

TERRORISM AND THE FIRE SERVICE: PREPARING FOR TODAY'S THREATS

BY RAY DOWNEY

In my last article (June 1996), I discussed the various domestic and international incidents that were the focus of discussion during the first worldwide conference on strengthening the fire and emergency services response to terrorism. Unfortunately, the carnage still continues, both domestically and internationally. Bus bombings continue in Israel. London has experienced a series of bombings. In the United States, Spokane, Washington, has had a number of pipe-bomb explosions; and an explosive device blew out windows at an office building housing the Federal Bureau of Investigation (FBI) in Laredo, Texas. FBI statistics reveal that bombing attacks were the leading act of terrorism in the United States during the years 1990 to 1994 (Figure 1).

Prior to the March 20, 1995, release of the poisonous gas sarin in the Tokyo subway system that killed 12 people and injured more than 5,400, terrorism emphasis was

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placed mostly on bombing threats. The Tokyo incident would become a wake-up call for all fire service and emergency responders worldwide. The Tokyo Fire Department, with more than 18,000 firefighters whose experience with large-scale disasters involved mostly natural disasters, was not prepared or equipped to deal with this deadly nerve gas. Was that department any different from most departments in the United States—or worldwide, for that matter?

THREATS BEYOND BOMBINGS

Since the Tokyo incident, many cities, fire departments, and other emergency responders have initiated training for NBC (nuclear, biological, and chemical) incidents. These types of incidents are also referred to as CBR (chemical, biological, and radiological) and WMD (weapons of mass destruction). Terrorism training, including NBC, has been part of the preparedness for the 1996 Summer Olympics in Atlanta, Georgia; the Republican National Convention in San Diego, California; and the Democratic National Convention in Chicago, Illinois. Large-scale disaster drills are being held in most large cities, many of them mirroring the Tokyo attack.

Certainly, biological and nuclear threats deserve as much attention as chemical threats. In New York City, a major newspaper reported that an FBI probe reported that Iranians were suspected of plotting a nuclear attack on New York City. It was feared that if the terrorists gained control of even a small amount of nuclear material or waste, it could be used with a bomb similar to the one planted at the World Trade Cen-

ter to disperse a radioactive blanket across a large area of New York City. The threat of a biological attack is just as scary. Consider the effects of a release of a deadly biological agent into the ventilation system of a multistory office building.

As reported in *The CQ Researcher* (July 21, 1995), two incidents that occurred just weeks after the Oklahoma City Bombing highlight the need for better regulation of materials that could be used in terrorist attacks. In one incident, a neo-Nazi in Minnesota was convicted of manufacturing or obtaining ricin, a highly poisonous biological toxin produced from castor beans. Eastern European secret service organizations used ricin to assassinate opponents during the Cold War. Anthony Fainberg, a senior associate at the Office of Technology Assessment, a specialist in the terrorism arena, notes: "Although ricin is not necessarily a weapon of mass destruction and it is difficult to distribute, it is highly toxic."

In the other incident, Larry Harris, a member of the racist group Aryan Nation, ordered a supply of freeze-dried *Yersinia pestis*, the bacterium that causes bubonic plague, from a laboratory supply service. Some serious concerns are raised when you realize how easy it is to obtain these deadly agents.

TRAINING NEEDED

It's apparent that the need to increase fire service training for these types of incidents (NBC, CBR, WMD) must be a priority for every department in the country. All department members from the chief down to the first responder should be included. This training should begin at the awareness level

and graduate to the responder and operational levels, where specially trained personnel use the nine step process of Isolation, Notification, Identification, Protection, Spill, Leak, Fire Control, Recovery, and Termination. This new challenge of responding to potential NBC incidents is forcing the hands of all departments to better educate and train their personnel and procure the equipment necessary to handle these incidents.

How many members of your department know the uses for a CAM (not the automo-

otive type) and M-9 detection paper? The CAM (chemical alarm monitor) is a handheld device sensitive to minute traces of toxins in the atmosphere. M-9 detection paper identifies nerve agents in liquid form.

It now is necessary for every department to have specialized equipment—and the ability to operate it—to detect and monitor a variety of agents. This will not be accomplished overnight. A well-designed training program by personnel specially trained to handle these incidents should be the first

step. Before you learn how to put out fires, you have to learn fire behavior. The same principle applies when involved with NBC.

FDNY TRAINING

The City of New York (NY) Fire Department initiated training for its special operations command personnel by using the specially trained personnel of its hazardous-materials unit. More than 300 members were trained in procedures for using Level A protective clothing and chemical detection monitors as well as for decontamination procedures. The department has been very proactive in developing specialized training for these types of incidents. Large-scale exercises mirroring the Tokyo sarin attack have taken place in New York City. These drills included a number of city agencies, including the emergency medical services, the Department of Environmental Protection, the police department, and others, coordinated by the Mayor's Office of Emergency Management. This type of exercise was extremely helpful in preparing for the visit of Pope John Paul II and the United Nations' 50th anniversary celebration, which took place only a month after the training exercise. Additional training exercises have continued, and a special NBC committee, comprised of members of various city agencies, has been meeting regularly to develop training and response plans.

