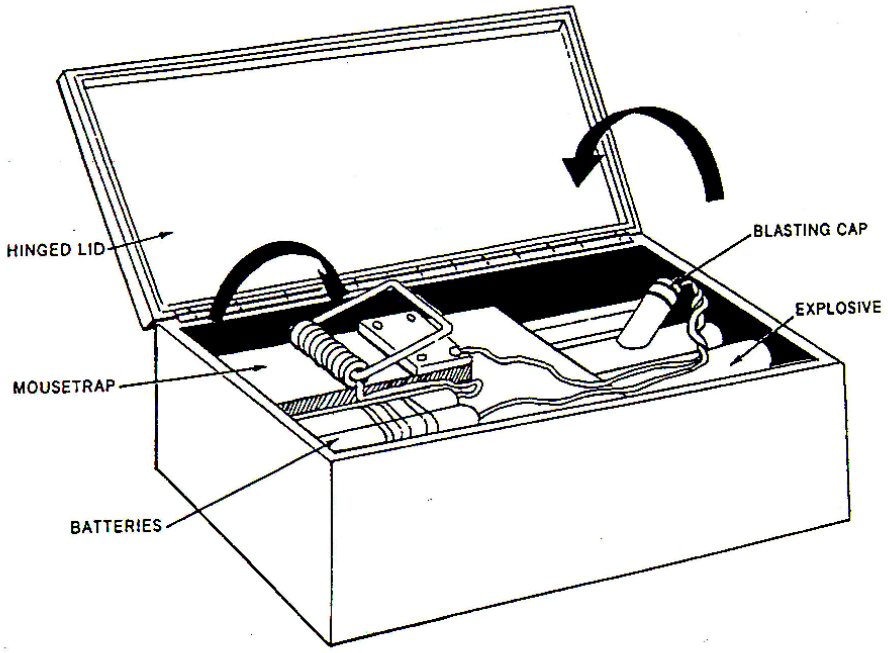

Figure 5

PRESSURE-RELEASE FIRING DEVICE

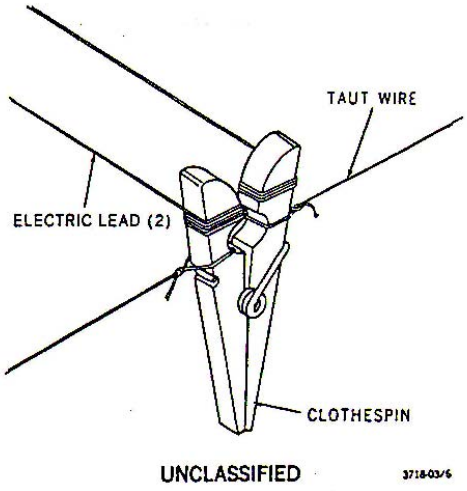

Figure 6

) TENSION-RELEASE FIRING DEVICE

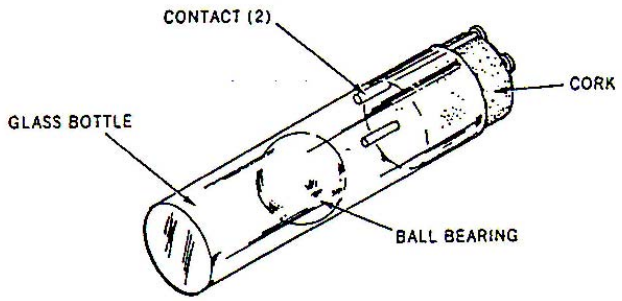

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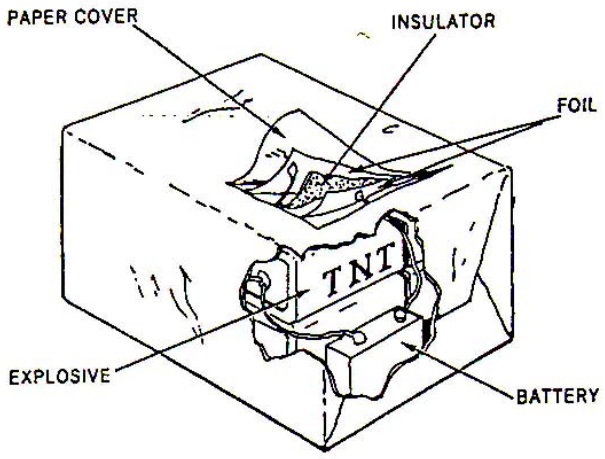
Figure 7

J) TILT FIRING DEVICE



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3718-03/9

Figure 9

ANTIPROBE FIRING DEVICE

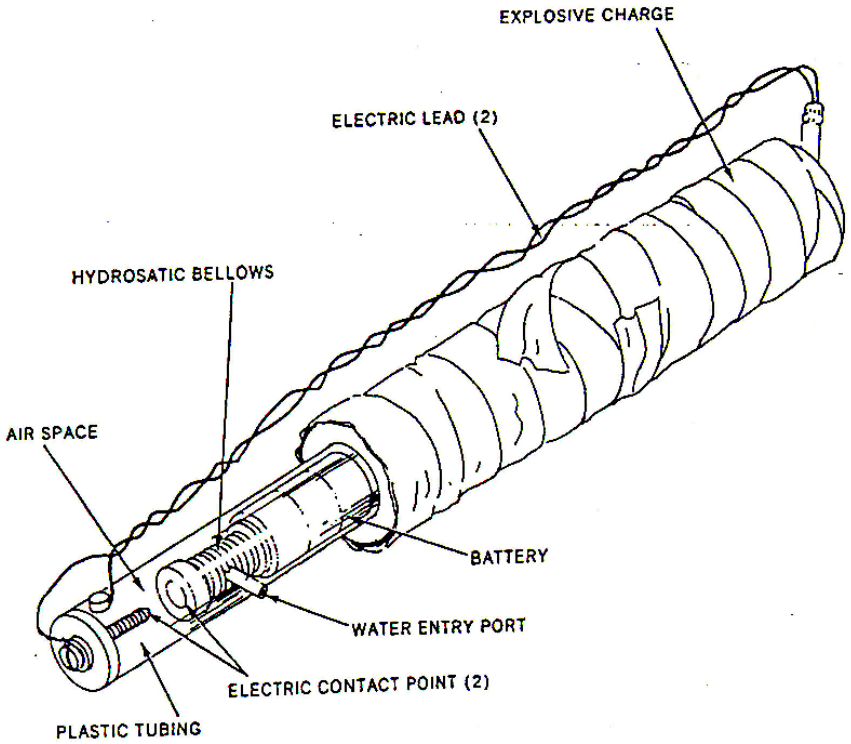

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Figure 10
HYDROSTATIC PRESSURE FIRING DEVICE

