



# TECH *b.e.a.t*

Dedicated to Reporting Developments in Technology for Law Enforcement, Corrections, and Forensic Sciences

## Better Bomb Containment: To Build or Not to Build

**M**ost containment vessels used by bomb squads to transport explosive devices are large, heavy, and expensive. Cost and size limit their availability, making them few and far between. For many jurisdictions, they are a pooled resource. But, if you thought that smaller, less expensive containment vessels—ones that every bomb squad could afford—would be a priority for State and local bomb squads, you would be wrong.

In the late 1990s, the National Institute of Justice (NIJ) funded the development of an affordable, portable containment vessel designed for pipe bombs because they are the most prevalent type of explosive devices faced by bomb squads. The prototype containment vessel, however, failed when it was tested by the National Law Enforcement and Corrections Technology Center (NLECTC)—Rocky Mountain in Denver, Colorado, which serves as NIJ's "Bomb Center," assisting in the identification of bomb squad technology requirements and supporting the National Bomb Squad Commanders' Advisory Board (NBSCAB).

According to NIJ Deputy Assistant Director Chris Tillery, before NIJ would commit to additional resources and funding to rectify the problem with the prototype, the agency asked the Rocky Mountain Center to determine how high a priority having such a containment vessel was to bomb squads and what that vessel should be designed to do. In response, NLECTC—Rocky Mountain conducted a needs assessment survey that included seven ranked questions ("not important" through "very important") and three open-ended questions. The survey was administered to 61 certified bomb technicians. The results showed that only a slight majority (56 percent) felt that developing a lightweight portable bomb containment system would meet an important, although not overwhelming, operational need. Survey participants deemed more training as the greatest operational priority.

"Further investigation revealed a wholly reasonable explanation for this less than overwhelming support," Tillery says. "The standard practice for U.S. bomb squads is to neutralize explosive devices in situ. Very few

circumstances require that a device be moved. That is the procedure taught at the FBI's Hazardous Devices School.

"When you think about it, this makes a lot of sense," he adds. "Neutralizing a device in situ reduces the risk to bomb technicians because they don't have to handle it. Moving explosive devices risks setting them off. Putting an explosive device in a 'blast proof' trash container or covering it with a bomb blanket or other similar means of mitigation only complicates the bomb technicians' job."

Tillery notes that although NIJ is currently not investing additional funding for the development of bomb

### EXPLOSIVES 101

Although bomb remediation and disposal personnel possess a depth of expertise in explosives and evidence collection, the average first responder—whether police officer, firefighter, or paramedic—often lacks the basics.

During the past year, the National Institute of Justice's National Law Enforcement and Corrections Technology Center (NLECTC)—Rocky Mountain has been working with the local chapter of the International Association of Bomb Technicians and Investigators to educate Colorado's first responders about bombs and explosives through its Basic Explosives/Evidence Course for First Responders.

"The objective of this course is to show that crime scene investigators can make or break the case," says Paul Reining, program manager for explosive devices at NLECTC—Rocky Mountain. "We show the participants examples of military-type explosives that find their way to the street, stolen commercial explosives, and homemade devices such as the ones built by the

*Continued on page 2*

containment vessels, it is actively developing other tools to address bomb squad technology requirements. To define requirements, NIJ is working with NBSCAB, through NLECTC–Rocky Mountain. In addition, NIJ is working with various technology partners, including the FBI, the Bureau of Alcohol, Tobacco, Firearms and Explosives, various U.S. Department of Defense agencies, the Technology Support Working Group, and the U.S. Department of Homeland Security.

NIJ's efforts are focusing on information technology, radio-controlled bomb mitigation, and suicide bomber detection. These efforts have produced an affordable bomb robot that meets more than 90 percent of the performance requirements called for by bomb squads (see "Building a Better Bomb Robot," *TechBeat*, Summer 2004). Also, an NIJ-funded effort to establish a national strategy to deal with radio-controlled bombs was put in place at the end of 2004. Also in 2004, the agency began a prototype for a real-time, collaborative information-sharing system that would enable a bomb technician anywhere in the United States to obtain access to bomb data and to share that information with any other bomb technician.

***For more information about the NIJ Explosive Detection and Remediation Program, contact Chris Tillery, 202-305-9829 or [george.tillery@usdoj.gov](mailto:george.tillery@usdoj.gov).***

**The National Law Enforcement and  
Corrections Technology Center System  
Your Technology Partner**

**[www.justnet.org](http://www.justnet.org)  
800-248-2742**



This article was reprinted from the Winter 2005 edition of *TechBeat*, the award-winning quarterly newsmagazine of the National Law Enforcement and Corrections Technology Center system, a program of the National Institute of Justice under Cooperative Agreement #96-MU-MU-K011, awarded by the U.S. Department of Justice.

Analyses of test results do not represent product approval or endorsement by the National Institute of Justice, U.S. Department of Justice; the National Institute of Standards and Technology, U.S. Department of Commerce; or Aspen Systems Corporation. Points of view or opinions contained within this document are those of the authors and do not necessarily represent the official position or policies of the U.S. Department of Justice.

The National Institute of Justice is a component of the Office of Justice Programs, which also includes the Bureau of Justice Assistance, Bureau of Justice Statistics, Office of Juvenile Justice and Delinquency Prevention, and Office for Victims of Crime.

***Explosives 101 (continued)***

students involved in the incident at Colorado's Columbine High School in April 1999."

Basic familiarity with bombs and explosives is not the only goal of the 3-day course, which was offered four times during 2004. "We look at the effects of airblast from an explosion, which can collapse the lungs or damage other organs," Reining says. "We examine both Federal and State laws pertaining to the ownership, storage, and transportation of explosives. We also point out that State laws can be more restrictive than Federal laws."

On the final day of the course, Reining says, participants travel to NLECTC–Rocky Mountain's Explosives Facility to see the effects of a small pipe bomb. Participants join in evidence collection when a car containing a briefcase with two sticks of dynamite, a clock, and a cell phone is blown up. "What surprises them," Reining says, "is just how far the evidence is dispersed. We end up using a truck load of yellow crime scene tape."

Although the Rocky Mountain Center administers the course, the instructors—all volunteers—come from public safety agencies in Colorado, including the Denver Police Department, Arapahoe County Sheriff's Office, Colorado Springs Police Department, Jefferson County Sheriff's Office, and Denver Health Paramedic Division, among others. "Even the cars that were blown up were donated," Reining adds.

***For more information about the Basic Explosives/Evidence Course for First Responders and other explosive detection and neutralization initiatives of NLECTC–Rocky Mountain, contact Paul Reining, 800-416-8086 or [preining@du.edu](mailto:preining@du.edu).***