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Heather M. Savage

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The Implementation of Homeland Security Efforts in Response to Organizations: Monroe County, New York Case Study

Heather M. Savage

2005

Graduate Thesis submitted in Partial fulfillment of the requirement for the degree of Master of Science in Environmental, Health & Safety Management

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5/24/05

5/31/05
The Implementation of Homeland Security Efforts in Response
Organizations:
Monroe County, New York Case Study

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Abstract

The events from 9/11 have prompted many changes in American society. Perhaps the biggest change can be seen in the Emergency Response field. The initial response to the events of 9/11 was a huge push at readying responders for future attacks. However, it can now be seen throughout the response community that the initial emphasis on terrorism readiness has turned into complacency and that the goal of fully preparing each responder has not yet been attained. There are many factors preventing the physical and mental preparation of each Emergency Responder and these factors range from lack of funding to lack of desire. Emergency Response is a product of preparedness. The purpose of this study was to determine if the initiative to prepare responders both physically and mentally at the local and county level in western New York due to the effects of 9/11, and to the new Homeland Security initiative have been successful. Comprehensive research in the form of a literature review was completed and provided the framework for the study. Interviews with responders representing the three different types of fire departments, at both the city and town levels from within Monroe County, New York were completed. Analysis of the results from the interviews shows that while the western New York local area has made some pretty big steps in preparing emergency responders for a terrorist attack, it still has a ways to go in successfully preparing responders from every department.

Key Words: 9/11, Emergency Response/Preparedness, Terrorism, Physical/Mental Preparation, Responder, Homeland Security, Fire Departments, Monroe County, New York.
1.0 Introduction

There have been many changes in the emergency response/civil service fields that have been prompted by the terrorist events of 9/11. The shift in political culture and mind sets over the past four years have prompted many changes in the way Americans live their lives and the way that we look at each and every emergency event. No longer is a small chemical spill considered just another routine event. Because of this, emergency responders have had to change their roles from the traditional "get the cat out of the tree" role to now responding to multi casualty terrorist incidents.

The newly developed Department of Homeland Security (DHS) has been in the forefront of the push to ready America, and its responders for the possibility of another terrorist attack on America's soil. The DHS has provided billions of dollars to response agencies to fund such things as new education classes on terrorism and weapons of mass destruction, equipment that would be used to respond to a terrorist event and

Experience is the greatest asset that a responder can possess when responding to an incident. It allows the responder to have the skills necessary to successfully and safely respond to an incident as well as providing the thought process they must have while responding to an incident. Experience can be gained best through first hand response to an incident however, in the case of terrorism, since a terrorist incident is very unlikely to occur, experience has to be gained through education and training. By providing responders with education and training in the areas of terrorism and weapons of mass destruction, they will have the awareness level necessary to successfully and safely respond to a potential terrorist incident.
The new training concept of the NBC Delta has taken effect and involves combining the already used methods of response with the concepts of chemical, biological and nuclear terrorism. Response procedures that were utilized in the past are still practiced today in the new standard operating procedures (SOP), however in addition to those standards; the new concepts relating to terrorism are now being included. Along with the physical response changes that must now take place, the mindset of the responder must also change. By changing the mindset of the emergency responder based on newly developed curriculum, training and decision-making capabilities, a more effective response will occur.

1.1 Statement of Topic

This study will examine the response concerns for responding to an emergency as related to Fire Department response prior to 9/11 as well as the new Homeland Security initiative to prepare responders for another terrorist incident in order to see if responders are at the readiness level they should be at. The study will take place at the county level within Monroe County, New York to see specifically if responders in the county are ready and then relate findings to the overall response community. Also, this study will determine additional response concerns that need to be examined and addressed in the future. This study can be related to other jurisdictions around the country and will provide the background and techniques necessary to complete a similar study in another jurisdiction.

Current procedures for responding to emergencies add the new dimensions of the idea of “non-accidents”, or terrorist activity. This equates to new procedures for preserving a scene for investigation and new hazards that exist that were not prepared for
and taken into account for in the past. In order to benefit from the new procedures in place it first becomes necessary to examine how the responders’ abilities must change in order to allow the new response procedures to be productive. Also, an examination of how to change the mindset will be looked at and includes the new training in place, the curriculum included and the decision-making abilities of the responder. This paper will focus on three areas: traditional emergency response prior to 9/11, current response needs after 9/11 including the changing perspective of the responder, and how the changing needs can be implemented into the traditional response system. A comparison of the new standards to those being utilized within Monroe County will be completed and the results analyzed to further determine what is being done and if determined, what needs to be done.

While the term Emergency Response generally includes fire, EMS and police, the focus of this study will deal strictly with fire department response at both the career and volunteer level, as responders in the fire field are primarily in command and are the primary responders to an emergency situation. Despite the recent emphasis on terrorism readiness, the emergency response community is still not fully prepared physically or mentally too adequately and successfully respond to a terrorist situation.

1.2 Significance of Topic

Events since 9/11 have taken on a new meaning. Although a few major events prior to 9/11 were the result of a terrorist attack, it wasn’t until 9/11 that the emergency response scene opened its eyes to the possibility that not all emergencies are the result of an accident. A new focus on weapons of mass destruction that could be used in a terrorist attack became the new focus of emergency response. This had the effect of not only
opening the eyes of all citizens to the possibility of an non-accidental emergency, but also started the development of new techniques and procedures for response that began at the federal level and worked downward to the individual responding agencies.

By examining the way that emergencies were responded to prior to 9/11 and the new response procedures in place since 9/11 it becomes possible to see what has changed and what needs to change even further.

As shown in table 1 below, there are several new dimensions in responding to a terrorist related event then to the traditional hazardous material incident. Examination of the changes also allows for the ability to evaluate how the responders’ abilities need to change and how to begin to successfully accomplish this. Once this can be determined, it becomes possible to make changes in procedures that will be successful in accomplishing the goal of a successful response if such a situation were to ever arise.

Table 1

<table>
<thead>
<tr>
<th>Event characteristic</th>
<th>*HMI</th>
<th>*NBCTI</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deliberate Attack</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Greater Agent Toxicity</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Early Hazard Identification</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Potential for Mass Casualties</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Need for Mass Decontamination</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Excessive risk to responders</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Scene Preservation/Investigation</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Major coordination with Federal/State/Local agencies</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Health care facilities quickly overwhelmed</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Secondary devices that target responders</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

*HMI – Hazardous Materials Incident
*NBCTI – Nuclear/Biological/Chemical Terrorist Incident
(SBCCOM)
1.3 **Reason for Interest**

This topic is very applicable to our current times. No longer is an emergency incident to be looked at as an accident in the early stages of response, that is, until the responders have arrived and the cause determination has officially been made, an incident that may appear to be a typical accident on the surface may actually have been an intended one. If this is so, as it was determined to be on 9/11, then a typical response may not only put the responder’s lives at risk, but also numerous other citizens as well as property. Despite all the changes that have been made thus far, many responders including fire, police and EMS still take for granted that an incident is still an accident. This is due to pre 9/11 view that is often the hardest element to change in response procedures. Investigation on this topic will not only lead to the determination if emergency responders are properly trained on responding to acts of terrorism, but will also determine what, if anything can be done to improve the current state of emergency response.

1.4 **Definition of Terminology**

**Awareness** - Vigilance in observing or alertness in drawing inferences from what one experiences.

**Biological** - Biological agents are organisms or toxins that can kill or incapacitate people, livestock and crops. The three basic groups of biological agents, which would likely be used as weapons, are bacteria, viruses, and toxins.

**Chemical** - Chemical warfare agents are poisonous vapors, aerosols, liquids or solids that have toxic effects on people, animals or plants. They can be released by bombs, sprayed
from aircraft, boats, or vehicles, or used as a liquid to create a hazard to people and the environment.

**Emergency Response** - A response effort by employees from outside the immediate release area or by other designated responders (i.e., mutual aid groups, local fire departments, etc.) to an occurrence which results, or is likely to result, in potential safety or health hazard to an individual, or a community.

**Homeland Security** - Reducing the consequences of weapons of mass destruction incidents by enhancing the preparedness, protection, and response capabilities of local, state, and federal agencies.

**NBC Delta** - The term used to describe the change in emergency response that includes not only utilizing the standard response procedures, but also includes the concepts of nuclear (N), biological (B) and chemical (C) terrorism.

**Nuclear** - Radiological accidents can occur wherever radioactive materials are used, stored or transported. In addition to nuclear power plants, hospitals, universities, research laboratories, industries, major highways, railroads or shipping yards could be the site of a radiological accident.

**Protective Measures** – Specific steps an organization shall take to reduce its vulnerability or increase its ability to respond during a period of heightened alert.

**Standard Disaster Preparedness** - Techniques and methods used to respond and prepare for to a non-terrorist incident such as a chemical spill or a natural disaster.
Standard Operating Procedure (SOP) - A written policy in place that governs the way that a particular incident or event is handled.

Terrorism - Terrorism is defined in the Code of Federal Regulations (28 C.F.R. Section .85) as "the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives." International, or domestic persons or groups can attain this.

Weapon of Mass Destruction (WMD) - A type of weapon that is designed to kill a significant number of people, usually civilians but also potentially military personnel. In the past has been associated with such things as explosives, however nuclear, biological and chemical weapons are now of additional concern.

1.5 Monroe County Demographics

Monroe County and the City of Rochester (Figure 1) are located on the south shore of Lake Ontario, in the Finger Lakes Region of Upstate New York. The area (663.21 square miles) is accessible through the Greater Rochester International Airport, Amtrak and Conrail, the New York State Thruway, and the New York State Erie Canal. It is located within 400 miles of major metropolitan areas such as New York City, Toronto, Boston, Philadelphia, and Cleveland. Rochester/Monroe County is a four-season community (Monroe County, 2005). The total population of Monroe County is 735,343 and the City of Rochester population is 219,773.
1.5.1 Monroe County Fire Department Demographics

Monroe County has 19 towns, 10 villages and the city of Rochester (Table 1). There are 40 Fire Departments that are broken up into five Battalions plus the City of Rochester. There are three categories of departments: career only, volunteer only and combination. There are three departments in Monroe County that are considered career, or paid only departments, these include the Greater Rochester International Airport Fire Department, the City of Rochester Fire Department and the Ridge Road Fire Department. There are twelve combination departments consisting of both career and volunteer members and twenty four volunteer only departments (Monroe County Fire Wire, 2005). For the purpose of this study, career departments will also include combination departments since the characteristics of these departments are most like career only departments.

There are currently approximately 3700 fire fighters in Monroe County including both volunteer and career members. This includes 3200 members at the town level and 500 city Firefighters.
### Table 2

**Monroe County Fire Departments broken down by Battalions**

<table>
<thead>
<tr>
<th>Battalion 1</th>
<th>Battalion 2</th>
<th>Battalion 3</th>
<th>Battalion 4</th>
<th>Battalion 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laurelton*</td>
<td>Barnard*</td>
<td>Brighton*</td>
<td>Airport**</td>
<td>Henrietta*</td>
</tr>
<tr>
<td>Point Pleasant</td>
<td>Brockport</td>
<td>Bushnell’s Basin</td>
<td>Bergen</td>
<td>Honeoye Falls</td>
</tr>
<tr>
<td>Ridge Culver*</td>
<td>Hamlin</td>
<td>East Rochester</td>
<td>Chili</td>
<td>Rush</td>
</tr>
<tr>
<td>Saint Paul*</td>
<td>Hilton</td>
<td>Egypt</td>
<td>Churchville</td>
<td>West Brighton*</td>
</tr>
<tr>
<td>Sea Breeze</td>
<td>Lake Shore</td>
<td>Fairport</td>
<td>Clifton</td>
<td></td>
</tr>
<tr>
<td>Union Hill*</td>
<td>Morton</td>
<td>Fishers*</td>
<td>Gates Chili*</td>
<td></td>
</tr>
<tr>
<td>Webster</td>
<td>North Greece*</td>
<td>Mendon</td>
<td>Mumford</td>
<td></td>
</tr>
<tr>
<td>West Webster</td>
<td>Ridge Road**</td>
<td>Penfield</td>
<td>Scottsville</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Spencerport</td>
<td>Pittsford*</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Walker</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

City of Rochester**

**Key**

Volunteer Only

*Combination

**Career Only
2.0 Literature review

Terrorists can strike anytime, anywhere. Crop dusters, power generating plants, dams and reservoirs, crops, livestock, trains and highways are among the resources that could be targets. Homeland security in rural areas is just as important as homeland security in America's largest cities.