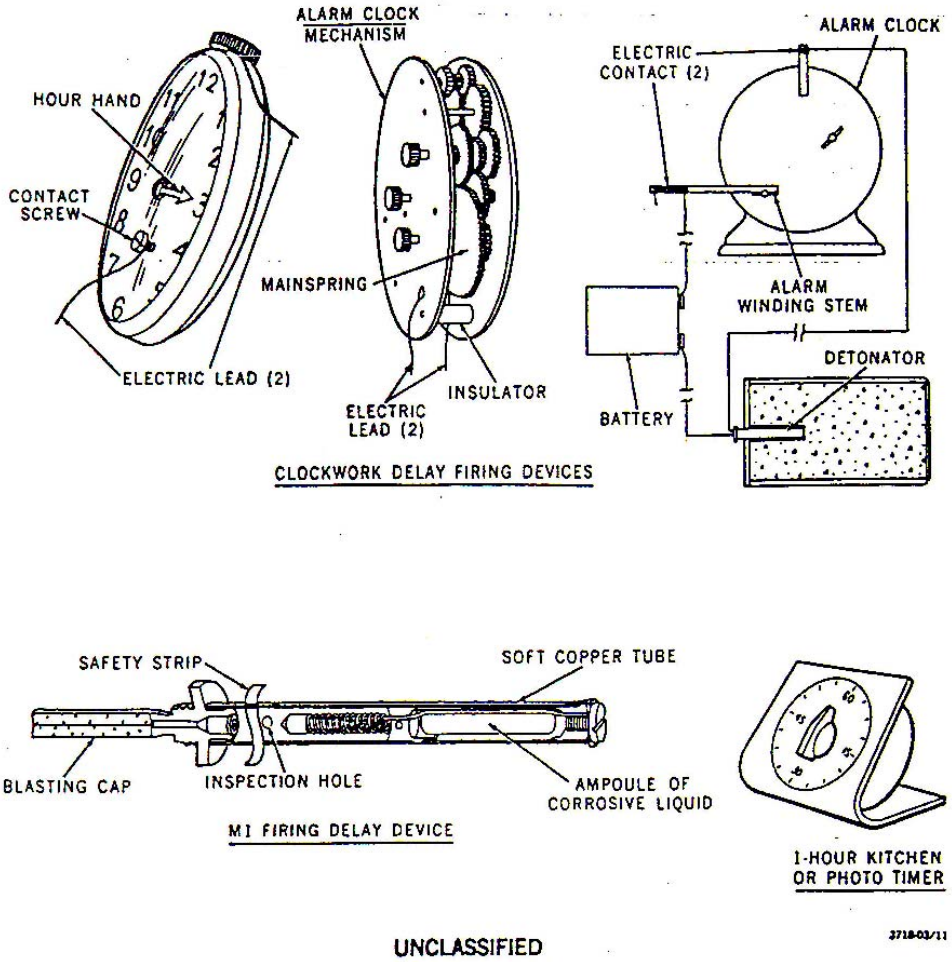

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Figure 11

TIME-DELAY FIRING DEVICES

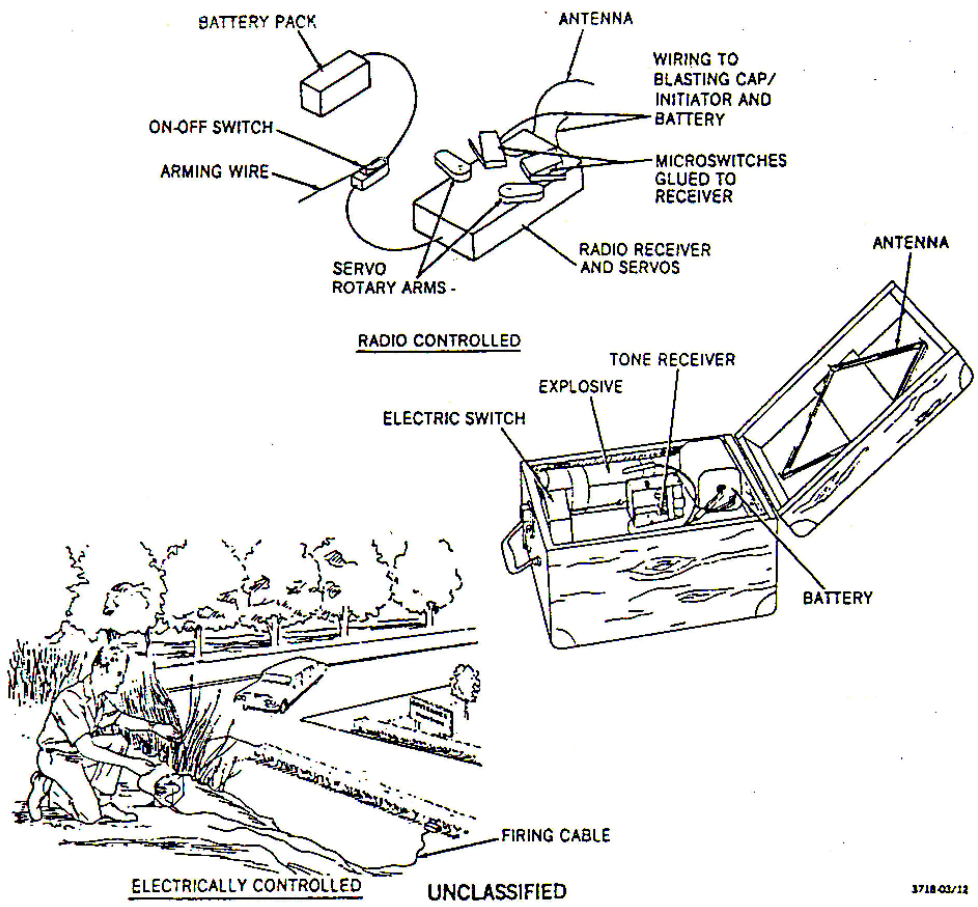

Figure 12

CONTROLLED FIRING DEVICES

Appendix J: Company Officer Course Slides

Slide 1-1

Emergency Response to Terrorism
TC: Company Officer

Unit 1: Introduction to Terrorist Operations

Slide 1-2

Terminal Objective

Upon completion of this unit, you will gain an understanding of terrorist operational concepts & planning criteria.

1-2

Slide 1-3

Enabling Objectives

- Identify the phases of terrorist operational planning
- Identify terrorist target criteria & methods of operation
- Identify responder vulnerabilities that enhance the effectiveness of a terrorist act

1-3

Slide 1-4

Controversies of Terrorism

- Dynamic subject
- New subjects constantly appearing
- Catch 22

1-4

Slide 1-5

Terrorism Replacing Conventional Warfare

- Traditional warfare too costly
- Terrorism is comparatively cheap
- Sponsoring nations can remain relatively anonymous
- Terrorist or freedom fighter?

1-5

Slide 1-6

"Terror" in Terrorism?

