Standing By at a Suspicious Package

by Captain Michael Barvels

In some areas of New York City, units routinely are assigned on calls to stand by for a *suspicious package*. Typically, the fire companies will stand fast, prepared to stretch hose-lines, while NYPD Technical Specialists examine the device. In most cases, NYPD already has the area cordoned off and the responding Battalion Chief will decide where to place units. As typical with such responses, the usual safe outcome at these incidents often can be taken for granted. With the increasing number of terrorist attacks, both abroad and within U.S. borders, it is important to stay vigilant, approaching the suspicious package response with caution and professionalism.

The IED

Although chemical, biological and radiological terrorist attacks remain a threat, the most frequent weapon of the terrorist is the conventional bomb or improvised explosive device (IED). This is usually a crudely designed, homemade bomb used to destroy, incapacitate, harass or distract. IEDs may include incendiary or chemical/biological/radiological/nuclear (CBRN) materials or hardware to add to the destructive power and psychological effect of the device. IEDs may be constructed at low cost, with little skill and can be easily disguised, allowing the bomber to detonate the device from a safe distance without being identified. The size, type and effectiveness of the device is limited only by the goals and technical skills of the individual or group producing it.

IEDs can use military, commercial or homemade explosives. When carried or planted, IEDs are portable, concealable and, if left behind, may be in a container that would not appear out of place in the surroundings. Backpacks, suitcases and paper bags have been used in the past.

On March 11, 2004, 10 bombs concealed in backpacks were planted on four different commuter rail trains in Madrid and detonated during rush hour, killing 191 people and injuring 1800. It is important to remember that IEDs can be concealed in anything, including garbage containers, mailboxes, cell phones, flashlights, cigarette cartons, soda cans, potholes and even dead animals.

Detonation methods

The following may be used to set off the explosive device(s):

Command detonation: A switch or button activated by hand.

Hard-wired: Electrical wires between devices or leading away from the device.

Remote-controlled: Battery-powered devices, such as doorbell ringers, pagers, cell phones, car alarms, garage door openers and two-way radios, which detonate explosives via radio frequency transmission.

Time delay: A mechanical triggering device using a timepiece, such as a wristwatch or alarm clock, to initiate an explosion at a specific time.

How the IED injures/kills

The IED injures and kills in the following ways:

Blast pressure: Excess pressure caused by a detonated explosive device. Positive blast pressure moves quickly away from the center of the explosion, followed by negative blast pressure, which moves back toward the center of the explosion at a high rate of speed. Severe injuries to internal organs may result from blast pressure.

Fragmentation: Pieces of the device, shrapnel or surrounding materials that are propelled away from the explosion. Severe injuries may be caused by flying fragments, which can travel three times faster than a bullet.

Thermal effects: Heat generated up to 3650 degrees Fahrenheit by the detonation that appears briefly as a fireball.

Pre-detonation responsibilities

It is important to remember that the prime considerations at these events are the safety of the public and members of the Department, as well as the documentation and preservation of evidence. To assist members when standing by at a suspicious package incident, the acronym ***SMOKE*** can be used. Although it doesn't cover every concern at these incidents, it will allow FDNY members to quickly remember the main points, ensuring safe operations. The breakdown follows:

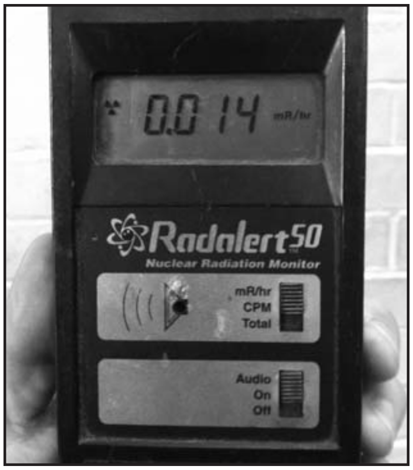
***S**econdary devices:* When standing by, the Incident Commander (IC) will assign personnel and equipment to a safe location, strategically positioned for quick deployment. Be on the alert for more than one device or a multi-release device. NYPD will search the area for secondary devices before the IC commits personnel. As discussed earlier, be mindful of dumpsters, garbage cans, parked vehicles and mailboxes as they may be receptacles for secondary devices. If a device is discovered, do not touch or disturb it and notify bomb experts.

***M**etering:* Ensure immediate metering and monitoring of the atmosphere to detect the possible presence of other hazards. The Radalert 50 radiological monitor has been issued to all engine and

(Photo #1, far left) The UltraRadiac's Source Finder Mode allows a unit to locate an isolated source by using an audible sound. The unit will start clicking if near radioactive material. Aim the top of the unit at the suspected source of radiation. As the user moves closer to the radiation, the unit will click faster. To enable the Source Finder Mode: Press and hold the *rate* key until the display changes to a flashing 1. Release the *rate* key.

UltraRadiac Alarm Type	Rate/Dose
Low alarm	2 mR per Hour/5 R
High alarm	50 R per Hour/12 R

(Photo #2, near left) Handie-talkie transmissions should not be made within 150 feet of the suspected device. (Photo #3, right) Post radio transmissions should not be made within 300 feet of the suspected device.