First responders from communities outside city areas who must protect large geographic areas with small populations face many response challenges. In fact, over half of our firefighters protect small or rural communities of fewer than 5,000 people. Many of these communities rely upon volunteer departments with scarce resources. Fewer than 10% of counties surveyed by the National Association of Counties said they are prepared to respond to a bio-terrorist attack (First Responders, 2005).

America's first line of defense in any terrorist attack is the first responder community which include local police, firefighters, and emergency medical professionals. Properly trained and equipped first responders have the greatest potential to save lives and limit casualties after a terrorist attack. Currently, our capabilities for responding to a terrorist attack vary widely across the country. Many areas have little or no capability to respond to terrorist attack using weapons of mass destruction. Even the best prepared states and localities do not possess adequate resources to respond to the full range of terrorist threats we face.

Facts about First Responders (The White House, 2003):
There are over 1 million firefighters in the United States, of which approximately 750,000 are volunteers.

Local police departments have an estimated 556,000 full-time employees including about 436,000 sworn enforcement personnel.

Sheriffs' offices reported about 291,000 full-time employees, including about 186,000 sworn personnel.

There are over 155,000 nationally registered emergency medical technicians.

2.1 Past Issues in Emergency Response

The function of the fire department is to protect lives and property from fire and other natural and man-made hazards (The White House, 2003). The primary focus on training and response within the fire department prior to 9/11 was on seven major areas: fire suppression, fire prevention/education, hazardous materials, rescue operations, motor vehicle accidents, medical calls, and code enforcement. Each of these job duties remain an integral part of the fire service, however in today’s times there are the added areas of terrorism and weapons of mass destruction which were often unheard of areas in many departments prior to 9/11.

Future terrorist attacks can hopefully be prevented by the work of law enforcement officials and various government agencies. Preparing to respond to this type of catastrophe is very similar to contingency planning undertaken for other types of man-made or natural disasters. Proactive and integrated planning, coordination, training, and realistic drills will allow each community to respond to these events in an organized, efficient manner, using available Federal, State, and Local resources. Disaster
preparedness for NBC threats is termed the NBC “Delta”, meaning difference or change, and emphasizes that training for NBC WMD is in addition to standard disaster preparedness (Southern Illinois, 2003).

Prior to 9/11 about $20 billion in the budget went to homeland security and combating terrorism. A total of $10.6 billion was dedicated to homeland security out of the initial $40 billion in emergency funds appropriated by Congress. In the aftermath of the 9/11 terrorist attacks, the President has since created the Department of Homeland Security. In turn, the 2003 budget request “nearly doubles funding for a sustained strategy of homeland security, focused on four key areas: bio-terrorism, emergency response, airport and border security, and improved intelligence,” up from $19.5 billion to $37.7 billion (World Policy, 2002). Prior to 9/11 the response needs as they related to terrorism tended to focus on explosives and arson incidences with very little if no mention of the possibilities of nuclear, chemical, or biological attacks.

2.1.1 Volunteer Department Concerns

One of the major concerns faced by response departments in the past and still exists today is the fact that 73 percent of departments in the United States are strictly volunteer departments with a total of approximately 800,000 members (National Fire, 2005). This number has declined by approximately ten percent over the past ten years. Fire Departments fall into one of three categories, paid, or career only, volunteer, or unpaid only, and a combination of both career and volunteers. The difference in status of the department has several different impacts and implications.

Volunteer firefighters are the first line defenders against fires, medical emergencies, terrorist threats, hazardous materials incidents, trench collapses, high and
low angle rescues, and other types of specialized rescue in many communities across the country. Volunteer firefighters protect 43 percent of the country’s population. In 1996, there were approximately 815,500 volunteer firefighters in the United States. Of the 31,503 fire departments in the country, 89 percent are all or mostly volunteer (Fire Summit, 1996).

There are several different areas within the volunteer fire service that aren’t seen in career departments that are a cause for concern. These issues have not only existed in the past within volunteer departments, but still exist today, on top of modern day concerns.

- **Recruitment/Retention** – The number of new volunteer fire fighters has declined by about ten percent over the past five years. This is opposite the trend for service which has increased by about ten percent over the past five years.

- **Training** – Volunteers are required by federal standard to attend annual refreshers for classes in hazmat, hazardous communications, blood borne pathogens (BBP), and live fire training. There is no mandatory class in terrorism or WMD thus far nor is there mention of such issues in already mandated training.

- **Equipment** – Volunteer departments often have difficulty obtaining updated equipment. This is usually due to funding concerns.

- **Funding** – Volunteer departments often do not receive the necessary funding to stay current with training and equipment. Grants are available for volunteer departments however it is sometimes difficult for small volunteer departments to adequately apply for them.

- **Management** – There is often issues with the management in volunteer departments. This is due often times to the increase in responsibility level and
time commitment. There is often a problem with properly training leaders in the volunteer fire service.

- Response time – Due to the hectic schedules most people have, it is often times difficult to get the required number of personnel to respond to a call for assistance. The fact that many responders do not live close to the fire department also creates a concern over response time.

2.2 New Response Concerns

The major concerns in Emergency Response departments throughout the past five years have changed from what they were prior to 9/11 to what they currently are today. Modern concerns not only include the new concerns of terrorism, but still include the problems seen in recent years which make it difficult to bring responders to the level of preparedness where they should be. This not only affects the community served by the response organization, but also directly affects each and every responder in the field.

Responder needs have been largely under anticipated in the past. This is due in large part because they have been based largely on experiences gained from responding to natural and man-made disasters, which may not be an accurate predictor of conditions responders could face in a determined terrorist attacks. This means that there are several new dimensions to responding to a potential terrorist incident that responders must take into account to ensure their own safety and the safety of their fellow responders.

One distinction between responding to deliberate attacks and responding to natural disasters is that a scene could become an intentional hostile environment for responders. In order to heighten the physical and psychological outcomes, terrorists may
deliberately target emergency response capabilities including the responders themselves as well as their equipment. For example, terrorists could well use secondary devices specifically intended to harm first responders and civilian onlookers. Explosives are commonly used for this purpose, but other weapons might be employed as well. Employing small amounts of various chemical, biological, toxin, or radiological agents in the secondary attack against first responders might further confuse a coordinated response (Heritage, 2003).

The new Department of Homeland Security as well as updated legislation in emergency response has begun to set the new standard for responder preparedness and response to emergency situations. They also have provided the blueprints for departments to follow in order to achieve the new minimum standards of response. By recognizing the new threats to responders as well as the new changes and initiatives in place, responders will be better prepared to recognize possible terrorist events and provide a safer response to such instances.

2.2.1 Homeland Security

Homeland Security hasn’t always been an item of concern to both the American government and the citizens. It was not until the attack on the World Trade Center in February 1993 did homeland security become an item of immediate concern. The World Trade Center bombing which killed six people was the first indication that terrorists were thinking about attacking U.S. national territory. Two years later the demolition of the Arthur P. Murrah Federal Building in Oklahoma City made homeland security unavoidably important to the country (Watson, 2002).
Homeland security can be defined as an aggressive, active movement to prevent terrorist activity of any kind from ever occurring in the homeland, in our case, the U.S.A. (Watson, 2002). This includes and is not limited to new agencies being established, new legislation and new training being given to emergency personnel.

The terrorist attacks of September 11 struck at the very heart of the American homeland. It was a new form of total war in the age of terrorism, and it put all Americans on notice that the United States is dangerously vulnerable and that new means are urgently needed to strengthen the security of the homeland (Heritage, 2003). At the heart of the new changes in emergency response needs is the idea of homeland security. The creation of the Homeland Security Office was accelerated by the events of 9/11, but was already in the works prior to the attack. Soon after the attacks, President George W. Bush asked former Governor of Pennsylvania Thomas Ridge to be the first director of homeland defense (Watson, 2002). As President Bush stated in his address to the nation on November 8, 2001 “The government has a responsibility to protect our citizens, and that starts with homeland security.”

In January 2003, the Department of Homeland Security became the nation’s 15th and newest cabinet department. This office has several objectives and is at the forefront of the new national security missions. The mission of the Office will be to develop and coordinate the implementation of a comprehensive national strategy to secure the United States from terrorist threats or attacks. The Office coordinates the executive branch's efforts to detect, prepare for, prevent, protect against, respond to, and recover from terrorist attacks within the United States (The White House, 2003). The Office will work with executive departments and agencies, state and local governments, and private
entities to ensure the adequacy of the national strategy for detecting, preparing for, preventing, protecting against, responding to, and recovering from terrorist threats or attacks within the United States and will periodically review and coordinate revisions to that strategy as necessary (The White House, 2003). The three main strategic goals and objectives of the Department of Homeland Security are to:

1. Prevent terrorist attacks within the United States.
2. Reduce America's vulnerability to terrorism.
3. Minimize the damage and recover from attacks that do occur.

2.2.1.1 Homeland Security Advisory System

In order to remain copasetic with the changing threats in America, it is necessary for emergency response agencies federal, state and local to allow for new response policies and procedure information to be disseminated throughout its members. One way that the federal government has begun to disseminate information is through the Homeland Security Advisory System. This system is intended to create a common vocabulary, context and structure for an ongoing national discussion about the nature of the threats that confront the homeland and the appropriate measures that should be taken in response. It seeks to inform and facilitate decisions appropriate to different levels of government and to private citizens at home and at work (The White House, 2003). There are five threat levels included in this system and each has its own set of preparedness levels attached as shown in figure two below. The U.S. Attorney General is responsible for developing, implementing and managing the system and the decision whether to publicly announce threat conditions is made case-by-case by the Attorney General in consultation with the Secretary of Homeland Security. In January 2003, it began being
administered in coordination with the newly-formed Department of Homeland Security. There are no published, objective criteria for these threat levels, and thus no objective way to tell whether the currently announced threat level is accurate.

The threat level has stood at yellow for most of its existence. It has been raised to orange six times (Wikipedia, 2005):


- February 7 - February 27, 2003, near the end of the Muslim religious holiday Hajj. Intelligence reports suggested the possibility of terrorist attacks against "apartment buildings, hotels, and other soft or lightly secured targets."

- March 17 - April 16, 2003, around the beginning of U.S. and Coalition military action in Iraq.

- May 20 - May 30, 2003, "The U.S. Intelligence Community believes that Al Qaida has entered an operational period worldwide, and this may include terrorist attacks in the United States." - Tom Ridge

- December 21, 2003 - January 9, 2004, citing intelligence information suggesting large-scale attacks around the holiday season.

- August 1 - November 10, 2004, for specific financial institutions in northern New Jersey, New York, and Washington, D.C., citing intelligence pointing to the possibility of a car or truck bomb attack, naming specific buildings as possible targets.
The threat levels and accompanying information for responders are defined by the Homeland Security Council and are:

1. **Low Condition (Green)**. This condition is declared when there is a low risk of terrorist attacks. Federal departments and agencies should consider the following general measures in addition to the agency-specific Protective Measures they develop and implement:

   1. Refining and exercising as appropriate preplanned Protective Measures;

   2. Ensuring personnel receive proper training on the Homeland Security Advisory System and specific preplanned department or agency Protective Measures; and

   3. Institutionalizing a process to assure that all facilities and regulated sectors are regularly assessed for vulnerabilities to terrorist attacks, and all reasonable measures are taken to mitigate these vulnerabilities.