- Intense, sharp, overmastering fear
- Public has to believe the terrorist will use violence
- No belief = no terror

1-6

Slide 1-7

Terrorism: Last Resort

- Traditional channels have not yielded desired results
- Desperation overcomes fear
- Leads to extreme violence
- Willingness to sacrifice = extreme acts

1-7

Slide 1-8

Operational Methods

- Variety of tactical options, like military
- Some large scale, extensive planning
- Some small scale, little planning
- Some take hours, days, or weeks

1-8

Slide 1-9

Types of Attacks

- Ambushes
- Assassinations
- Bombings
- Radiological/Nuclear
- Chemical
- Biological
- Arson
- IEDs
- Booby traps
- Sabotage

1-9

Slide 1-10

Types of Terrorist Targets

- Primary targets—most critical or valuable to terrorist
  - People
  - Infrastructure
  - Property
- Secondary targets—specific overall importance, but not main focus of effort
- Targets of opportunity

1-10

Slide 1-11

3 Phases of Terrorist Planning

Overview

- Target analysis
- Intelligence gathering
- Operational plans

1-11

Slide 1-12

Target Analysis

- Criticality
- Vulnerability
- Accessibility
- Recovery
- Impact

1-12

Slide 1-13

Intelligence Gathering

- Knowledge of:
  - Organizational capabilities
  - Target's defensive/protective capabilities
  - Geography
  - Target population

1-13

Slide 1-14

Operational Plan Development

- ID personnel & supply needs
- ID materials necessary to attack target
- Plan entrance & egress avenues
- Establish timing of activities

1-14

Slide 1-15

Operational Plan Development (cont.)

- Prepare agent, device, and delivery mechanism
- ID transportation requirements
- Formulate contingency plan
- ID secondary targets & targets of opportunity

1-15

Slide 1-16

Why Target First Responders?

- Fire and rescue service integral part of society
- Provides essential service
- Cause overwhelming fear for the public
- 1st properly staffed to arrive
- Delay rescue & fire suppression
- Instill fear in other responders

1-16

Slide 1-17

Summary

- Terrorists may be well-trained
- May reflect intelligence & planning
- Responders no longer are exempt; subject to acts of terrorism as targets
- Operational awareness

1-17

Slide 1-18

Activity 1.1

Does My Response Area Have a Potential Target?

1-18

Slide 2-1

Emergency Response to Terrorism
TC: Company Officer

Unit 2: Common Considerations for Response Actions

Slide 2-2

Terminal Objective

Given a scenario, the students will be able to identify the common considerations for response actions when dealing with a terrorism attack.

2-2

Slide 2-3

Enabling Objectives

- List key vulnerability issues that may hinder operations during primary & secondary response actions
- Identify preplanning response action considerations for acts of terrorism
- Identify and list response, incident site & offsite security considerations

2-3

Slide 2-4

Preresponse Considerations

- Known terrorist incident
  - Higher awareness level
  - Initiate preplanned actions
- Unknown terrorist incident
  - Initially a standard emergency call
  - Must recognize and identify clues

2-4

Slide 2-5

Preplanning & Intelligence Considerations

- The need to plan
  - Risk analysis
  - Information sharing is vital
  - Exercise & evaluate developed plan
  - Continuous revisions
  - CO must stay familiar with plan

2-5

Slide 2-6

Preplanning & Intelligence Considerations (cont.)

- Standard Operating Procedures/Standard Operating Guidelines
  - Take rules & regulations into consideration
  - Address collection and processing of information
  - Use clear text for secure communications
  - Preplan

2-6

Slide 2-7

Preplanning for the Consequences of Terrorism

- May be more challenging than routine incidents
- Multiple local, State & Federal agencies will respond
- Multiple casualties/fatalities possible
- Current tactics & equipment may need refining

2-7

Slide 2-8

Preplanning for the Consequences of Terrorism (cont.)

- Existing information-sharing protocols may be insufficient
- Responders may be the target of the attack
- Traditional risk analysis may fail to identify terrorist targets
- WMD can affect entire communities or regions

2-8

Slide 2-9

Preparing for the Consequences of Terrorism

- Identify critical systems/facilities
  - Vulnerability
  - Mitigation & response capabilities
- Assess local & regional resource capabilities
- Protect responders & general population
- Assess vulnerability of potential targets

2-9

Slide 2-10

Preparing for the Consequences of Terrorism (cont.)

- Coordinate/Integrate planning among critical components & facilities
- Develop training program that integrates local, State & Federal resources
- Ensure the capability to handle mass casualties/fatalities, both contaminated & uncontaminated

2-10

Slide 2-11

Preparing for the Consequences of Terrorism (cont.)

- Develop necessary safety procedures
- Establish mutual aid agreements
- Create prescripted announcements regarding appropriate protective actions
- Increase readiness

2-11

Slide 2-12

Vulnerability Assessment

- Purpose—determine shortfalls & weaknesses of response to terrorist acts
- Assistance of law enforcement necessary for security-related areas
- Knowledge of local plan critical

2-12

Slide 2-13

Vulnerability Assessment: Areas to Consider

- Operation sites
- Response routes (primary & secondary)
- Command & control sites
- Potential for IED (Improvised Explosive Device) & secondary device

2-13

Slide 2-14

Vulnerability Assessment Areas to Consider (cont.)

- Preplanned & proposed staging areas
- Communications plans (primary & secondary)
- Medical operations
- Medical receiving facilities
- Casualty collection points
- Mortuary facilities (fixed & temporary)
- Evacuation sites

2-14

Slide 2-15

Vulnerability Assessment Areas to Consider (cont.)

- Personnel & equipment resources
- Resupply resources
- Security resources
- Mass casualty response resources (transportation, medical, command & control)
- Responder knowledge of B-NICE threat and outward warning signs

2-15

Slide 2-16

Vulnerability Assessment Areas to Consider (cont.)

- Responder self-protection measures training

2-16

Slide 2-17

Response Issues

- Incident priorities
  - Life safety (protection and preservation)
  - Incident stabilization/controlling chaos
  - Environmental/Property conservation
- Primary actions: Early actions--the first 30 to 60 minutes
- Secondary actions
  - Sustained actions beyond first 60 min
  - Security continues throughout incident

2-17

Slide 2-18

Protective Actions: Hazard

- Known or perceived danger
- Chemical agents, HazMat, hazardous conditions

2-18

Slide 2-19

Protective Actions: Risk/ Vulnerability

- Risk
  - Being exposed to a known or perceived danger/hazard
  - Is either acceptable or unacceptable
- Vulnerability—disadvantage, exposed position
- Threat—the hazard

2-19

Slide 2-20

Protective Actions: Protection

- Assess vulnerability
- Reduce an unacceptable risk to an acceptable level
  - If assessment is incorrect, protective measures may be inadequate or wrong

2-20

Slide 2-21

Protective Actions: Security

- Review/revise SOP's/SOG's to reflect security-related issues
  - Assign law enforcement for protection
  - Establish response routes & staging areas
  - All facets of operations & support considerations

2-21

Slide 2-22

Protective Actions: Security (cont.)

- Emergency response plans should identify potential target sites
- Incorporate intelligence sharing among agencies
- Identify and use self-protective measures

2-22

Slide 2-23

Protective Actions: Security (cont.)

- Response security--en route security measures
  - Establish response routes & corridors
  - ID primary & alternate routes
  - ID choke points
  - Designate rallying points

2-23

Slide 2-24

Protective Actions: Security (cont.)

- Incident site security--on-site protective measures
  - Command and control centers
  - Rest & rehab areas
  - Outer and inner perimeters
  - Staging Areas

2-24

Slide 2-25

Protective Actions: Security (cont.)

- Incident site security—on-site protective measures (cont.)
  - Access control points
  - EMS work areas
  - Emergency responders
  - RIT
  - Decon sites

2-25

Slide 2-26

Protective Actions: Security (cont.)