WASHINGTON, D.C. INITIATIVE

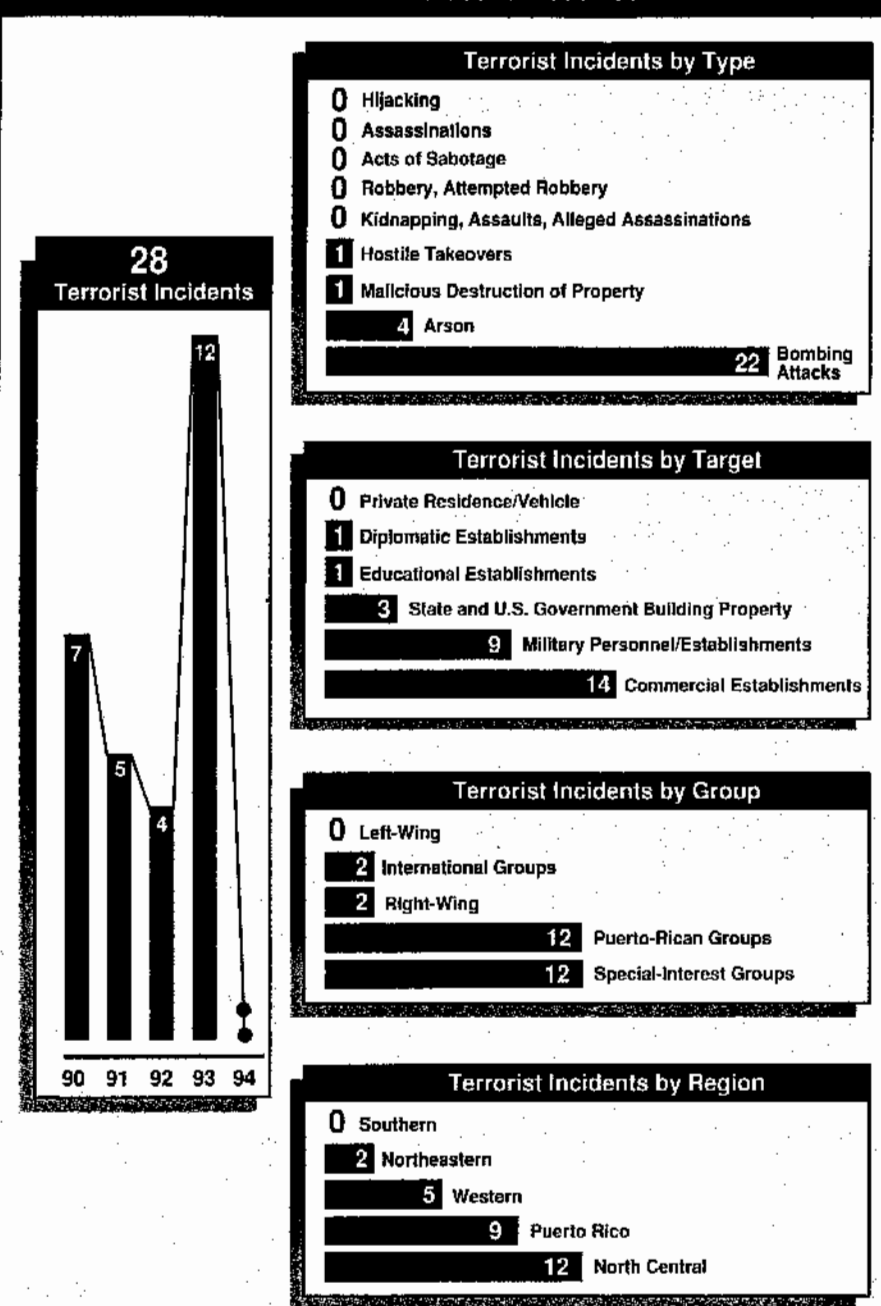
In Washington, D.C., a joint initiative between the U.S. Department of Health and Human Services and the Washington Metropolitan Council of Governments has begun to address the concerns of the local capability to respond to NBC incidents. An NBC steering committee was formed and is meeting twice a month to develop a plan to include the many components needed to develop a metropolitan medical strike team that can be a model for other cities.

LESSONS LEARNED AND FIRE SERVICE NEEDS

What have we learned, and what does the fire service need to respond to an NBC incident? We realize that an NBC attack is possible and could occur in any city in this country and that we must be prepared for it. Following are some recommendations for accomplishing this objective.