2. **Guarded Condition (Blue)**. This condition is declared when there is a general risk of terrorist attacks. In addition to the Protective Measures taken in the previous Threat Condition, Federal departments and agencies should consider the following general measures in addition to the agency-specific Protective Measures that they will develop and implement:

   1. Checking communications with designated emergency response or command locations;

   2. Reviewing and updating emergency response procedures; and
3. Providing the public with any information that would strengthen its ability to act appropriately.

3. **Elevated Condition (Yellow).** An Elevated Condition is declared when there is a significant risk of terrorist attacks. In addition to the Protective Measures taken in the previous Threat Conditions, Federal departments and agencies should consider the following general measures in addition to the Protective Measures that they will develop and implement:

1. Increasing surveillance of critical locations;

2. Coordinating emergency plans as appropriate with nearby jurisdictions;

3. Assessing whether the precise characteristics of the threat require the further refinement of preplanned Protective Measures; and

4. Implementing, as appropriate, contingency and emergency response plans.

4. **High Condition (Orange).** A High Condition is declared when there is a high risk of terrorist attacks. In addition to the Protective Measures taken in the previous Threat Conditions, Federal departments and agencies should consider the following general measures in addition to the agency-specific Protective Measures that they will develop and implement:

1. Coordinating necessary security efforts with Federal, State, and local law enforcement agencies or any National Guard or other appropriate armed forces organizations;
2. Taking additional precautions at public events and possibly considering alternative venues or even cancellation;

3. Preparing to execute contingency procedures, such as moving to an alternate site or dispersing their workforce; and

4. Restricting threatened facility access to essential personnel only.

5. **Severe Condition (Red).** A Severe Condition reflects a severe risk of terrorist attacks. Under most circumstances, the Protective Measures for a Severe Condition are not intended to be sustained for substantial periods of time. In addition to the Protective Measures in the previous Threat Conditions, Federal departments and agencies also should consider the following general measures in addition to the agency-specific Protective Measures that they will develop and implement:

   1. Increasing or redirecting personnel to address critical emergency needs;

   2. Assigning emergency response personnel and pre-positioning and mobilizing specially trained teams or resources;

   3. Monitoring,

   4. redirecting, or constraining transportation systems; and

   5. Closing public and government facilities.
2.2.2 Terrorism

Terrorism is defined in the Code of Federal Regulations (28 C.F.R. Section .85) as "the unlawful use of force and violence against persons or property to intimidate or coerce a government, the civilian population, or any segment thereof, in furtherance of political or social objectives." When terrorism strikes, communities may receive assistance from State and Federal agencies operating within the existing Integrated Emergency Management System (FEMA). Terrorism is often categorized as domestic or international. This distinction refers not to where the terrorist act takes place but rather to the origin of the individuals or groups responsible for it. For example, the 1995 bombing of the Murrah Federal Building in Oklahoma City was an act of domestic terrorism, but the attacks of September 2001 were international in nature. Before the September 11 attacks in New York and the Pentagon, most terrorist incidents in the United States have
been bombing attacks, involving detonated and un-detonated explosive devices, tear gas and pipe and fire bombs (Federal Emergency, 2003).

Throughout the years, terrorists have looked to increase the number of casualties as well as the psychological impact of their attack. As terrorist funding has increased, so has the level of planning and availability of weapons that can be utilized. Attacks have gone from the typical explosive device to the recent concern of Anthrax. The shift over the years is of specific concern not only to the public, but to responders who are now responding to incidents of varying nature.

Significant United States terrorist incidents include (Department of State, 2004):

- **Domestic Terrorism, January 27-29, 1975**: Puerto Rican nationalists bombed a Wall Street bar, killing four and injuring 60; two days later, the Weather Underground claims responsibility for an explosion in a bathroom at the U.S. Department of State in Washington.

- **World Trade Center Bombing, February 26, 1993**: The World Trade Center in New York City was badly damaged when a car bomb planted by Islamic terrorists exploded in an underground garage. The bomb left 6 people dead and 1,000 injured. The men carrying out the attack were followers of Umar Abd al-Rahman, an Egyptian cleric who preached in the New York City area.

- **Bombing of the Federal Building in Oklahoma City, April 19, 1995**: Right-wing extremists Timothy McVeigh and Terry Nichols destroyed the Federal Building in Oklahoma City with a massive truck bomb that killed 166
and injured hundreds more in what was up to then the largest terrorist attack on American soil.

- **Empire State Building Sniper Attack, February 23, 1997:** A Palestinian gunman opened fire on tourists at an observation deck atop the Empire State Building in New York City, killing a Danish national and wounding visitors from the United States, Argentina, Switzerland, and France before turning the gun on himself. A handwritten note carried by the gunman claimed this was a punishment attack against the "enemies of Palestine."

- **Terrorist Attacks on U.S. Homeland, September 11, 2001:** Two hijacked airliners crashed into the twin towers of the World Trade Center. Soon thereafter, the Pentagon was struck by a third hijacked plane. A fourth hijacked plane, suspected to be bound for a high-profile target in Washington, crashed into a field in southern Pennsylvania. The attacks killed 3,025 U.S. citizens and other nationals. President Bush and Cabinet officials indicated that Usama Bin Laden was the prime suspect and that they considered the United States in a state of war with international terrorism. In the aftermath of the attacks, the United States formed the Global Coalition against Terrorism.

- **Anthrax Attacks, October-November 2001:** On October 7 the U.S. Centers for Disease Control and Prevention (CDC) reported that investigators had detected evidence that the deadly anthrax bacterium was present in the building where a Florida man who died of anthrax on October 5 had worked. Discovery of a second anthrax case triggered a major investigation by the Federal Bureau of Investigation (FBI). The two anthrax cases were the first to
appear in the United States in 25 years. Anthrax subsequently appeared in
mail received by television networks in New York and by the offices in
Washington of Senate Majority Leader Tom Daschle and other members of
Congress. Attorney General John Ashcroft said in a briefing on October 16,
"When people send anthrax through the mail to hurt people and invoke terror,
it's a terrorist act."

2.2.3 Weapons of Mass Destruction
Prior to 2001 terrorist attacks on the United States, the concept of weapons of
mass destruction was not on the mind of many responders. The few historical uses of
such weapons within society, and the use of the Atomic bomb were what Americans
envisioned when the concept was mentioned. Today however, this has drastically
changed as the threat of the use of such a weapon has become all too real. Nuclear,
Biological and Chemical weapons have moved to the forefront of the American mind and
are a new focus of training in the emergency response fields. Is a terrorist chemical
and/or biological attack inevitable? A report released by the U.S. Senate Subcommittee
says that it is. The report said, "It is not a matter of IF, but rather WHEN such an event
will occur. Many of the terrorist groups of today appear more and more likely to utilize
weapons of mass destruction."

The use of chemical, biological, and nuclear weapons have varied levels of
magnitude as well as a varied likely hood of occurrence. Figure three illustrates the
probability of an attack by a specific medium and compares it to the impact of such an
attack. The probability of a specific attack happening increases from left to right on the
figure and the impact of an attack increases as you go up.
As illustrated by the figure, the probability of an event such as a nuclear weapon being used in an attack is low; however the impact if such a weapon were to be used is high. The probability of a biological agent being used in an attack is high, and the impact of such a weapon is high as well.

The information that can be concluded from the figure can help prioritize response preparedness as well and can give responders an idea of what level of planning and responding should go into preparing for a potential terrorist attack. The figure is not meant to cause response training to only focus on the weapons with the greatest likelihood or impact, but to educate responders on all potential typed of weapons of mass destruction.

The figure implies that responders need to be more aware and ready to respond to a biological incident as well as the fact that the impact of such an event is extreme. Chemical weapons have the next greatest probability of occurrence. This should lead to
investigation of how to safely respond to such an incident as well as the steps that should be taken if such an event were to occur.

2.2.3.1 Nuclear/ Radiological

Nuclear weapons produce devastating and long-term effects on human and animal life, as well as the environments in which they are utilized. These are the hardest of all types of weapons to make because the critical nuclear elements, plutonium and/or highly enriched uranium, are hard to come by, and are very expensive to produce. Nuclear weapons are not themselves the only threat in this category as there is a possibility that terrorists may target a nuclear power plant. One worst-case scenario simulation estimated a one-megaton explosion in Detroit, equivalent to a million tons of TNT, could kill 250,000 people, injure half a million more, and flatten all buildings within a 1.7-mile radius (Fox News, 2003). Nuclear weapons include: Atom bomb, Hydrogen bomb, “Loose nuke” which is a nuclear weapon, material, or know-how that could fall into the wrong hands, and the “Suitcase” bomb which is a very compact and portable nuclear weapon small enough to fit inside a suitcase.

Nuclear weapons are the most unlikely weapon to be used in a terrorist attack. The characteristics of the materials used to make a nuclear weapon as well as the difficulty in obtaining the materials make them an unlikely choice for terrorists. Despite this fact, they are a possible choice of terrorists and responders must be aware of their effects and procedures that must be taken if a nuclear weapon was ever to be utilized in an attack.

Radiological Weapons (RW) are basically a nuclear-weapon variant designed to kill through radiation only as opposed to blast or shock. No such weapons are believed to
exist at the present time, although recent reports indicate that UN inspector’s uncovered evidence that Iraq was working on radiological weapons prior to the Gulf War (Center for Defense, 2004). The radioactive materials for radiological weapons could be fission products, plutonium and other actinides from civilian nuclear reactors, or artificially produced radioactive nuclides. Offensively, radiological weapons could be used to force mass evacuations, create economic chaos, or occupy territory, avoiding the infrastructure damage that would be created with a nuclear explosive.

The three basic ways to reduce radiation exposure are through time distance and shielding. Responders need to be aware of the signs of a possible radiation attack and utilize proper protection while responding to a suspected incident.

2.2.3.2 Biological

Biological agents are odorless, tasteless, and when dispersed in an aerosol cloud, are invisible to the human eye. Weight-for-weight, they are hundreds to thousands of times more potent than the most lethal chemical weapon, meaning that even small amounts could be used with devastating effect. Biological Weapons can be produced from widely available pathogens, which may be procured for legitimate bio-medical research or obtained from soil or infected animals and humans (Center for Defense, 2004). Biological agents are both cheap and easy to obtain. In effect, any nation with a basic pharmaceutical industry - or even a facility such as a brewery has the capability to produce biological weapons.

Potential Viral agents include smallpox, yellow fever, equine encephalitis and influenza, which may be genetically modified to increase their effectiveness. Bacterial agents such as anthrax, meloidosis, pneumonic plague, and glanders have incubation
periods of between one and five days and are usually fatal without swift treatment. Toxins include botulinum toxin, which produces an acute muscular paralysis resulting in death of animals or humans; ricin, derived from castor bean plants whose lethality is that of nerve gasses, and mycotoxins which produce nausea, vomiting, skin irritation and potential fatalities (Center for Defense, 2004).

The threat of the intentional use or even accidental release of an airborne biological weapon is, in some ways, far more frightening to analysts and researchers than that of a chemical release, for which there may be known specific antidotes and counter-measures. In the case, for instance, of a mutated or genetically engineered strain of Ebola or some hemorrhagic fever, there may be no known effective treatment. By genetically combining one of the particularly virulent bio-agents, for instance, with a rapidly and easily spread common virus like the flu, the terrorist may be able to cause the airborne spread of a deadly bio-toxin.

Infectious disease scientists point out that a spread of deadly pathogens could take place without any immediate recognition on the part of the emergency or medical community, until after the incubation period is over and hundreds or even thousands of people had been infected. To further complicate matters, a biological release could involve a slowly developing, and hard to recognize cluster of extremely ill patients, who are highly contagious, and are found at a wide-spread number of locations. It is extremely important that responders be able to recognize signs and symptoms of potential biological agents and respond with extreme caution whenever there is reason to suspect the cause of an illness.
2.2.3.3 Chemical

Chemical weapons have long been considered "the poor man's atomic bomb" due to their relative low cost and ease of manufacture (Godber, 2001). The argument that chemical weapons are too difficult for most terrorists to manufacture was discredited when a CIA report "concluded that the production of chemical and biological weapons for multiple casualty attacks raises no greater technical obstacles than does the production of chemical narcotics or heroin.