- Offsite security—impacts on incident site operations
  - Hospital facilities
  - Evacuation centers
  - Shelter-in-place locations
  - Communication centers
  - Mortuary facilities

2-26

Slide 2-27

Protective Actions: Security (cont.)

- Offsite security--impact on incident site operations (cont.)
  - Emergency response stations
  - Recovery operation sites
  - Emergency operations center

2-27

Slide 2-28

Protective Actions to Enhance Survivability

- Inspection procedures for personnel & equipment
- Responder ID system
- Emergency egress plans for the site and work zones
- RIT

2-28

Slide 2-29

Protective Actions to Enhance Survivability (Cont)

- Alternate ICP's
- Diversionary or ruse tactic
- Methods of alternative & secure communications
- Detailed checklist to query involved personnel

2-29

Slide 2-30

Weather Overview

- Present & forecasted

2-30

Slide 2-31

Present & Forecasted Weather

- Humidity
- Barometric pressure
- Inversion gradient (stable)
- Neutral gradient (neutral)
- Lapse gradient (unstable)
- Clear skies/cloud cover

2-31

Slide 2-32

Topographical Characteristics

- Natural & manmade characteristics
  - Dead ends
  - Canyons & gullies
  - Buildings

2-32

Slide 2-33

Impact of Topography

Physical Properties of the Agent

- To advance uphill?
- To park at the bottom of a hill?
- To approach from downwind?
- To deviate from your plan?

2-33

Slide 2-34

Zone & Perimeter Issues

- In clear language & concise
- Must communicate well
- Cross all boundaries, countries, & agencies involved
- Use labels that:
  - ID the hazard
  - ID what/who needs protection

2-34

Slide 2-35

Zone & Perimeter Issues (Cont)

- Need names & placement
- Security
- Hazardous conditions

2-35

Slide 2-36

Summary

- May be more challenging than normal incidents
- Develop pre-incident plans
- Protective actions
- Maximize life preservation

2-36

Slide 2-37

Activity 2.1

Common Considerations for Responses to Terrorism

2-37

Slide 2-38

Activity 2.1 (cont.)

- Present Weather Conditions
  - The sky has 100 percent cloud cover. The wind is 7 mph, out of the north. Humidity is >80 percent; temperature 82°F; dew point 76°F; inversion at 150 feet.

2-38

Slide 3-1

Emergency Response to Terrorism: TC: Company Officer

Unit 3: Recognition & Survival

Slide 3-2

Terminal Objective

Upon completion of this unit, the students will be able to identify and evaluate information and explain how it relates to establishing protection measures at a suspected terrorist event.

3-2

Slide 3-3

Enabling Objectives

- ID initial reconnaissance requirements
- ID unique site characteristics associated with responses to potential terrorist-related incidents

3-3

Slide 3-4

Recognition & Survival

- Basic questions to keep in mind: How well can we
  - Recognize incident clues, outward warning signs & indicators & interpret that information;
  - Interpret information gathered by dispatchers & eyewitnesses;
- Recognition enhances survivability

3-4

Slide 3-5

Minimizing Losses

- Hard decisions
- Policy governing withdrawal supports difficult decisions
- Losses are minimized, never accepted

3-5

Slide 3-6

Initial Reconnaissance

- Definitions
- Dangerous–recon team is exposed
- Information-gathering process
- Samples are taken
- Part of preplanning

3-6

Slide 3-7

Site Characteristics

- Can possibly ID exact nature of attack
- Assist in determining strategies and tactics
- Assumptions may cause operation paralysis (fear to perform duties)

3-7

Slide 3-8

Identification

- Ask yourself the following questions:
  - Are conditions present for disaster?
  - Who/What is target(s) of attack?
  - Is a hazard/threat present?
  - Does topography influence the potential hazard?

3-8

Slide 3-9

Identification (cont.)

- Ask yourself the following questions: (cont.)
  - Is location restricted in access and egress?
  - Is weather stable, neutral, or unstable?
  - Is there just something that "feels wrong or doesn't look right"?

3-9

Slide 3-10

Biological

- General Information
  - Liquid, power, aerosolized
  - Usually not necessary to isolate large areas
  - Victims should not be symptomatic on scene
  - Does not require immediate removal of victims clothing or decon in the street

3-10

Slide 3-11

Biological (cont.)

- General Information (cont.)
  - Little potential for cross-contamination from powered agents/spores on clothing
  - Inhalation is the primary route of entry
  - SCBA and structural PPE provide adequate protection for first responders
  - Difficult to detect

3-11

Slide 3-12

Biological (cont.)

Protecting Yourself Against Biological Agents

- SCBA, air purifying respirator (APR)
- Structural firefighting gear or level C
- Decon as appropriate for incident
- Medical observation
- Blood-borne pathogen universal precautions

3-12

Slide 3-13

Biological (cont.)

- Meteorological considerations
  - Best time for attack is dusk, night or dawn
  - Wind speed 5-30 mph best for aerosol dispersal
- Methods of dissemination
  - Food & water contamination
  - Use of vectors
  - Liquid slurry or powder–most likely
  - Hard to keep organisms alive long enough to produce effect

3-13

Slide 3-14

Biological Agent Reference Chart

Agent	Persistency	Dissemination	Transmission (person to person)	Incubation	Lethality
Anthrax	Spores remain viable in soil for years	Spores in aerosol	No (except cutaneous)	1-5 days	High
Cholera	Unstable in aerosols and water	Ingestion and aerosol	Rare	12 hours to 6 days	Low with treatment
Plague	1 year in soil; 270 days in bodies	Aerosol	High	1-3 days	High if untreated
Tularemia	Months in moist soil	Aerosol	No	1-10 days	Moderate if untreated
Q Fever	Months	Ingestion and aerosol	Rare	14-16 days	Very low
Smallpox	Very stable	Aerosol	High	10-12 days	Low
VEE	Unstable	Aerosol and infected vectors	Low	1-6 days	Low
Ebola	Unstable	Contact and aerosol	Moderate	4-16 days	Moderate to high
Botulinum Toxin	Weeks	Ingestion and aerosol	No	Hours to days	High
T-2 Mycotoxins	Years	Ingestion and aerosol	No	2-4 hours	Moderate
Ricin	Stable	Ingestion and aerosol	No	Hours to days	High
Staphylococal Enterotoxin B	Resistant to freezing	Ingestion and aerosol	No	Hours	<1%

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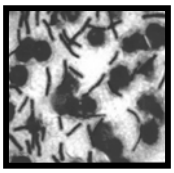
Slide 3-15

Potential Bacteria and Rickettsia

- Anthrax
- Plague
- Tularemia
- Q Fever



Anthrax Bacillus

3-15

Slide 3-16

Potential Viral Agents

- Smallpox
- Venezuelan Equine Encephalitis (VEE)
- Viral Hemorrhagic Fever

Smallpox Virus

3-16

Slide 3-17

Bacterial Toxins

- Botulinum toxin
- Staphylococcus Enterotoxins
- Ricin
- Mycotoxins

Botulinus Bacteria

3-17

Slide 3-18

Nuclear/Radiological

- General Information
  - May be solid, liquid, or gas
  - Unlikely to find high levels distant from the source
  - Not necessary to isolate large areas
  - Victims should not be sick or symptomatic on the scene
  - Exposure does not require immediate gross decontamination

3-18

Slide 3-19

Nuclear/Radiological (cont.)