(Photo #4, left) The Radalert 50 alarms at 1.000mR/Hr., indicating an area that has radiation above normal background. A circular pattern then should be used around the object or area to determine the size of the isolation zone. The FDNY uses 1mR/Hr. as an action level. The Hotline (red barrier tape) should be established at a rate of 2mR/Hr. Access to this area is restricted to first responders conducting lifesaving operations. (Photo #5, right) Consider the risk to responder versus reward before undertaking rescue and offensive operations.

ladder companies, Rescues, Squads, Haz-Mat 1, Haz Tac and Battalion and Division Chiefs throughout the City to protect FDNY members from the hazards of a radiological release. Remember that background radiation will vary, maintaining normal levels between .02 and .05 millirems per hour (mR/Hr.). Additionally, the UltraRadiac monitor has the capability to detect gamma and x-ray radiation in Source Finder Mode, as well as record a member's exposure to such radiation.

***O**ut of sight:* If the device can be visualized, it can be harmful. The IC will stage units upwind, uphill and far away from the device, behind structural or natural barriers, if possible. Shock waves move around buildings. Similarly, the Command Post should be established out of the line of sight of the device and away from anything that may contain a secondary device. Members should stay down if an explosion occurs to avoid any negative shock wave effects.

***K**eep transmissions 150 feet away:* Handie-talkie and cell phone usage should be suspended within 150 feet of the suspected device to prevent accidental trigger detonation. Likewise, Post radios should not be operated within 300 feet of a suspected device. The leads to the explosive can act like an antenna and pick up electromagnetic waves from communication devices. If required, the bomb squad can be consulted regarding the safety of using such devices. Ultimately, the IC, in consultation with haz-mat and law enforcement officials, will determine what devices may be used on-scene.

***E**xterior glass fallout:* New York City has a multitude of high-rise buildings, many of which are constructed with large, exterior glass panels. If possible, position apparatus to avoid heavy window glass fallout. More importantly, avoid areas where window glass may fall on staged personnel. Inspect the structural stability of surrounding buildings.

Post-detonation responsibilities

According to FDNY policy, when secondary devices are suspected, incipient fires may be extinguished and members withdrawn until the area is surveyed by the bomb squad. In the case of a detonated device, the scene is likely to be chaotic. The IC will consider using heavy streams from points of safety, especially where large area or room fires are involved. Immediately tend to the injured and assist with evacuation.

Work to mitigate other hazards, such as ruptured gas, electric, steam, water or sewer lines. Realize that power in surrounding buildings likely will be affected after detonation, resulting in communication, elevator and fire pump failure. Water damage has proved heavy in past explosions, so locating control valves for sprinklers and standpipes in affected occupancies is a good idea. If needed, custodial engineers should be made available for furnishing keys and directional guidance in these areas.

Finally, ensure preservation of the crime scene. After the emergency has been mitigated, this can be done in the following ways:

- Limit washing down the area as evidence may be destroyed.
- Leave emergency vehicles that were inside the primary blast/crime scene in place until the bomb squad can determine they are safe to move and moving them will not destroy key evidence.
- Leave the deceased undisturbed (may be booby-trapped or evidentiary).
- Clothing of victims may be evidence (explosive residue).
- Do not touch components of the device because they may still pose a hazard and are also evidentiary.
- Consider embedded objects as possible evidence.

Members are urged to review the following:
- *All Unit Circular 190*.
- *Communications Manual*, Chapter 8.
- *Fire Tactics and Procedures*: Emergency Response Plan Addenda 3, 4A and 4D.
- "Times Square Bomb Incident Mitigated Expeditiously," by Deputy Chief Daniel Donoghue and Battalion Chiefs John M. Esposito (now Deputy Chief) and Thomas J. Meara, in the 1st/2011 issue of *WNYF*.
- "Hybrid and CNG Bus VBIED, A Review of Alternate Power Bus Emergency Procedures, Fire Operations and Terrorism Awareness," by then-Lieutenant Michael Doda, in the 3rd/2010 issue of *WNYF*.
- "Improvised Explosive Devices: Responding to and Managing the Complex Attack Scenario," by Captain John Gormley and Firefighter Jason Brezler, in the 1st/2010 issue of *WNYF*.
- "Mumbai: Terrorist Tactics Hinder Rescue Operations," by Firefighter Christian M. Zisel, in the 2nd/2009 issue of *WNYF*.
- "Dirty Fires: Radiological Incendiary Devices," by then-Deputy Assistant Chief Joseph W. Pfeifer, in the 2nd/2006 issue of *WNYF*.

Summary

- Be aware of secondary devices and meter the area.
- Keep out of sight of the device.
- Keep handie-talkie and Post radio transmissions 150 feet and 300 feet away, respectively.
- Be aware of exterior glass in the area and always assume you are operating in a kill zone (possible area of heavy casualties or damage) until proved otherwise.
- Ensure preservation of the crime scene.

The IC will determine which signal to transmit should the package turn out to be an IED. In all other cases, a 10-39 (FD units standing by at inter-agency incident) is sufficient. Never take a seemingly routine response for granted.

About the Author…

Captain Michael Barvels is a 10-year veteran of the FDNY. He is assigned to Ladder 115. Previous assignments include Engine 54 as a Lieutenant and Engine 217 as a Firefighter. He holds a Master's degree in Protection Management from John Jay College. This is his first article for WNYF.