The use of chemical agents offers many advantages to the terrorists who use them. Many of these advantages are unique, or in other words exhibit qualities which conventional weapons lack. These advantages include the limited capability of anti-terrorist groups of detecting such weapons, the low cost and low technology required to develop chemical weapons, their extremely frightening image and the overall efficiency of such weapons. One of the aspects which make chemical weapons such an appropriate weapon for a terrorist is the name terrifying nature of chemical weapons. Ever since the first use of chemical weapons they have been criticized and ridiculed by civilians and soldiers alike. They've been considered unconventional, uncivilized, and even gruesome. These adjectives have also been employed often when describing terrorists. In general terrorists thrive off of the shock factor of their activities and chemical warfare exhibits a high degree of shock factor. Therefore, the use of chemical weapons may "enhance" many terrorist groups' images.

The final advantage offered by chemical weapons is their enormous ability to inflict casualties. These weapons are extremely cost effective and 40 times more weight effective than conventional explosive weapons (Godber, 2001). The overall efficiency of
a chemical weapon agent combined with the previously mentioned advantages make a frighteningly inexpensive, undetectable, and efficient weapon.

There are numerous kinds of chemical weapons, and their effectiveness is dependant on a number of factors, including age, purity, weather conditions, wind direction, means of dissemination, and other factors (ABC News, 2004). Some of the weapons can take hours to kill, and people exposed can sometimes survive, given proper treatment and antidotes. Chemicals can be dispensed as liquids, vapors, gases and aerosols. They include nerve agents, blister agents and choking agents, all of which can be taken in through the eyes, lungs or skin, and blood agents, which are inhaled. They are generally dispensed as aerosols, liquids or vapors. The symptoms, depending on the agent, can range from near immediate failure of the respiratory or nervous system, or lead to skin irritation, headaches, heart palpitations and respiratory difficulty, vomiting and convulsions (ABC News, 2004).

As is in the case of biological weapons, responders need to be aware of the signs and symptoms of chemical agents. They need to have adequate breathing protection when dealing with symptoms of an unknown origin. A chemical or biological attack or incident won't always be immediately apparent given the fact that many agents are odorless and colorless and some cause no immediately noticeable effects or symptoms. Responders must be alert to the possible presence of agents. Indicators of such an attack include:

- Droplets of oily film on surfaces
- Unusual dead or dying animals in the area
- Unusual liquid sprays or vapors
- Unexplained odors (smell of bitter almonds, peach kernels, newly mown hay or green grass)

- Unusual or unauthorized spraying in the area

- Victims displaying symptoms of nausea, difficulty breathing, convulsions, disorientation, or patterns of illness inconsistent with natural disease

- Low-lying clouds or fog unrelated to weather; clouds of dust; or suspended, possibly colored, particles

- People dressed unusually (long-sleeved shirts or overcoats in the summertime) or wearing breathing protection particularly in areas where large numbers of people tend to congregate, such as subways or stadiums

2.3 Integrating Current Response Initiatives

In most communities, the effectiveness of the emergency management system has a direct correlation to the skills of the local emergency management specialist. Protection of lives, property, and environment begins at the local level where the impact of an emergency is first felt. A prompt, effective response and speedy recovery with minimal loss to life, property, and environment, is a result of comprehensive planning, training, and exercising (State Emergency, 2003).

The events of 9/11 not only opened our eyes to the vulnerability of the U.S. to an attack of such proportions, but also opened our eyes to a new dimension of emergency response that wasn’t there before. NBC training has become an integral part of emergency response training and the additional knowledge it requires responders to
possess as shown in table two should be part of the new minimal standard of training for responders. This takes skills and knowledge the responder already has and builds upon it with new ideas and concepts that are relevant to NBC threats. As can be noted from the table, skills the responder already possess are based on the Occupational Safety and Health Administration (OSHA) and relate to standards for responding to a hazardous materials incident. NBC training is not required by legislation however, it has been added to the training curriculum in many departments.

Table 3
Awareness Level Requirements for Emergency Responders

<table>
<thead>
<tr>
<th>OSHA Requirement</th>
<th>Knowledge you already have</th>
<th>NBC Delta Requirement</th>
<th>Knowledge you need to have</th>
</tr>
</thead>
<tbody>
<tr>
<td>Understand what HAZMAT's are</td>
<td>X</td>
<td>Understand NBC agents</td>
<td></td>
</tr>
<tr>
<td>Understand risk of HAZMAT's</td>
<td>X</td>
<td>Understand risk of NBC agents</td>
<td></td>
</tr>
<tr>
<td>Understand outcomes</td>
<td>X</td>
<td>Understand outcomes of NBC agents</td>
<td></td>
</tr>
<tr>
<td>Recognize a HAZMAT release</td>
<td>X</td>
<td>Recognize an NBC release</td>
<td></td>
</tr>
<tr>
<td>Identify HAZMAT if possible</td>
<td>X</td>
<td>Identify the NBC agent</td>
<td></td>
</tr>
<tr>
<td>Determine need for additional resources</td>
<td>X</td>
<td>Determine need for additional resources</td>
<td></td>
</tr>
<tr>
<td>Understand awareness level roles</td>
<td>X</td>
<td>Understand awareness level roles</td>
<td></td>
</tr>
</tbody>
</table>

(SBCCOM)

The second most pressing problem involving a terrorist release of a chemical or biological agent is that of identification. As is the case in most common industrial hazardous-materials accidents, the first priority in the management of the incident involves ascertaining the identity and physical properties of the substance that has been released. It is only after the product identity can be ascertained that an effective outer perimeter can be established, neutralizations plans formulated, decontamination
procedures entertained, emergency medical treatment plans made, and environmental preservation precautions taken.

The primary functions that must be performed at any toxic release remain fairly consistent. The actions that must be taken will generally involve:

1. Incident "Size-up" and assessment;
2. Scene Control/establishment of perimeter(s);
3. Product Identification/information gathering;
4. Pre-entry examination and determination/donning of appropriate protective clothing & equipment;
5. Establishment of a decontamination area;
6. Entry planning/preparation of equipment;
7. Entry into a contaminated area and rescue of victims (as needed);
8. Containment of spill/release;
9. Neutralization of spill/release;
10. Decontamination of victims/patients/rescuers;
11. Triage of ill and injured;
12. BLS Care;
13. Hospital/expert consultation;
14. ALS care/specific antidotes;
15. Transport of patients to appropriate hospital;
16. Post-Entry evaluation examination of rescuers/equipment;
17. Complete stabilization of the incident/collection of evidence;
18. Delegation of final clean up to responsible party;
19. Record-keeping/after-action reporting;
20. Complete analysis of actions/recommendations to action plan.

2.3.1 NBC Delta

The NBC Delta (Figure 4) is not just an illustration used to depict the variation or difference in NBC training, but also can be used to describe the change in thinking as
well. The fact that an NBC attack can occur at anytime forces responders to be on constant alert. This new heightened awareness has resulted in new and improved training programs for responders. One such program, The Military Improved Response Program (MIRP) conducted scientific research, workshops, and technical investigations centering on enhancing and improving the capability of civilian emergency responders to safely and effectively respond to a potential terrorist incident. Such efforts have produced valuable products addressing the needs of first responders in the areas of:

- Mass casualty decontamination,
- Chemical detection,
- Firefighter clothing protection against chemical agents,
- Positive pressure ventilation as a mitigation tool,
- A generic response template for an incident involving biological weapons.

Figure 4
NBC Delta

http://www.arkhospitals.org/disaster/power_point_presentations/1.NBC%20Introductions.ppt
2.3.2 Terrorism and Applicable Legislation

Legislation is the driving force behind what gets done, how often it gets done and where it gets done. As far as emergency responders, legislation provides training standards that need to be met in order to stay proficient in response needs. Legislation in place prior to 9/11 focused on day to day situations that a responder would likely face, this includes fire, rescue, medical and fire codes. There was mention of terrorist situations in legislation prior to 9/11; however it wasn’t until after 9/11 that legislation became updated and more specific to terrorism.

2.3.2.1 Legislation Prior to 9/11

During the mid 1980’s the new buzzwords in emergency response legislation were:

- SARA (Superfund Amendments and Reauthorization Act) Title three - Authorized the establishment of the Emergency Planning and Community Right-to-Know Act (EPCRA).
- EPCRA (Emergency Planning and Community Right-to-Know Act) - designated to help local communities protect public health, safety, and the environment from chemical hazards.
- OSHA (Occupational Safety and Health Administration) 29 CFR 1910.120, HAZWOPER – Set new guidelines for the training of hazardous materials.
- NFPA (National Fire Protection Association) 472 – Established competencies necessary for responders to terrorist incidents.
These were the first of their kind for emergency response and established federal guidelines that departments had to follow for training in hazardous materials incidents (Burke, 2000). This legislation would come to serve as the foundation for which terrorism training and legislation would be established.

As was the case with hazardous materials, in 1996 the federal government began passing new legislation for the preparation for acts of terrorism. Congress passed the Nunn-Lugar-Domenici Act and the Nunn-Lugar Cooperative Threat Reduction Act, both aimed at reducing the threat and effects of terrorists using WMD (Burke, 2000). The 1996 Atlanta Olympics had raised grave concerns in the mind of Senator Sam Nunn of Georgia as to the preparedness of the United States against the threat of terrorist attacks. In the spring of 1996, Senator Nunn held a number of hearings on preparedness issues after his staff was unable to get accurate and convincing information from the Executive Branch on its arrangements and preparation for the Olympics. These hearings led directly to this statute, which set in place a long-term effort to prepare domestic response the increased threats. The Nunn-Lugar-Domenici Act has led to the development of domestic programs to prepare for terrorism. Senator Richard Lugar and founder of the Nunn-Lugar-Domenici Act states that “the threat of terrorism is real and we must be prepared. Preparation must take the form of help to local first responders who will be on the front lines if deterrence and prevention of such incidents fail.” Instead of providing terrorism legislation that called for mandating training as was the case with hazardous materials, the federal government provided preparedness issues and money to conduct the necessary training.
2.3.2.2 New/Updated Guidelines
2002 NFPA 472

This new guideline provides essential guidance for first responders dealing with terrorist activities and weapons of mass destruction. Revised for 2002, NFPA 472 identifies the levels of competence required of responders to hazardous materials incidents. It specifically covers the competencies for first responders at the awareness level and the operational level, hazardous materials technicians, incident commanders, hazardous materials branch officers, hazardous materials branch safety officers, and other specialist employees. This edition places new emphasis on responding to incidents resulting from the following:

General criminal/terrorist activities, with revised requirements addressing:

- Anticipating potential targets for criminal/terrorist activity;
- Indicators of general activity to watch for;
- Actions to take when criminal/terrorist activity is suspected;
- Preserving evidence at incidents;
- Items to cover in a safety briefing;

Specialized weapons of mass destruction, with coverage of:

- Health risks of chemical/biological warfare agents;
- Chemical agent indicators of criminal/terrorist activity;
- Biological agent indicators;
- Tools for detecting and identifying warfare agents;
- Limitations of military chemical/biological protective clothing;
- Assessing responder risk for each class of rescue;
- Decontaminating large numbers of people;

Radioactive materials, with specialized requirements for:

- Understanding the types of radiation and radiation terms;
- Health hazards of different types of radiation;
- Recognizing radioactive materials packaging;
- Measuring radiation;
- Understanding the effects of time, distance, and shielding from radiation;
- Controlling the spread of radioactive contamination;
- A new annex on competencies for the technician with a radioactive material specialty

2002 NFPA 473

This new guideline provides vital guidance on response to incidents involving weapons of mass destruction. NFPA 473 identifies the levels of competence required of Emergency Medical Services (EMS) personnel who respond to hazardous materials incidents. It specifically covers the requirements to reduce accidents, exposure, and injuries for basic life support and advanced life support personnel in the pre-hospital setting. This just-revised 2002 edition places new emphasis on emergency medical service response to incidents involving weapons of mass destruction and radioactive materials. Additions cover key topics including:

- Indicators of criminal/terrorist activity with chemical agents;
- Indicators of criminal/terrorist activity with biological agents;
• The importance of body substance isolation at incidents;
• Application, use and limitations of body substance isolation protective clothing;
• Priorities of care for chemical vs. radiological contamination patients;
• Removal of victims relative to exposure and contamination concerns;
• Communicating to a receiving facility on the amount of decontamination accomplished before transport

This essential edition also includes new discussion of considerations for lifesaving actions vs. taking time for full decontamination, and a brand-new protocol on removal of outer clothing only in decontamination for radioactive mater.