- General Information (cont.)
  - Time, distance, and shielding are appropriate self-protective measures
  - SCBA and structural PPE provide adequate protection for first responders
  - Radiation can be detected with meters

3-19

Slide 3-20

Incendiary Agents

3-20

Slide 3-21

Incendiary Use

- Used in 20-25% of all bombing incidents
- Ignited with 75% reliability
- Less than 5% preceded by a threat

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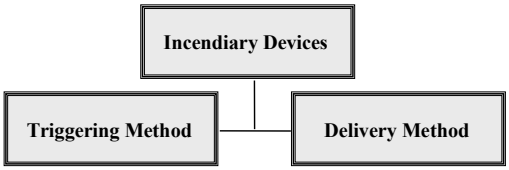
Slide 3-22

Classifying Incendiary Devices



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Outward Warning Signs and Indicators

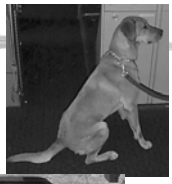
- Written or Verbal Warnings
- Trailers
- Multiple Fire Locations
- Signs of Accelerants
- Flammable Liquid Containers
- Splatter Patterns
- Fusing Residue
- Signs of Forced Entry
- Common Appliances Out of Place

3-23

Slide 3-24

Detection Methods

- Colormetric tubes
- Combustible gas meters
- Flame ionization detectors
- Trained dogs
- Photoionization detectors



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Slide 3-25

Chemical Agents

- General Information
  - Watch for outward warning signs
  - May be dispersed numerous ways
  - Signs/Symptoms will provide valuable clues
  - Agent may be non-persistent, semi-persistent, or persistent
  - Symptomatic patients require immediate emergency gross decontamination and definitive medical care

3-25

Slide 3-26

Chemical Agents (cont.)

- Key terms
  - Vapor pressure
  - Volatility/Persistency
  - Common name and military designation/symbol
  - Rate of action/onset time
  - Symptoms & portal of entry
  - Toxicity
  - Concentration x time = dose

3-26

Slide 3-27

Categories of Chemical Agents

- Categories
  - Nerve agents
  - Blister agents
  - Choking agents
  - Blood agents
  - Irritants

3-27

Slide 3-28

Chemical Agents

- Nerve Agents
  - Liquids
  - Vapors are heavier than air
  - Inhalation and skin absorption hazard

3-28

Slide 3-29

Chemical Agents (cont.)

- Blister Agents
  - Liquids
  - Vapors are heavier than air
  - Inhalation, skin and eye contact hazard

3-29

Slide 3-30

Chemical Agents (cont.)

- Choking Agents
  - Gases
  - Heavier than air
  - Inhalation and skin/eye contact hazard

3-30

Slide 3-31

Chemical Agents (cont.)

- Blood Agents
  - Gases
  - Lighter than air
  - Inhalation and skin absorption hazard

3-31

Slide 3-32

Chemical Agents (cont.)

- Irritants
  - Aerosols
  - Irritates mucous membranes

3-32

Slide 3-33

Chemical Agents (cont.)

- Influencing factors
  - Temperature
  - Humidity
  - Precipitation
  - Wind speed and direction
  - Area of dispersal
  - Indoors/Outdoors

3-33

Slide 3-34

Chemical Agents (cont.)

- Evaluating signs/indicators
  - Animal deaths, lack of insects
  - Mass casualty scene or definite casualty pattern
  - Blisters and rashes
  - Illness associated with area
  - Unusual liquid droplets

3-34

Slide 3-35

Chemical Agents (cont.)

- Evaluating signs/indicators (cont.)
  - Areas with abnormal appearance
  - Unexplained odors, unusual objects or debris
  - Witness accounts
  - Low-lying vapor clouds

3-35

Slide 3-36

Chemical Agents (cont.)

- Potential symptoms of chem agent exposure
  - Skin irritation/difficulty breathing
  - Loss of consciousness/convulsions
  - Eye/Nose/Throat irritation
  - SLUDGEM
  - Sudden headache
  - Dimness of vision
  - Strange and confused behavior

3-36

Slide 3-37

Chemical Agents (cont.)

- Chemical
  - How deployed
    - Introduced into air handling system
    - Attaching explosive device to chemical containers
    - Use of aerosolizing/misting devices

3-37

Slide 3-38

Chemical Agents (cont.)

- Dissemination methods–include explosive, thermal, pneumatic & mechanical means
- Commercial delivery systems

3-38

Slide 3-39

Explosives

- General Information
  - Any type of package, envelope, backpack, vehicle, etc., could be an IED
  - Devices may contain anti-personnel features
  - Explosives may disseminate radiological, chemical, or biological agents

3-39

Slide 3-40

Explosives (cont.)

- General Information (cont.)
  - High intensity blast may injure people, displace structural components, and carry fragmentation
  - Explosion may produce secondary hazards
  - Be alert for secondary devices
  - Only EOD trained personnel should search for, or handle explosives

3-40

Slide 3-41

Explosives (cont.)

- Outward Warning Signs
  - Verbal or written threats
  - Abandoned containers
  - Oversize letters or packages
  - Devices attached to cylinders
  - Wires, caps, boosters

3-41

Slide 3-42

Explosives (cont.)

- Conditions likely to affect operations
  - Possibility of ambush
  - Preblast or postblast event
  - Size of device and type of explosives
  - Proximity of device to exposures
  - Evacuation and protection variables
  - Number, location, and condition of casualties
  - Condition of damaged structure(s)

3-42

Slide 3-43

Explosives (cont.)

- Conditions likely to affect operations (cont.)
  - Response capabilities; available technical resources
  - Response time of needed resources
  - Duration of incident
  - Training of responders
  - Level of resources committed
  - Effective risk analysis

3-43

Slide 3-44

Crime Scene & Preservation of Evidence

- Evidence recognition–can be dangerous to responders (e.g., unexploded devices)
- Coordination between law enforcement and fire and EMS

3-44

Slide 3-45

Crime Scene & Preservation of Evidence (cont.)

- Coordination between law enforcement and fire and EMS aids in evidence preservation
  - Evidence documentation
  - Identification
  - Mapping
  - Photography
  - Packaging
  - Other chain-of-custody issues

3-45

Slide 3-46

Summary

- Understanding dangers related to B-NICE threats and events enhances responder safety
- Interagency cooperation and training aids in an effective response
- Recognition means survival

3-46

Slide 3-47

Activity 3.1

Recognition & Survival for Responses to Terrorism

3-47

Slide 4-1

Emergency Response to Terrorism
TC: Company Officer

Unit 4: Terrorism Response Strategies and Tactical Options

Slide 3-48

Activity 3.1 (cont.)

- Present
  - It is Monday, 0945 hours. The sky is about 75% covered with clouds. The wind is 4 mph, out of the south. Humidity is 64%; temperature 74°F; dew point is 68°F; inversion at 150 ft.