- Design training programs that will bring all responders to the awareness level and the operational level when needed. Some departments may designate special response teams trained and equipped for an operational level response. If a department doesn't have the expertise within the

Figure 1.
FBI Five-Year Statistics: 1990-1994



Source: U.S. Federal Bureau of Investigation.

NERVE AGENTS BY FRANK L. FIRE

Time and again, the human body proves to be a fantastic chemical factory. It produces those chemical compounds the body needs to break down food into usable fuel to provide the energy it needs to function, and it also produces very complicated chemicals needed to carry out more basic functions such as brain activity and nerve impulses. The murderers among us recognize that if certain important functions are interrupted, the body will die.

Acetylcholine is the chemical the body forms to transmit nerve impulses in the autonomic system. It is present in brain tissue and other parts of the body where those impulses must be transmitted from nerve ending to nerve ending. The problem here is that acetylcholine is a deadly poison. If it is allowed to accumulate in the body to a specific level, it will cause a very rapid death by poisoning. To prevent this toxic level from being attained, the body produces cholinesterase, an enzyme that hydrolyzes acetylcholine into choline and acetic acid, which the body can handle in a nontoxic manner. Cholinesterase is found in the brain, nerve cells, and red blood cells, wherever acetylcholine may be produced.

Anything that inhibits the formation of cholinesterase and will allow acetylcholine to build up to a toxic level will cause death and can be classified as a nerve agent or nerve gas. These chemical compounds usually are organic derivatives of phosphoric acid, the same family of chemicals to which organic phosphate insecticides belong. Death by inhaling a nerve agent or having it absorbed through the skin is very fast; organic phosphate insecticide poisoning is much slower and more painful.

The nerve agent sarin is such a cholinesterase inhibitor, and a tiny amount is deadly to humans and other forms of animal life. Sarin has many chemical and trade names, but it can be found in chemical references as isopropyl methanefluorophosphonate or as the isopropyl ester of methylfluorophosphate acid. Its RTECS (Registry of Toxic Effects of Chemical Substances) designation is TAS400000, and its CAS (Chemical Abstracts Services) designation is 107-44-8. It has several trade names, including Sarin, Sarin II, T-144, T-2106, TL 1618, and Trilone 46.

Antidotes for cholinesterase inhibitors (if administered in time) include atropine sulfate and pralidoxime iodide.

On the other hand, the poison known as ricin is the albumin of the castor bean and is extremely toxic. It operates quite differently from sarin but may be just as rapid in its deadly action. It can be found in references under ricin. Its RTECS (Registry of Toxic Effects of Chemical Substances) designation is VJ2625000, and its CAS designation is 9009-86-3. ■

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department to conduct this training, it will have to reach outside the department. Other departments may be able to provide this expertise, or it may be necessary to contract with agencies that provide this type of training.

- *Procure the specialized equipment needed for NBC responses that is not normally part of a department's inventory.* To do this, in-depth research may be needed or the department may have to reach out to other departments or agencies that have the equipment. Ask government agencies about the availability of surplus equipment or the

possibility of borrowing the equipment. The equipment must be able to perform the necessary functions for NBC incidents. Remember that military-type protective equipment does not have to meet Occupational Safety and Health Administration (OSHA) mandates. Seek out as much information as possible, and be certain that you have obtained the proper equipment and know how to use it.

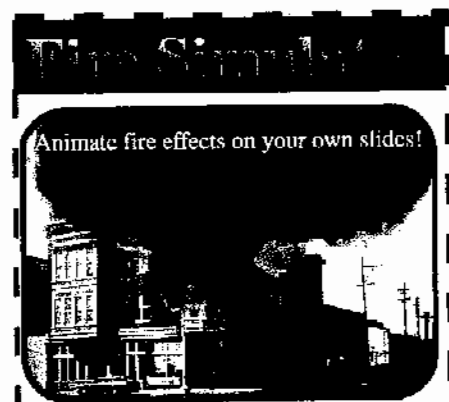
- *Develop a working relationship with law enforcement.* There is a definite need for interaction with these agencies, especially in the area of preincident intelligence.

- *Identify external resources—know where you can get help.* Find out where the resources are located and what their response times would be. It is a foregone conclusion that the local departments will be the first responders to these incidents and may be operating for hours by themselves before help arrives. The burden will surely be on the first arriving units.

Note: President Clinton signed the Comprehensive Antiterrorism Act of 1995. Following is an excerpt from that bill:

Firefighter and emergency service training. The Attorney General may award grants in consultation with the Federal Emergency Management Agency for the purposes of providing specialized training or equipment to enhance the capability of metropolitan fire and emergency service departments to respond to terrorist attacks. To carry out the purposes of this section, there is authorized to be appropriated \$5,000,000.00 for Fiscal Year 1996.

It really isn't a large amount of money for the number of departments that need the equipment and training, but it is a start. Don't sit around waiting for the money. Begin—and continue—the training. We can never be overprepared. ■



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