The new guidelines available for responding to a potential or terrorist incident are very helpful to responders in that, like the NBC Delta training, they provide the tools necessary to guide how the education of responders gets accomplished. The downfall of these guidelines however is that they are not regulatory in nature, nor is there any current regulations in place mandating similar education for local responders.

This leaves departments at their own discretion when it comes to what they offer for terrorism and WMD classes and also allows for flexibility in the content of such classes. As is was the case with hazardous materials, until regulations are put in place for terrorism education, or until current mandated classes are updated to include content on terrorism, not every responder will be at the level of education and training they should be because they aren’t required to take the classes. Like many other education classes and training available, it comes from the top down from the federal or state agencies to the local departments.
3.0 Methodology of Research

Research was completed in two different phases. Phase one consisted of a review of applicable literature, laws and regulations in place. Such information was gathered through published research. This information provided applicable background information for the basis of the study project.

Phase two was completed through interviews with leaders in the response field from fire departments representing the two different types of fire departments, career and volunteer, at both the city and town levels from within Monroe County, New York. Interviews consisted of pre determined areas of interest such as the current state of readiness of emergency responders and any thoughts on how to better prepare responders in the future. Five personal interviews were audio taped and notes were taken based on the information given. Two interviews were completed via email. Questions were structures around a questionnaire (Appendix A) which was given to the responders in advance of the interviews. Discussions with the commanding members of the various departments provided information on what has been done to determine if their departments are staying current with the new changes and needs of the field and what they feel can be done better in the future. Command members were chosen because it was determined that due to the length of service they had, they could provide more in depth information on the fire service prior to 9/11. Also, command members are usually more educated and trained than the entry level fire fighter and have more information available to them.

The information gathered was compared and contrasted and trends were noted. Trends were based on similarities and differences by municipality of department as well
as type of department. After trends were noted, information was analyzed, conclusions were drawn and recommendations were made.

3.1 Research Strategy

Qualitative information for this study was gathered in two different ways, through research on past literature in the field and by conducting interviews with members of the response community.

In order to evaluate the current needs and concerns of the emergency response community, detailed research was conducted on past and current emergency response concerns as well as the new Homeland Security Department.

In order to determine the current state of readiness of emergency responders in Monroe County, research was conducted with the assistance of seven members of various Fire Departments throughout Monroe County (Table 4).

<table>
<thead>
<tr>
<th>Name</th>
<th>Current Rank</th>
<th>Department</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mark Audino</td>
<td>Lieutenant</td>
<td>Henrietta FD</td>
</tr>
<tr>
<td>James Comstock</td>
<td>Battalion Chief</td>
<td>Henrietta FD</td>
</tr>
<tr>
<td>Russel Merrick</td>
<td>Captain</td>
<td>Rochester FD</td>
</tr>
<tr>
<td>Mark Strzyzynski</td>
<td>Captain</td>
<td>Rochester FD</td>
</tr>
<tr>
<td>Daniel Wimer</td>
<td>Life Member/Past Captain</td>
<td>Egypt FD</td>
</tr>
<tr>
<td>William Haines</td>
<td>Chief</td>
<td>Bushnell’s Basin FD</td>
</tr>
<tr>
<td>Sam DeRosa</td>
<td>Deputy Coordinator</td>
<td>Monroe County Special Operations</td>
</tr>
</tbody>
</table>
An analysis of recent and past response needs and concerns were evaluated, compared and contrasted and trends noted. Interviews were audio taped and later detailed notes were taken (Appendix B). The different jurisdictions were chosen so that comparisons and contrasts could be made based on the location, city or town, of the department as shown in table five.

### Table 5
**Departments Represented in Study**

<table>
<thead>
<tr>
<th>Department</th>
<th>Type of Department</th>
<th>Municipality</th>
<th>Number of Members</th>
<th>Population Served</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bushnell’s Basin FD</td>
<td>Volunteer</td>
<td>Town</td>
<td>74 volunteer</td>
<td>10,000</td>
</tr>
<tr>
<td>Egypt FD</td>
<td>Volunteer</td>
<td>Town</td>
<td>63 volunteer</td>
<td>10,000</td>
</tr>
<tr>
<td>Henrietta FD</td>
<td>Combination</td>
<td>Town</td>
<td>25 career/80</td>
<td>49,000</td>
</tr>
<tr>
<td>Rochester FD</td>
<td>Career</td>
<td>City</td>
<td>500 career</td>
<td>250,000</td>
</tr>
</tbody>
</table>

Interviews were conducted with predetermined areas of interest such as:

- Current level of involvement in emergency response
- Confidence/apprehensiveness in responding to an emergency situation
- Confidence/apprehensiveness in the organization responding
- Knowledge of new training concerns
- Thoughts on training
- Noticeable differences since 9/11
- Thoughts on how to better prepare responders
- Career versus volunteer concerns
4.0 Results

Upon completion of the interviews it became possible to see many trends in the information that was gathered. Trends that were noted were both similar in some areas and different in others based on the municipality of the department as well as the type of department. Along with current trends that were noted, results of the interviews also yielded many different current areas that need to be improved upon as well as some positive findings.

4.1 Differences in Findings

There were differences noted in the findings that depended on two different factors, the type of department, whether it is a paid or volunteer and the municipality of the department, whether it is located in the city or town.

4.1.1 City versus Town

- Level of responder education – Information attained showed a higher level of education and readiness at the city level.

- Training concerns – City shows a higher level of training than do the town departments.

- Level of confidence in responding to a terrorist incident – Significantly higher level of confidence in responding to a terrorist incident in city responders. Captain Russ Merrick of the Rochester City Fire Department states “I feel confident that we would be able to handle any situation, including a terrorist attack. With a large scale event we would need outside assistance which is the case with any department.”
• Personnel concerns – City is content with number of on staff personnel while departments at the town level report not enough personnel on staff to handle current needs. Even though the city has a greater population then do towns, they still feel that they are adequately staffed to meet their needs while the towns do not.

• Equipment availability – The city at any given time has enough equipment available to handle most instances. At the town level for an incident greater then the normal structure fire, it has insufficient equipment.

4.1.2 Volunteer versus Career

• Education concerns – Career departments are required to attend specified classes and be at the awareness level for WMD training. Volunteers are not mandated to have any level of WMD education.

• Training concerns – Career departments train much more frequently than do volunteer departments.

• Funding for education, training and equipment – Funding for career departments is provided by the city and township that the department is located in and additional funding is provided for by the state and federal government. Funding for such departments is sufficient to have updated equipment and provide training to all members.

• Retention of members – Volunteer concern since the personnel numbers are low. Also a concern because awareness is gained through experience and experience comes partly through being a member for a number of years. As stated by Chief Jim Comstock of the Henrietta Fire Department, “The biggest difference is that
career firefighters tend to have more experience because by the nature of their job they will attend a much larger number of calls for service.”

- Management Concerns – Management is crucial in order to attain increasing levels and to stay current. Leadership training at the volunteer level was determined to be not as adequate as it could be.

4.2 Similarities in Findings in all Departments

There were several similarities that can be noted after examination of the results obtained from the interviews. Similarities are areas of concern that produced the same results without regard to municipality or type of department.

Training Issues

- Training should target the needs for the region and should not have a “one size fits all” approach. Chief Haines of Bushnell’s Basin states, “Some type of exposure should be mandatory for all departments. Based on their locations, departments should have various degrees of skills and/or resources. One thing is for sure; we don’t need the same training that a fire department in Washington DC needs.”

- While there are more training programs out there for WMD and terrorism, the classes do not adequately train responders and are not challenging enough. There is a difference between learning and being able to do.

- Not enough hands on training available.

- Inadequate instructors and too low of standards for being considered “trained” in the areas.
Reestablishment of Complacency

- Thought process is that 9/11 was such a large scale event that it has to be something that large for the mindset to be on terrorism.

- The complacency is back in emergency response and that further opens the door for terrorism.

Risk still as high as was prior to 9/11

- The community is still at as much risk as well as responders as they were prior to 9/11.

- If terrorists tied up the equipment in several different communities simultaneously the response community would be in trouble.

- More plans need to be designed and implemented giving responders more of a blueprint to follow in specific situations.

- Asking responders to be proficient in yet another area while still keeping them trained in their everyday duties. Too much with too little personnel.

4.3 Positive Findings

There were a few positive results that illustrated though responder readiness is not yet where it should be, there are many advancements that can be seen to date that show we are moving in the right direction.

- Terrorism and WMD training classes are readily available to every responder provided through Monroe County. This fact was noted by each person interviewed.
Words such as WMD and terrorism have become commonplace in emergency response due to the huge push since 9/11 to prepare responders as well as the community. Chief Jim Comstock of Henrietta points out that “The training is growing from not ever hearing the mention of terrorism or WMD, to now where it is starting to become the standard. We are including WMD in firefighting essential class.”

While not every responder is at the level of awareness they should be, a larger percentage are now then can be seen in the past prior to 9/11. Dan Wimer of the Egypt Volunteer Fire Department stated, “Responders are more in tune to responding to emergencies then prior to 9/11. This is due to more enthusiasm and more fear since 9/11.”

More funding and grants are available as a result of the establishment of the Department of Homeland Security.

A section has been added to recruit training through the state entitled Defense against Weapons of Mass Destruction: Awareness in order to bring new firefighters to an awareness level prior to becoming an active member. This class includes topics of whom and what may be targets for an NBC attack, what are NBC agents, and how NBC agents will affect emergency responders and what can be done to protect them. This new section is now included in the mandatory state fire fighting recruit class curriculum. It is sufficient in introducing the concepts of terrorism and WMD to the recruit however as with most things, without adequate updates the concepts learned will be lost over time.
5.0 Analysis and Discussion

If one thing should be taken from the results of this study it’s that responders are overall not at the awareness level they should be. This fact can be attributed to a lack of education, training and also due to a complacency that exists in emergency response. Chief Bill Haines of the Bushnell’s Basin Volunteer Fire Department stated that “When it comes to terrorist situations, I am very concerned about our response. There is a naïve ness in the ranks that nothing will ever occur in our district from a terrorist. That alarms me.” This trend can be seen in all departments’ career and volunteer alike. Lieutenant Mark Audino from the Henrietta Fire Department further supported this by stating “As far as a terrorist situation, I feel confident that the department has the skills necessary to tend to the actual result of the situation such as a fire, or medical result, however a vast majority of members would not recognize the incident for what it was until possibly it was too late and at that point their safety would be in jeopardy.

Responders need to be able to recognize the signs of a terrorist event and respond with safety in mind, not just on getting to the scene and leaving. By having the complacency that a terrorist event will not occur in their community, a safe response can not occur. After conducting interviews with responders and after making my own observations it alarms me at the lack of responders that are truly ready to respond to the scene of an emergency. When a call comes in for an emergency, volunteers rush to the scene to get involved and get so enthused that they often forget about safety. Career members respond to the scene with one thing in mind, what can I do to remedy the situation and go back to the station. Both of these thought processes need to be changed to include not only can I get involved on the scene, remedy the situation quickly and go
back, but what can I do to make sure a safe response takes place for myself and my fellow responders. This thought process develops from experience.