3-48

Slide 4-2

Terminal Objective

Upon completion of this unit, the students will be able to explain how a specific response strategy for a given scenario and proposed tactical options will increase responder survivability and response effectiveness.

4-2

Slide 3-49

Activity 3.1 (cont.)

- Topographical Information
  - There are several office parks:
    - Northeast Corner
    - South of Central on the parkway
    - Meadows Circle
- Most of the ground slopes toward the river in the center of the map. The river runs to the south

3-49

Slide 4-3

Enabling Objectives

- Explain how the strategic goal in a given scenario as well as the tactical options available will enhance the effectiveness of the response.
- Identify the general concerns that affect tactics to combat terrorism.

4-3

Slide 4-4

Enabling Objectives (cont.)

- List and explain self-protective measures that will enhance overall responder survivability when responding to acts of terrorism.

4-4

Slide 4-5

Introduction

- Response to terrorism may differ significantly from normal response
- Use common, as well as terrorist-specific, response actions
- Company Officer is usually responsible only for initial strategies, not those later in incident

4-5

Slide 4-6

Common Response Strategies for Terrorism

Overview

Traditional Response Strategies	
Isolation	Fire Control
Notification	Leak Control
Protection	Spill Control
Identification	Termination
Life Safety	

4-6

Slide 4-7

Common Response Strategies for Terrorism

- Even traditional strategies require a different approach for terrorism
- Lack of resources & higher levels of risk may rule out some strategies

4-7

Slide 4-8

Tactical Options - Isolation

- First-arriving officer establishes zone
  - Zone may have been established by law enforcement
  - First-arriving officer assesses & alters zone, if needed

4-8

Slide 4-9

Isolation - Considerations

- Same criteria as traditional, plus security considerations
- Denying access to & isolating the hazard area
- Initiating hazard control procedures
- Establishing emergency evacuation lanes or corridors
- Initiating public protection actions (evacuation or shelter-in-place)

4-9

Slide 4-10

Isolation - Considerations (cont.)

- Topography
- Weather factors
- Staging Area
- Security-related issues

4-10

Slide 4-11

Isolation - Tactical Options

- Tactical options for establishing isolation zones
  - Must be able to recognize terrorist event has occurred
  - Law enforcement has primary responsibility for security
    - First responder may have to assume this responsibility if no law enforcement present

4-11

Slide 4-12

Isolation - Defensive Actions

- First responders must consider themselves potential targets
- Defensive actions for self-preservation
- Cover versus concealment
  - Cover—provides physical protection
  - Concealment—only hides from sight
  - Initial isolation phase: first opportunity to seek cover

4-12

Slide 4-13

Isolation - Knowledge

- First responders' best "weapon" in response is knowledge
  - Recognizing terrorist-related threat if present
  - Ensuring safety of fellow responders & public

4-13

Slide 4-14

Tactical Options - Notification

- Terrorist attacks may require different response
- Notification process initially can affect entire response operation
- Known terrorist incidents should trigger specific response protocols
- Most incoming calls won't identify incidents as terrorism

4-14

Slide 4-15

Notification - Dispatch

- Dispatchers & 911 operators need checklist of warning signs
- If terrorism is known/suspected, dispatcher should activate notification process
  - Within ERP's & SOP's/SOG's
  - Notification of designated agencies
  - Notification of law enforcement
  - Activation of local mass casualty plan

4-15

Slide 4-16

Notification - Considerations

- Information officer to address media & community
- Potentially, public notification required
  - Impending danger of chemical hazard
  - Warning to remain clear of incident area
- Comprehensive preplanning is the best method to ensure effective notification

4-16

Slide 4-17

Tactical Options - Protection

- Traditional response plus measures specifically for protection from terrorism
- Hazard/Risk analysis essential
- Vulnerability assessment
  - Determines organizational & individual responder shortfalls/weaknesses
  - Should encompass all terrorism response issues

4-17

Slide 4-18

Protection - Assessment After Notification

- Initiated before responders move toward potential danger
- Continues through entire response
  - Includes
    - Evaluation of information obtained from caller
    - Security-related assets available
    - Response route vulnerability

4-18

Slide 4-19

Protection - Assessment After Notification (cont.)

- Equipment and personnel staging areas
- Incident site characterization
- Availability of EOD support
- Rapid egress route(s)
- Availability of detection and protective equipment
- Availability of specially trained personnel
- Rally points
- Communications among responding agencies

4-19

Slide 4-20

Protection - Vulnerability Assessment

- Vulnerability assessment
  - Aids Company Officer in determining
    - Whether unacceptable risk can be rendered acceptable
    - Protective measures for improving responder survivability

4-20

Slide 4-21

Protection - Tactical Protective Measures

- Tactical protective measures
  - At site, assess hazard, determine measures appropriate for circumstances
  - Protective measures based on specific threat
  - Training includes
    - How to determine effective cover
    - Recognizing outward warning signs involving B-NICE threats
- Onsite security observations

4-21

Slide 4-22

Onsite Security Observations

- Visual surveillance recognition
- Hoax considerations
- Increase level of threat awareness
- Ambush attacks--usually at choke points
- Observation

4-22

Slide 4-23

Protection - Responder Self-Protective Measures

- Approach all incident sites with extreme caution
- Request law enforcement for security support
- Maintain radio contact with dispatcher
- Conduct recon of routes, site(s) and staging areas
- Position apparatus to facilitate rapid egress
- Locate multiple egress routes
- Use clear-text to communicate
- Advise incoming units of all potential dangers
- Maintain situational awareness at all times

4-23

Slide 4-24

Protection - Cover

- Effective cover
  - Heavy structures & thick metals
  - Masonry buildings & walls
- Below-grade shelter could prove dangerous during a chemical attack
- Terrorists may attack probable cover locations

4-24

Slide 4-25

Protection - Responder Safety

- Special safety concerns about explosives
- Potential contamination at site from chemical or biological agents
- Do not touch or move anything at scene except to save lives

4-25

Slide 4-26

Tactical Options - Identification

- What appears to be a routine incident may end up being a terrorist incident
- Recognizing indicator/warning signs is vital
  - Improves responder survival rate
  - Minimizes losses to responders & public

4-26

Slide 4-27

Life Safety

- Responder protection
- Isolate and secure
- Remove viable/endangered from hazard area (self-evacuation)
- Perform decontamination: rescuers/ victims
- Provide medical treatment/transport

4-27

Slide 4-28

Tactical Options - Fire, Spill & Leak Control

- Mitigation practices similar to traditional response
- Fire, spills & leaks may be used deliberately against responder & public
  - May also be used as decoy or ruse
- Maintain situational awareness & observe security precautions

4-28

Slide 4-29

Tactical Operations Specific to Terrorism: Biological

- Response Recommendations:
  - Position uphill/upwind and away from building exhaust systems
  - Stage incoming units
  - Isolate/Secure the area. Use DOT-ERG Guide 158
  - Establish Command
  - Size up the incident
  - Make notifications

4-29

Slide 4-30

Tactical Operations Specific to Terrorism: Biological (cont.)

- Point Source:
  - Isolate the immediate area/deny entry
  - Wear appropriate PPE
  - Avoid contacting agent
  - Wash contaminated victims
  - Collect a sample for testing
  - Hold victims for test results
  - Notify hospital/health professionals
  - Protect evidence/crime scene

4-30

Slide 4-31

Tactical Operations Specific to Terrorism: Biological (cont.)

- Threat: No Physical Evidence:
  - Isolate the building, keep occupants inside
  - Determine "credibility" of threat
  - Have building representatives search the facility
  - If nothing is found, building can be turned over to management
  - If a device/agent is found, treat as a point-source, or a confirmed dispersed event
  - Protect evidence/crime scene

4-31

Slide 4-32

Tactical Operations Specific to Terrorism: Biological (cont.)

- Confirmed Agent or Device:
  - Isolate the area
  - Remove occupants from the building and isolate them
  - Wear appropriate PPE
  - Avoid contacting agent
  - Shut down HVAC

4-32

Slide 4-33

Tactical Operations Specific to Terrorism: Biological (cont.)

- Confirmed Agent or Device: (cont.)
  - Collect a sample for testing
  - Decon victims in showers or enclosed area if test results are positive
  - Notify hospital/health professionals
  - Protect evidence/crime scene

4-33

Slide 4-34

Tactical Operations Specific to Terrorism: Nuclear/ Radiological

- Response Recommendations
  - Position uphill/upwind
  - Stage incoming units
  - Isolate/secure the area. Use DOT-ERG Guide 163.
  - Establish Command
  - Size up the incident

4-34

Slide 4-35

Tactical Operations Specific to Terrorism: Nuclear/ Radiological (cont.)

- Response Recommendations (cont.)
  - Wear appropriate PPE
  - Use detection devices to determine if material is present
  - Move patients away from the source
  - Decon contaminated victims
  - Notify hospitals
  - Preserve evidence/crime scene

4-35

Slide 4-36

Tactical Operations Specific to Terrorism: Chemical Agents

- Response Recommendations
  - Approach from uphill/upwind
  - Stage incoming units
  - Isolate/Secure the area. Deny entry. Use DOT-ERG Guide 153 (liquids) or Guide 123 (gases)
  - Establish Command

4-36

Slide 4-37

Tactical Operations Specific to Terrorism: Chemical Agents (cont.)

- Response Recommendations (cont.)
  - Keep all contaminated/exposed victims at the outer edge of the hot zone
  - Complete a sizeup and hazard/risk assessment
  - Make notifications
  - Request additional resources as required

4-37

Slide 4-38

Tactical Operations Specific to Terrorism: Chemical Agents (cont.)

- Response Recommendations (cont.)
  - "3/30 min." rule for structural PPE and SCBA

4-38

Slide 4-39

Tactical Operations Specific to Terrorism: Chemical Agents (cont.)

- Response Recommendations (cont.)
  - Determine signs and symptoms of patients, number of patients, and extent of injuries

4-39

Slide 4-40

Tactical Operations Specific to Terrorism: Chemical Agents (cont.)

- Response Recommendations (cont.)
  - All first responders entering the hot zone must wear SCBA and full structural PPE at a minimum. Do not enter
    - High concentrations
    - Unventilated areas
    - Below grade areas

4-40

Slide 4-41

Tactical Operations Specific to Terrorism: Chemical Agents (cont.)

- Response Recommendations (cont.)
  - Move patients to the outer edges of the hot zone, away from the high-hazard area
  - Segregate symptomatic patients in one area, and asymptomatic patients in another
  - EMS providers (proper PPE) may administer antidotes if appropriate
  - Set up emergency gross and/or mass decontamination-system as required

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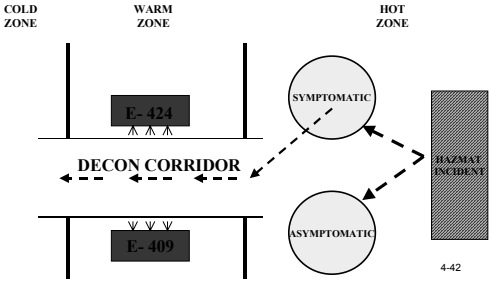
Slide 4-42



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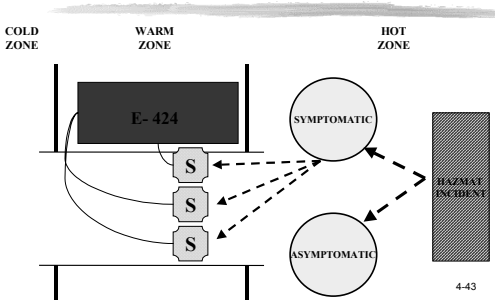

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Slide 4-44

Victim Removal

- Should be Away From All Contaminated Sources
- Isolate to Prevent Further Contamination
- Use Only Limited Number of Personnel
- Use Maximum Level of Protection Available (Structural gear & SCBA)

4-44

Slide 4-45

SITE SETUP

- Establish Water Supply
- Hose Lines or Showers
- Decon Workers
- Locate Clean Site for Decontaminated Patients

4-45

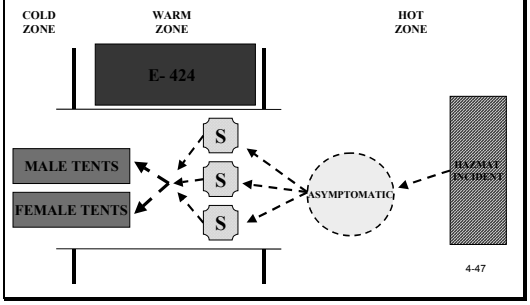
Slide 4-46

Tactical Operations Specific to Terrorism: Chemical Agents (cont.)

- Response Recommendations (cont.)
  - Viable, symptomatic patients will be the first priority for decontamination
  - HMRT members in chemical PPE may enter the high-hazard area for rescue, reconnaissance, and agent identification
  - Deconed patients should be forwarded to EMS in the cold zone for further triage and treatment
  - Decontaminate asymptomatic patients next. Protect their privacy
  - Preserve evidence/crime scene

4-46

Slide 4-47



Slide 4-48

Tactical Operations Specific to Terrorism: Explosives

- Response Recommendations Pre-Blast:
  - Gather information regarding the threat, location, and device
  - Stand-off distance based on local protocol, EOD recommendations, size of the device
  - Stage units from direct line-of-sight and use barriers
  - Isolate and deny entry

4-48

Slide 4-49

Tactical Operations Specific to Terrorism: Explosives (cont.)

- Response Recommendations Pre-Blast: (cont.)
  - Do not approach, touch or search for any devices
  - Discontinue radio use in accordance with local protocol
  - Make notifications
  - Size up the potential site for life safety, exposures, water supply, etc.
  - Develop an action plan for potential detonation

4-49

Slide 4-50

Tactical Operations Specific to Terrorism: Explosives (cont.)

- Response Recommendations Post-Blast: (cont.)
  - Gather information from dispatcher
  - Stage a minimum of 500 feet or where debris is first encountered
  - Stage incoming units at a greater distance
  - Establish command
  - Isolate and deny entry
  - Remove all citizens and ambulatory victims
  - Discontinue radio use in conjunction with local protocol

4-50

Slide 4-51

Tactical Operations Specific to Terrorism: Explosives (cont.)