Present results from this study should not be taken lightly. Personal safety is the number one concern among emergency responders. In order to ensure responder safety, it is first necessary to bring them to a minimum of an awareness level. This can be achieved through the application of the recommendations in emergency response departments. Sam DeRosa, Deputy Coordinator of the Monroe County Fire Bureau, summed this point up best by stating “Education and training should be the most immediate priority. Education plus training equals awareness.” If one recommendation was to be made to the Department of Homeland Security it would be that the key to changing the mindset of the responder is experience, which can come in the form of continual education and training. Weather it be in the form of mandated annual training, or updating current annually mandated classes responders need to be educated on the issues of terrorism and weapons of mass destruction.

Though the results of this study were obtained from Monroe County, New York, similar results would most likely be obtained anywhere in the country. In fact, results found from other locations would be most likely to show a greater lack of responder readiness. This is because Monroe County is considered to be one of the most up to date counties in the country for its emergency response and preparedness programs. Past Captain of Egypt Dan Wimer states “Overall in Monroe County emergency response is the best in NYS. This is due to availability of education and training for responders.”
Results show a difference in departmental concerns based on a difference in the municipality of the department and also due to the difference in type of department.

**City versus Town**

Differences in results can be attributed to factors such as:

- **Number of available personnel** – The city has a large number of responders available at any time of day. A large majority of town departments do not have an adequate number of personnel available especially given the increasing call volume. Funding availability – City departments receive more funding than do town departments. The main thing that this provides to them is additional personnel.

- **Equipment availability** - This goes hand in hand with personnel availability. The city departments have more equipment available at any given time and the number of personnel to utilize the equipment.

**Volunteer versus Career**

Differences can be attributed to factors such as:

- **Training requirements** – Career staff have mandatory terrorism and WMD awareness training completed while on duty. Volunteer departments have no such mandatory education or training requirements.

- **Funding differences** – Career departments receive a significantly greater amount of funding than do volunteer departments. Grants are equally available to both career and volunteer departments, however writing a grant is something that a volunteer has to learn how to do and that is sometimes difficult.
• Management concerns - Career departments are managed more effectively than are volunteer departments and provide better training for its leaders.

• Time commitment issues – Career staff are paid for their time while volunteers are not. This often prompts career staff to take education classes that they might otherwise not take. The mandatory requirements for volunteers are already fairly high and therefore it is difficult to mandate more education.

• Personnel issues – Volunteer departments continue to battle with the past issue of recruitment and retention of members. With the growing concept in emergency response of “do more with less” the need for more members is further increased in volunteer and career departments. Ways that have been suggested to solve this problem are to provide financial reimbursement to volunteers in the form of a tax credit as well as providing retirement compensation and tuition reimbursement.
6.0 Conclusions

Throughout the history of humans it can be seen in several different instances that learning and growth occurred as the result of devastating events. With this in mind, fire professionals must learn from the tragic events of 9/11 and anticipate future firefighting challenges. Though the wake-up call of 9/11 is exceptional in its magnitude and impact, it represents concerns which will always exist at a lesser day to day level in the world of firefighting.

Terrorism is not a new concept and the events of 9/11 are certainly not the last terrorist events America will face in the future. One thing that terrorists have in common is that they strive to create a lasting impact on society. With this in mind, it is without a doubt that an event such as 9/11 will occur again. The question is not if another terrorist event will occur, but when, where and how it will occur. Responding to a potential terrorist event requires the responder to need more skills than is required for normal everyday response to an emergency. Terrorist events are deliberate in nature and therefore pose a much greater risk to responders. If responders do not have an awareness level to terrorism they put themselves, their fellow responders and citizens at risk.

This study provides information that shows through first hand interviews with responders’ in the field from western New York, that responders are not yet at the level they should be based on 9/11 and the new Homeland Security Department’s initiative to prepare responders and America for a future terrorist attack. Of all the results found and conclusions determined from this study the most important is that an overall awareness level has not been attained in each and every emergency response organization. This is
due to the fact that society has a pre conceived notion that America is fully prepared to respond to an attack such as that seen on September 11 when however this is not at all the case. Emergency Response has a long way to go to get to the point where it is truly ready. Along with society’s overall perception of our current state of readiness, the fact that 9/11 was such a large scale event responders can not conceive of something such as that occurring in their town. The fact is that a terrorist attack on any scale, large or small can occur at any given time and responders need to be aware of this and ready to respond. The complacency that still exists today needs to be done away with if responders want to truly be ready to respond to a terrorist attack if the need ever arises.

Prior research has been done on training and preparedness in emergency response and though that parallels research completed through this study, this study focuses on response, not strictly on preparedness. Results of this study substantiate past studies that have determined that responder preparedness is not currently at the level that is desired and still has quite a ways to go to get to where it should be in every department. The information attained by this study supports the hypothesis of the study in that emergency response is not completely at the level to where it could be. Recommendations as to what areas need to be further evaluated and enhanced to ensure the eventual success in preparing responders for future attacks were made.

The recently developed Department of Homeland Security (DHS) has been providing response departments with the tools necessary to begin implementing terrorism and weapons of mass destruction education and training in local departments. The DHS has provided billions of dollars to varying jurisdictions for education purposes and has provided the guidelines for such classes. The problem is not how many classes are being
made available, but how many responders are receiving the education and training. This problem has been solved in the past by mandating training at the departmental level however there are a few other ways this issue can be addressed.

The main points of the recommendations are to add terrorism concepts into already mandated education classes, increase amount of hands on training, quality of training and frequency of training, increase amount of inter-organizational training to allow for communication with various agencies to increase, and for response organizations to have more emergency preparedness plans in place to provide a framework for response to future events.

The emergency response community needs to increase the push to adequately prepare responders for a future terrorist attack at any level. Providing adequate training will not only physically prepare the responder but will also mentally prepare them. While doing research for this study there was one concept that was brought to light which is of particular importance to this topic. That is the concept that training does not equal readiness. Training needs to be increased not only in the number of responders receiving training but also the level of training so that it can adequately prepare the responder. Getting each responder to the awareness level is the starting point that can be attained through education and training and is the minimum level that should be acceptable. However, it is awareness coupled with preparedness that equals overall readiness. Responders need to be aware that merely having the education is often not good enough.

Some promising things that were found during this study show that although Monroe County has not brought each and every responder to an awareness level, that it has made some steps in the right direction. Classes are now offered on a regular basis to
responders and at the County level equipment is available as well as many individuals trained specifically to respond to a terrorist event. At the county level the resources are there they just have to now be brought to the local level.

Future research could be done on the topic in similar fashion as this study and could detail any changes in the preparedness of responders at that time. If future research was to be done, it would be beneficial to interview a larger number of responders from a larger number of departments from within the county. Ideas on how to better prepare responders are presented and should be implemented in response organizations that are not up to standard. A follow up study should be completed to see if the recommendations made as a result of this study have been implemented and the effect, if any they are having on the department.

6.1 Recommendations

Consideration must be given to the following potential remedies in the following areas:

1. Education – Terrorist and WMD classes need to be made available to each and every responder in the field regardless of the type of department. Responders on both the career and volunteer level need to be brought at least to an awareness level since there is a good possibility that they may be the first to respond to a scene of potential terrorist activity. Awareness comes through education. Education for firefighters in the form of required annual update classes are already required by regulations in many of the day to day calls a fire department will handle including hazardous materials training, which is very similar in nature to potential terrorism situations, the difference being that a terrorist event is intentional. Therefore, the new concepts of terrorism and WMD could be
combined with the already mandated classes. This will alleviate the need for yet more
mandatory training and time commitment on the part of the volunteer.

2. Training – Terrorist incidents are not unlike hazardous materials incidents when it
comes to response operations. They require the responder to have a proactive mindset and
be especially aware of individual safety concerns. Training in the areas that a terrorist
incident would call for such as mass decontamination, hazard awareness and fire
suppression should be done at the individual department level. Inter agency training
should be completed at least annually to ensure productive communication and
interactions at a scene. Training should be determined to fit the needs of the community
for which the department serves and should not have a “one size fits all” approach.

3. Preparation - The most important aspect of any emergency response is good
preparation. Having plans in place and following through with education and training for
responders will lead to an increase in response readiness and responder safety.
Preparation will require a massive pre-planning effort amongst all of the departments
involved, and more. With proper plans in place, even if a terrorist attack was to occur,
responders’ safety would be increased and the psychological impact of the incident could
be minimized. While planning and preparedness will not prevent a terrorist incident from
happening, preparedness will improve emergency response and consequence
management when an incident does occur. The task is time consuming, but the end will
certainly justify the means when an effective response to a mass emergency is
successfully carried out.
4. Growth - Fire commanders must be better trained to respond to large scale emergencies. Extreme events including terrorist activity require greater command capabilities than presently exist. Incident command capabilities must be extended beyond that posed by a typical residential fire in a private dwelling or in a multi story building. An increase in incident command capabilities can be accomplished only through a professionally administered course of training provided to command chiefs by professionals in the required areas.

5. A changing perspective – Terrorism in the past has been something that happened somewhere else. If nothing else, the events of 9/11 have shown that terrorism is in fact possible on our own soil. Responders also need to get rid of the complacency which is usually due to dealing with so many day to day calls and realize that each and every call is a potentially dangerous situation and respond by being more proactive and more aware of their surroundings.
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Appendix A: Questionnaire on Emergency Response for an Emergency or Disaster

1) Describe yourself, your Organization and your community.
   - Who are you, and what work experience do you have that relates to emergency response?
   - Is your experience at the career or volunteer level?
   - How confident do you feel about responding to an emergency situation? Terrorist situation?
   - How confident do you feel about your organization responding to an emergency situation? Terrorist situation?
   - What do you feel are the biggest threats to the community? To emergency responders?
   - Are your assets sufficient to meet the threats you have?
   - What is the population of the community your department serves?
   - How many are in your department and on at any given time?

2) Describe your assessment of the response to an emergency situation.
   - What is your assessment of local emergency response and training at the present time?
   - How prepared is your department to respond to a major emergency? Does it have the necessary plans, personnel and equipment ready?
   - Has the response to an emergency changed since 911 (physical or mental)?

3) Describe programs in place to help prepare your emergency responders for the anticipated threats.
• What types of training programs or classes are available that you know of and are they readily available?

• Has training changed since 911 and if so how?

• Is everyone in your department up to date on the new training?

4) **Thoughts on how to better prepare responders.**

• Which emergency response improvements (for example, education, equipment, or money) should be the most immediate priorities?

• Should WMD training be made mandatory in all departments?

• Career versus Volunteer concerns and thoughts (funding, training, ability, etc.)
Appendix B: Emergency Responder Interview Notes

Mark Audino, Lieutenant
Henrietta Fire Department
Friday April 8, 2005
1400-1515

1) Describe yourself, your Organization and your community.
   - Who are you, and what work experience do you have that relates to emergency response?
     o Mark Audino, BS in Fire Science AS Fire Protection Technology, Certificate NFA
   - Is your experience at the career or volunteer level?
     o 12 yrs career, 5 yrs LT, 18 year volunteer
   - How confident do you feel about responding to an emergency situation? Terrorist situation?
     o Confident, to both. Same skills required to respond to both and very confident in skill level and ability to handle situations.
   - How confident do you feel about your organization responding to an emergency situation? Terrorist situation?
     o I feel very confident that my organization can respond successfully to a typical emergency situation. As far as a terrorist situation, I feel confident that the department has the skills necessary to tend to the actual result of the situation such as a fire, or medical result, however a vast majority of members would not recognize the incident for what it was until possibly it was too late and at that point their safety would be in jeopardy.
   - What do you feel are the biggest threats to the community? To emergency responders?
     o Community – Lack of experience, commitment and education of responders. Responders – Same thing, lack of experience, education and proper hands on training.
   - What are the demographics of the community you serve?
     o 39.5 sq miles, 40,000 residents, 250,000 day time. 15,000 RIT, 20 miles of the Thruway.
   - Are your assets sufficient to meet the threats you have?
Sufficient to handle daily “bread and butter” incidents (single residential fire, medical, MVA’s). Would require mutual aid if a large scale event were to occur.