- Response Recommendations Post-Blast: (cont.)
  - Size up the incident
    - Number of patients/injuries
    - Other hazards
    - Exposures
  - Complete a hazard and risk assessment
  - Request additional resources
  - Make notifications
  - Have P.D. secure an outer perimeter
  - Have EOD/canine check the C.P. and staging areas for secondary devices

4-51

Slide 4-52

Tactical Operations Specific to Terrorism: Explosives (cont.)

- Response Recommendations Post-Blast: (cont.)
  - If it is determined that entry must occur:
    - Personnel should only enter for life saving purposes (viable patients)
    - Wear full PPE/SCBA
    - Use minimum number of people
    - Quickly remove patients from the blast area and triage/treat in a safe area

4-52

Slide 4-53

Tactical Operations Specific to Terrorism: Explosives (cont.)

- Response Recommendations Post-Blast: (cont.)
  - If it is determined that entry must occur:
    - Haz mat personnel should monitor for chemical, flammable, radioactive, and industrial agents
    - Attempt to control utilities and protect exposures from defensive positions
    - Evacuate immediately if there is any sign of a secondary device
    - Preserve evidence/crime scene

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Tactical Options - Preservation of Evidence

- Terrorist incident = crime scene.
- Emergency responders should minimize actions that would interfere with successful prosecution.
- Fire service and EMS personnel have special responsibilities when responding to crime scenes.
- Evidence is just as important as at an arson scene.

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Slide 4-55

Preservation of Evidence - Evidence Recognition

- Responders are NOT evidence collectors, but must understand the importance of recognition and preservation
- Evidence recognition is important skill
  - Preserves valuable evidence for law enforcement
  - Evidence of terrorist act can also be dangerous to responders
  - Recognition training available through law enforcement

4-55

Slide 4-56

Preservation of Evidence - Responder as Witness

- Responders are potential witnesses
- Should not touch or remove anything unless necessary
- 3 critical factors
  - Scene documentation
  - Preservation of evidence
  - Chain of custody

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Slide 4-57

Preservation of Evidence - Responder and Evidence

- Responders take away evidence from the scene
  - On clothing
  - On shoes
  - On equipment
- Close coordination between fire, EMS and law enforcement improves chances that evidence will not be destroyed

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Slide 4-58

Preservation of Evidence - Responder and Evidence (cont.)

- Successful prosecution of the terrorist may depend on responders' actions.

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Slide 4-59

Summary

- During terrorist incident, strategies and tactical options require broader evaluation than during conventional incident
- Response will employ many traditional strategies modified for terrorist incidents

4-59

Slide 4-60

Summary (cont.)

- Some strategies are not normally considered in routine responses
  - Reconnaissance
  - Rescue
  - Evidence preservation
- Responder self-protective measures are critical factors in improving overall responder survivability

4-60

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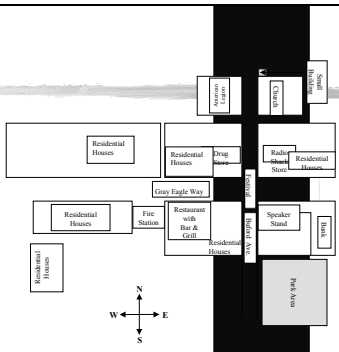
Activity 4.1

Tactical Options

4-61

Slide 4-62



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Slide 4-67

Slide 4-68

Slide 5-1

Slide 5-2

Terminal Objective

Identify incident Command transition considerations.

5-2

Slide 5-3

Enabling Objectives

- Identify the strategic and tactical changes anticipated.
- Identify conditions that promote a safe and effective transition of command.

5-3

Slide 5-4

Transition of Command

- Occurs for a number of reasons
  - Strengthens incident management
  - Transitions outside/within an agency
- Effective protocols are crucial

5-4

Slide 5-5

The Transition Briefing

- Five main areas in transition briefing
  - Situation
  - Strategies
  - Tactical measures
  - Logistics and admin issues
  - Communications with divisions/groups

Overview

5-5

Slide 5-6

Transition Briefing - Situation

- Concise and clear picture
  - Overall incident scene
  - Actions underway
  - Resources
    - Equipment resources on hand
    - Equipment available elsewhere
    - Number of emergency personnel (on hand, en route, potential need)

5-6

Slide 5-7

Transition Briefing - Situation (cont.)

- Briefing by law enforcement
  - Security-related concerns
  - Security measures already taken
  - Measures to be implemented as incident grows
  - Evidence preservation procedures
- Involvement of outside agencies
  - Those already involved
  - Any support or assistance requested

5-7

Slide 5-8

Transition Briefing - Situation (cont.)

- Zones
  - Initial zones and how they were distinguished
  - Terminology
    - Different organizations vary
    - Zones may be labeled by function
- Location of Staging Areas

5-8

Slide 5-9

Transition Briefing - Strategy

- Strategies initially identified by first-arriving officer
- Tactical actions taken to meet strategic goals
  - Information may be lost in command transition, resulting in confusion and lost time

5-9

Slide 5-10

Transition Briefing - Strategy (cont.)

- Information on isolation and notification and any modifications
- Resource needs and availability
- Any other information required to reevaluate initial strategies
- Briefing should not take much time

5-10

Slide 5-11

Transition Briefing - Tactical Measures

- First commander's tactical measures dictated by limited availability of resources
- Primary focus--life safety
- Allow enough time for detailed briefing on self-protection and rescue efforts
- Re-evaluation and validation of rescue strategies

5-11

Slide 5-12

Transition Briefing - Logistical and Administrative

- As important as other points
- Documentation
  - Time consuming
  - Info on ineffective operations
  - All problems encountered since arrival
  - Make/use notes

5-12

Slide 5-13

Transition Briefing - Logistical and Administrative (cont.)

- Documentation (cont.)
  - Equipment and personnel resources
  - Accountability
  - Staging area and assets within
- Rest and rehabilitation

5-13

Slide 5-14

Transition Briefing - Logistical and Administrative (cont.)

- Hazards and risk
  - What risk did they pose to responders?
  - Was risk acceptable and why?
  - Were any protective measures initiated in expectation of change?

5-14

Slide 5-15

Transition Briefing - Logistical and Administrative (cont.)

- Emergency egress plan
  - Plan for evacuating if conditions deteriorate.
  - Have several alternative plans
  - Include route and signal designated to initiate withdrawal
  - Designated on maps

5-15

Slide 5-16

Communications with Subordinate Positions

- How incident site is being managed
- Subordinate functions
- Unified Command System, if outside agencies are involved

5-16

Slide 5-17

Communications with Subordinate Positions (cont.)

- Communications methods
  - Radio frequencies
  - Cell-phone numbers
  - Pager numbers
  - Fax numbers
  - Operating channels
  - Telephone numbers

5-17

Slide 5-18

Summary

- Transition briefing should include information on:
  - Situation
  - Strategies
  - Tactical measures
  - Logistics and admin issues
  - Communications
  - Command structure

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Slide 5-19

Summary (cont.)

- Initial commander should use notes and documentation during transition briefing
- What gets left out may be exactly what's needed later
- Take sufficient time to conduct the transition briefing properly

5-19