2) Describe your assessment of the response to an emergency situation.

- What is your assessment of local emergency response and training at the present time?
  - Mediocre at best due to a very poor training program in place.

- How prepared is your department to respond to a major emergency? Does it have the necessary plans, personnel and equipment ready?
  - The equipment and majority of the man power is there, however like most departments, mutual aid would be called upon in the event of an incident.

- Has the response to an emergency changed since 911 (physical or mental)?
  - Yes. We always responded with safety in mind. Now you look at routine things and question if there is an ulterior motive to the event. More aware of surroundings. On top of the terrorist nature of 911 another factor to take into consideration is the fact that had the towers withstood the impact of the planes, the amount of casualties would have been significantly less for the civilians and for the responders. We can take from that fact to take more into consideration all the factors involved in an incident.

3) Describe programs in place to help prepare your emergency responders for the anticipated threats.

- Has training changed since 911 and if so how?
  - No, day to day training has remained the same. There are new classes available on terrorism and WMD.

- What types of training programs or classes are available that you know of and are they readily available?
  - WMD classes and terrorism classes are available at the state and county level.

- Is everyone in your department up to date on the new training?
  - Some training has been offered, however not all responders have taken them.

4) Thoughts on how to better prepare responders.

- Should WMD training be made mandatory in all departments?
- Yes at least at the awareness level. Safety is at stake so therefore why shouldn’t it be made mandatory.

- Which emergency response improvements (for example, education, equipment, or money) should be the most immediate priorities?
  - Education, personal awareness and safety.

- Career versus Volunteer concerns and thoughts.
  - Level of training versus level of experience which goes hand in hand with mandatory training requirements.
1) Describe yourself, your Organization and your community.

- Who are you, and what work experience do you have that relates to emergency response?
  - Battalion Chief Jim Comstock, 29 years in the fire service as a firefighter and EMT.
- Is your experience at the career or volunteer level?
  - 8 Volunteer, 21 Career
- How confident do you feel about your organization responding to an emergency situation? Terrorist situation?
  - Depends on the situation. Very confident in routine daily situations including major fires. Not confident in responding to an unexpected terrorist event. Plans are in place for specific terrorist events such as the Post Office Bio-detection system and therefore there is more confidence responding.
- What do you feel are the biggest threats to the community? To emergency responders?
  - RIT, due to the number of foreign students (beliefs, traditions) as well as the nature of some of the contents of the laboratories. Also another soft target is the mall and the Post Office. Thruway and other highways have large volumes of traffic at given times and tankers traveling at higher rate of speed.
- What are the demographics of the community you serve?
  - Population of 49,000 including RIT campus. There are 25 career firefighters on staff and approximately 80 volunteers, 50 active.
- Are your assets sufficient to meet the threats you have?
  - Equipment wise yes, personnel wise there is a problem. Only six career personnel on at any given time and undetermined amount of volunteers responding to an incident.

2) Describe your assessment of the response to an emergency situation.

- What is your assessment of local emergency response and training at the present time?
Response is very good especially at the county level with the Hazmat team. The training is growing from not ever hearing the mention of terrorism or WMD, to now where it is starting to become the standard. Including WMD in firefighting essential class.

- How prepared is your department to respond to a major emergency? Does it have the necessary plans, personnel and equipment ready?
  - Tough to answer. Personal opinion is that to a regular incident the department is very prepared. Planning needs to improve. Equipment wise the department is very prepared to respond to an emergency.

- Has the response to an emergency changed since 911 (physical or mental)?
  - Initially yes somewhat, but since about a year after, the complacency has returned.

3) Describe programs in place to help prepare your emergency responders for the anticipated threats.

- Has training changed since 911 and if so how?
  - Yes it has changed. WMD was not dealt with before 911, now there are all different kinds of training in response departments.

- What types of training programs or classes are available that you know of and are they readily available?
  - Classes available at the county level.

- Is everyone in your department up to date on the new training?
  - No, especially on the volunteer side

4) Thoughts on how to better prepare responders.

- Should WMD training be made mandatory in all departments?
  - Yes. They should require firefighters to have a determined amount of training.

- Which emergency response improvements (for example, education, equipment, or money) should be the most immediate priorities?
  - More money set aside for education programs. Equipment is always being updated (SCBA). SAFER grant putting more career firefighters on staff. Federal spending more at the local level since that’s where the response is going to primarily be to an incident.

- Career versus Volunteer concerns and thoughts.
Volunteers have the option of responding to any given call while the career staff has to respond to everything. The biggest difference is that career firefighters tend to have more experience because by the nature of their job they will attend a much larger number of calls for service. Both need to be more aware of the possible severity of an incident they are responding to.
1) Describe yourself, your Organization and your community.

- Who are you, and what work experience do you have that relates to emergency response?
  - I am Captain Russel Merrick in the Rochester Fire Department
- Is your experience at the career or volunteer level?
  - I have over 30 years of experience (12 volunteer & 19 career)
- How confident do you feel about responding to an emergency situation? Terrorist situation?
  - I feel confident that we would be able handle any situation, including terrorist attacks. With a large scale event we would need outside assistance which is the case with any department but the initial response we could handle.
- What do you feel are the biggest threats to the community? To emergency responders?
  - Hazardous Materials being transported over the road and rail systems pose a big threat to the community. Preplanned events such as a terrorist event cause a large concern to responders.
- What are the demographics of the community you serve?
  - 220,000, just over 500 members in the department.
- Are your assets sufficient to meet the threats you have?
  - I don't think anyone can say they have the right amount of supplies to meet all the needs of and incident, however we are in a good position to handle most all incidents.

2) Describe your assessment of the response to an emergency situation.

- What is your assessment of local emergency response and training at the present time?
  - Both the city and county are very aggressive in training and preparedness.
- How prepared is your department to respond to a major emergency? Does it have the necessary plans, personnel and equipment ready?
Yes - As stated above, we are very aggressive with our training and preparedness.

- Has the response to an emergency changed since 911 (physical or mental)?
  - I'm not sure; everyone handles things a little differently.

3) Describe programs in place to help prepare your emergency responders for the anticipated threats.

- Has training changed since 911 and if so how?
  - Not really, this country has been gearing up for years to take on new and challenging event.

- What types of training programs or classes are available that you know of and are they readily available?
  - Several Weapons of Mass Destruction (WMD) training programs are available, Incident Command, Haz-Mat and all the basic firefighter classes. Actually, today you can find a lot of specialty training courses on just about any topic.

- Is everyone in your department up to date on the new training?
  - Yes

4) Thoughts on how to better prepare responders.

- Should WMD training be made mandatory in all departments?
  - Absolutely

- Which emergency response improvements (for example, education, equipment, or money) should be the most immediate priorities?
  - While money is always the driving factor for any agency. Without the funding we would not be able to put on the training drills, purchase equipment and operate efficiently.

- Career versus Volunteer concerns and thoughts.
  - There are pros and cons to both sides of this issue. It all comes down to the firefighter's skills and knowledge. I have seen some volunteer fire departments that would put a career department to shame.
Mark Strzyzynski, Captain
Rochester Fire Department, Quint/Midi 6
Sunday April 3, 2005
1600-1715

1) Describe yourself, your Organization and your community.
   - Who are you, and what work experience do you have that relates to emergency response?
     o My name is Mark Strzyzynski. I am a Fire Captain / EMT- Instructor with a city career department. 20 years of experience working in extremely busy fire companies within the cities most drug infested areas.
   - Is your experience at the career or volunteer level?
     o Career level
   - How confident do you feel about your organization responding to an emergency situation? Terrorist situation?
     o I feel confident we can keep our rescuers safe during the initial response however as far as mitigation and recovery we will need a lot of state or FEMA level assistance.
   - What do you feel are the biggest threats to the community? To emergency responders?
     o Chemicals stored & transported within city limits are a top threat. Lack of a quick back up response provided by the county departments.
   - What are the demographics of the community you serve?
     o 200,000 people living in city, 300,000 citizens and employees during the day time. 100 Firefighters and officers on duty 24 / 7 with a total department staff of 500.
   - Are your assets sufficient to meet the threats you have?
     o I don’t believe a local jurisdiction will ever have sufficient assets. That is why there is a National Response Plan (NRP).

2) Describe your assessment of the response to an emergency situation.
   - What is your assessment of local emergency response and training at the present time?
     o Our system is OK we started early with the Metropolitan Medical Response System (MMRS) which mandated training and planning. Our EOC has always been up to date and proactive, you can attribute this to
Monroe County’s proximity to a nuclear power plant and all the required plans from that can be easily changed to all hazard plans.

- How prepared is your department to respond to a major emergency? Does it have the necessary plans, personnel and equipment ready?
  - We are repaired on paper (ERP) and equipment for fire / haz-mat / tech. rescue are good. However we lack basic EMS MCI equipment to handle an MCI of over 50 patients. (Body bags, back boards…..as far as personnel the city plans for the most part of being on our own for a while until state and federal resources arrive. Due to the large quantity of small departments outside the city we can’t count on volunteer or "semi" career departments.

- Has the response to an emergency changed since 911 (physical or mental)?
  - For a few months, however we could not maintain the vigilance associated with post 9/11.

3) Describe programs in place to help prepare your emergency responders for the anticipated threats.

- Has training changed since 911 and if so how?
  - No

- What types of training programs or classes are available that you know of and are they readily available?
  - In emergency services training is the most important part of our job next to personal safety and fitness. There are a wide variety of classes available, in my opinion the best are at the National Fire Academy/National Emergency Training Center in Emmetsburg, MD. The tuition and housing paid by the government with the exception of food. Most classes are 2 weeks long and are outstanding both in instructors and content.

- Is everyone in your department up to date on the new training?
  - Yes all of our members have received up to date training.

4) Thoughts on how to better prepare responders.

- Should WMD training be made mandatory in all departments?
  - Yes

- Which emergency response improvements (for example, education, equipment, or money) should be the most immediate priorities?
We need to train to meet the new NIMS standards to allow any major incident to function properly and safely. This also allows for a seamless transition when the NRP is implemented. Agencies have to stop being stand alone and work with all others.

- Career versus Volunteer concerns and thoughts.
  - No Comment!!
1) Describe yourself, your Organization and your community.

- Who are you, and what work experience do you have that relates to emergency response?
  - Dan Weimer 30 yrs experience with the Egypt Volunteer Fire Department, current life member. Past line and social officer. Highest rank of captain was also a safety and training officer for the department.

- Is your experience at the career or volunteer level?
  - All of my experience is at the volunteer level.

- How confident do you feel about responding to an emergency situation? Terrorist situation? What is your level of training in the area?
  - Quite confident in responding to a regular emergency, on a scale of 1-10, a 9.5. As far as a terrorist incident I personally have a confidence level of maybe 1. I have had WMD and terrorism training in the capacity of taking classes in both areas.

- How confident do you feel about your organization responding to an emergency situation? Terrorist situation?
  - 90% capable of handling anything, a 9 on a scale of 1-10. That is because since 911 a lot of new volunteers have joined and you gain knowledge through experience. 10%, or again a 1 on a scale of 1-10 confidence in responding to a terrorist incident for the overall organization.

- What do you feel are the biggest threats to the community? To emergency responders?
  - 2 malls pose the possibility as a terrorist attack point due to their availability and mass numbers at different times. The lack of training on certain topics poses a threat to responders as well as the response time and numbers to an incident.

- What are the demographics of the community you serve?
  - North side had a mix of level flat ground houses malls markets. South side, hills single lane roads, far away houses from the road. 2 malls. 10,000 in the fire district. 63 members in the department. 25 active. Over the past 5 yrs, mainly since 911, active membership has almost doubled in the department.
• Are your assets sufficient to meet the threats you have?
  o Department has A rating according to insurance institute to responding to
    normal emergencies which is the highest. Physical assets are sufficient to meet
    the needs, personnel assets can be an issue depending on the time of day.

2) Describe your assessment of the response to an emergency situation.
• What is your assessment of local emergency response and training at the present
time?
  o Overall in Monroe County emergency response is the best in NYS. 3rd
    Battalion, which Egypt is a part of, is one of best in the county. This is due
to availability of education and training for responders
• How prepared is your department to respond to a major emergency? Does it have
  the necessary plans, personnel and equipment ready?
  o Very well prepared to respond to a normal emergency. Time of day
    dependent. 6am-6pm causes a concern.
• Has the response to an emergency changed since 911 (physical or mental)?
  o Responders are more in tune to responding to emergencies and is much
    better then prior to 911. This is due to more enthusiasm and more fear
    since 911.

3) Describe programs in place to help prepare your emergency responders for the
  anticipated threats.
• What types of training programs or classes are available that you know of and are
  they readily available?
  o Classes are available on a voluntary basis when they are offered
• Has training changed since 911 and if so how?
  o Basic Firefighting training hasn’t really changed. Occasional mention of
    terrorism, but no mandatory training on the topics.
• Is everyone in your department up to date on the new training?
  o Not up to date. Too many mandatory training. One terrorism drill every
    other year. Terrorist training takes the back burner to other training.
    Difficult to ask volunteers to do more with less time.

4) Thoughts on how to better prepare responders.
• Which emergency response improvements (for example, education, equipment, or
  money) should be the most immediate priorities?
- FF retention program or compensation program to keep trained members on board. Funding seems hardest to get. Training and awareness should be made a priority. 24 week basic FF class could be extended and terrorism be added to

- Should WMD training be made mandatory in all departments?
  - How much mandatory can you have? Already a lot of mandations for training. Incorporate terrorist training concepts in HAZMAT training since both have similar concepts and concerns to responders and teach the mindset of recognizing issues before getting on the scene.

- Career versus Volunteer concerns and thoughts, or any other thoughts
  - Volunteers may not take a voluntary class on terrorism. Response time to an incident and training concerns.
1) Describe yourself, your Organization and your community.

- Who are you, and what work experience do you have that relates to emergency response?
  - Current District Chief Bill Haines with over 30 years of experience in the fire service with Bushnell’s Basin. My work experience as being a teacher and working at General Motors has had a profound effect on being an emergency responder. I have developed people skills, learned and practiced risk management and been schooled in making field decisions.

- Is your experience at the career or volunteer level?
  - All my experience is at the volunteer level.

- How confident do you feel about responding to an emergency situation? Terrorist situation?
  - I am expected to demonstrate confidence at the common everyday emergency and I think I do. Even at some of the ordinary events that I have responded to, I have outwardly exhibited a confident air when I wasn’t absolutely sure of what I was doing would work. My experience told me it should and it was rarely ever dangerous. Terrorism on the other hand is not something I have had first hand experience with and I am not certain that emergency responders will recognize all terrorist situations. Being able to recognize the situation for what it is can be the biggest hurdle a command officer can face. I would attempt to show calmness and leadership for the individuals I lead. With any luck, the response for the first responder would be the same whether it was an accident or terrorism.

- How confident do you feel about your organization responding to an emergency situation? Terrorist situation?
  - I have every confidence that our organization when responding to about 95% of our calls, will know what to do and will do the right thing as well. The single best reason I am needed at emergencies is the 5% of the calls that for one reason or another, are out of the ordinary and need leadership to orchestrate the response safely and efficiently. However, when it comes to terrorist situations, I am very concerned about our response there is a naivety in the ranks that nothing will ever occur in our district from a terrorist. That alarms me.

- What do you feel are the biggest threats to the community? To emergency responders?
I think the biggest most realistic threat to a community such as ours is the accident involving a hazardous material. These types of events have a tendency to happen when least expected and most vulnerable. For the responders, the biggest threat is fitness to do the job. Year after year, the health culls more firefighters then any other situation.

- What is the population of the community you serve?
  - 9-10,000 at any given time.

- Are your assets sufficient to meet the threats you have?
  - By and large, yes. We can manage the most likely scenarios. No single department can manage the worst thing that can happen and that is why we have a mutual aide system throughout the area.

2) Describe your assessment of the response to an emergency situation.

- What is your assessment of local emergency response and training at the present time?
  - Local response is very good. Short of being career firefighters who get a lot of experience, the volunteers in our area are very professional and talented. For Monroe County, the potential training for fire departments is very good. What has to be realized is that what is being offered doesn’t necessarily reflect on the training level of the individual departments. The extent, to which a department trains, is determined by the department itself. We still have departments that only train once a month, while a department such as ours, trains 47 out of the possible 52 Monday’s a year. Also, to the point is how good the trainers are within the department itself. We are blessed with some very effective trainers, but that isn’t the case for every department.

- How prepared is your department to respond to a major emergency? Does it have the necessary plans, personnel and equipment ready?
  - Our average membership over a running five years is about 74. On responses, we range from as few as five to as many as 45 depending on the time of day and the nature of the call. We are prepared to respond to weather related/natural and most fire related incidents. If the event were to go beyond the “natural” emergency, the best that we could do would be to surround it and request assistance. Fortunately for us, the specialized assistance we might need is readily available. The challenge for our department would be a test of the command structure. We do have plans in place for large-scale emergencies; however, the plans are very generic since no two emergencies are ever the same.

- Has the response to an emergency changed since 911 (physical or mental)?
The change since 911 has not been the response, but the preparation. We have been receiving training to help us recognize the “new emergencies” from the state and federal government. We have been inundated with the ‘levels of alert’ so that we can prepare ourselves. But the actual response mentality has not likely changed.

3) Describe programs in place to help prepare your emergency responders for the anticipated threats.

- Has training changed since 911 and if so how?
  - The training has swung from the standard training effort of fire suppression to responses to terrorist activities and individual safety, or save yourself.

- What types of training programs or classes are available that you know of and are they readily available?
  - The training has come to us at two levels. The first type of training is what I term the practical kind. This is the type that gives us a practical knowledge or awareness of the kinds of threats. Included would be WMD and Anthrax Awareness. The other type has been the command effort such as the introduction of NIMS and re-emphasis in Incident Command. All of these are readily available.

- Is everyone in your department up to date on the new training?
  - No. We have not made the new training classes attributable to 911 mandatory. However the overwhelming majorities are trained at least to an awareness level. Our department’s attitude is that we first have to recognize the situation exists before we can properly react and because most of the response is very technical in nature, our best resource is the teams in the county that have trained.

4) Thoughts on how to better prepare responders.

- Should WMD training be made mandatory in all departments?
  - Some type of exposure should be mandatory for all departments. Based on their locations, departments should have various degrees of skills and/or resources. One thing is for sure; we don’t need the same training that a fire department in Washington DC needs. The training should target the needs for the region and should not have a “one size fits all” approach.

- Which emergency response improvements (for example, education, equipment, or money) should be the most immediate priorities?
  - The most immediate is money. Education and equipment, though important, cannot be had without the dollars to fund them. The
improvement necessary for the future is the realization that the US is vulnerable and that prepared responses to emergencies is a way of limiting the impact.

- Career versus Volunteer concerns and thoughts.
  - One concept has to be corrected and that is that somehow, it is believed that career departments are better then volunteers and that combination departments have it all. The advent of career departments came about only because the number of alarms got so high that the community had to put a paid staff on duty. By their nature, career departments (with notable exceptions/big cities), are staffed to manage the run of the mill calls and still require assistance when the ‘big one’ comes along. That assistance is typically from volunteer companies that surround them. Volunteers are staffed so that they can get enough people for the once in a while alarm. In some cases, the funding favors the career departments, while in others, the affluence of the community favors the volunteer. Training is what you make of it. Responsible departments train incessantly, regardless of their staffing type. The biggest difference is that career firefighters tend to have the edge in experience, which is both a good and bad thing. The experience breeds complacency, which is deadly. Combination departments are probably the worst idea ever developed. On paper, they sound reasonable. The reality is that the politics that is generated between the two components is often so negative that the climate in the fire station and on the fire grounds is not conducive to having a good organization.
1) Describe yourself, your Organization and your community.

- Who are you, and what work experience do you have that relates to emergency response?
  - I am Deputy Coordinator Sam DeRosa, Firefighter in Monroe County for 26 years. 23 in the Gates Fire Department as Chief, Captain and Safety Officer. Worked full time for RG&E as the Emergency Manager for 12 years. Instructor for the County Fire Bureau for 18 years.

- Is your experience at the career or volunteer level?
  - Both career and volunteer experience at the town and county levels.

- How confident do you feel about responding to an emergency situation? Terrorist situation?
  - Never truly feel 100% confident, I feel I can make a decision, for the good or bad, but each situation is different and requires different things. Since I have not had to respond to a terrorist incident it is hard to assess my confidence. Terrorism really is a culture shock to the response community.

- What do you feel are the biggest threats to the community? To emergency responders?
  - The need for the use of resources at the same time as in the same town, or towns that are assisting others as well as response times seem to be the prevalent concerns to the community. The biggest threat to emergency responders tends to be over-reactive responses, or the lack of pre planning prior to arriving on scene.

- What are the demographics of the community you serve?
  - Monroe County has approximately 800,000 people.

- Are your assets sufficient to meet the threats you have?
  - Yes, the county has three WMD trailers fully stocked and ready to respond to a wide scale situation as well as SOP’S for many different scenarios. The county has available enough inoculations for each person in the county if the need ever arises.

2) Describe your assessment of the response to an emergency situation.

- What is your assessment of local emergency response and training at the present time?
There needs to be more proactivity in response than reactivity. More thinking and less doing.

- How prepared is your department to respond to a major emergency? Does it have the necessary plans, personnel and equipment ready?
  - The county is very ready and prepared for a major emergency. There are plans in place as well as the equipment, and personnel ready to respond to any given situation.

- Has the response to an emergency changed since 911 (physical or mental)?
  - Life as a human in general and certainly as a responder has changed. The mentality has changed and things we never would have imagined thinking of before, we now have to as emergency responders.

3) Describe programs in place to help prepare your emergency responders for the anticipated threats.

- Has training changed since 911 and if so how?
  - Yes training has changed. The days of a firefighter operating on the premise of squirt and screw are over. The days of a Hazmat responder operating on the premise of plug and screw are over. Training for a tanker roll over is now a minimum when it used to be a maximum. That type of methodology is now included in the training for every aspect of emergency response.

- What types of training programs or classes are available that you know of and are they readily available?
  - County fire instructors are now going to the different agencies around the county and providing training to bring responders at least to the awareness level, mainly at the battalion level. There are a variety of WMD, Hazmat, NIMS, and terrorism classes available.

- Is everyone in your department up to date on the new training?
  - The county responders have to be up to date in order to remain part of the county response team. As far as the town level, no each responder is not up to the minimum standard of where they should be. We have a long, long way to go.

4) Thoughts on how to better prepare responders.

- Should WMD training be made mandatory in all departments?
  - Absolutely, Hazmat training used to be the minimum training in departments. Nowadays WMD training should be the new minimum.
• Which emergency response improvements (for example, education, equipment, or money) should be the most immediate priorities?
  o Education and training should be the most immediate priority. Education + Training = Awareness

• Career versus Volunteer concerns and thoughts.
  o This is a huge issue. Career departments and volunteer departments are going to have to work together at some point. Training availability should be equal to every department as well as overall awareness of the responders in the department.