National Law Enforcement and Corrections Technology Center

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Standards for SWAT

Beslan, Russia. Bovensmilde, the Netherlands. Cokeville, Wyoming. Bailey, Colorado. What do these municipalities have in common? All of these towns and cities have populations of less than 35,000 residents, and all of them became well known as the site of hostage-taking incidents.

Many small towns and rural jurisdictions assemble SWAT teams — some of them part-time, some of them multijurisdictional — with little expectation that these teams will ever be called on in a crisis situation. However, incidents like the ones mentioned above can happen anywhere, at anytime, in places like unincorporated Cokeville and Bailey, a town of far less than 1,000 residents, as well as in major cities.

To help teams in towns large and small be better prepared to handle incidents and to work together if the need arises, the National Tactical Officers Association (NTOA), has developed *SWAT Standards For Law Enforcement Agencies* "to serve as an efficient core set of concepts, principles and policies to standardize and enhance the delivery of tactical law enforcement services" (p. v).

NTOA produced the standards on a quick turnaround timetable, beginning a series of meetings in February 2008 and releasing the standards in September of the same year. The association received assistance in that effort from the Rural Law Enforcement Technology Center (RULETC), which provided input into standard development and offered a training track on multijurisdictional SWAT teams at the September 2008 NTOA conference. RULETC is a component of the National Law Enforcement and Corrections Technology Center system, a program of the Office of Justice Programs' National Institute of Justice (NIJ). RULETC focuses on addressing the technology needs of small and rural law enforcement and corrections agencies.

RULETC has also developed a CD-ROM titled *Multi-Jurisdictional Special Weapons and Tactics,* which is available free of charge and includes the full text of the standards, a multijurisdictional best practices guide, a multimedia presentation and sample forms.

RULETC's efforts to help small and multijurisdictional teams began not long after Deputy Director Scott Barker, a former FBI SWAT team leader and Hostage Rescue Team member, started at the Center in 2005. An officer from a small police department came to Barker with a request for assistance, because the officer believed that four to five officers, all his department could spare, were not enough for a SWAT team. His need for help in creating a multijurisdictional team led to RULETC's efforts to create the best practices guide and CD-ROM, and the Center's eventual involvement with NTOA.

(See Standards for SWAT, page 3)



the outcome of an investigation. Tip lines have become more popular in recent years as an investigative tool, and law enforcement agencies now have new advanced tip line technology at their disposal.

Project TIPLINE is a free Internet-automated tip collection, management and analytic tool. The software is used to collect and analyze data and can be modified to meet an agency's specific needs. A handbook is included that reviews standard operating procedures for tip lines, how to handle large numbers of tips and how agencies can prepare for events and incidents that might use a tip line system.

(See Project TIPLINE, page 2)



National Criminal Justice Reference Service

In addition to funding the National Law Enforcement and Corrections Technology Center, the National Institute of Justice (NIJ) and other federal agencies support the National Criminal Justice Reference Service (NCJRS), assisting a global community of policymakers, practitioners, researchers and the general public with justice-related research, policies and programs.

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(Project TIPLINE . . . cont. from page 1)

The impetus for the project was the sniper shootings that occurred in the Washington, D.C., area during three weeks in the fall of 2002. Ten people were killed and three wounded. Lee Boyd Malvo, who was 17 years old at the time of the shootings, and John Allen Muhammad, were arrested at a Maryland highway rest stop and subsequently convicted and sentenced in some of the attacks.

Police received thousands of tips during the investigation. In the aftermath, authorities held a symposium organized by Dr. Cynthia Lum of George Mason University, the developer of Project TIPLINE, to discuss and determine lessons learned during the investigation. What emerged was the need for a sophisticated automated tip line system that could sort and analyze tips as they came in.

"During the sniper investigation, police received lots of tips from multiple locations, and there was a need to coordinate and examine tips quickly and efficiently," says Lum, who developed the handbook and software.

Development of TIPLINE involved consultation with police in Montgomery County, Md., and the Fairfax County and Manassas City Police departments in Virginia. In the final stages of development, researchers tested the system at the Moss Point Police Department in Mississippi.

Funding was provided by the Office of Justice Programs' National Institute of Justice through an interagency agreement with the U.S. Department of Defense Space and Naval Systems Command (SPAWAR), according to Joey Pomperada of SPAWAR, who served as TIPLINE project manager. SPAWAR in turn contracted with Northeastern University for the research phase of the project and collaborated with George Mason University to develop the TIPLINE software and handbook.

During the first phase of the project, which began in 2005, researchers examined the nature and state of tip lines in the United States. The research team found that the most common use of tip lines was for police to receive and examine information tip-by-tip, evaluating and prioritizing as each tip is received, and that the needs of law enforcement agencies regarding tip lines were not being adequately met. For the most part, tip lines lacked analytic and automated components, although some development of tip line applications and software had been done, such as Rapid Start, used by the FBI for case/ tip management.

"Most tip lines in the U.S. consist of a manual, paper-based system," Lum says. "Handwritten tips are sometimes entered into computerized spreadsheets, but there is often no analysis or mapping of tips.

"The concept of what was needed was simple: a software application that could increase the efficiency of tip lines by receiving and automating tips quickly, but that also could analyze tips for patterns that would be useful for the police in their operations. With TIPLINE, not only can police collect tips from multiple locations into a single database that can be analyzed, but the analysis has operational and strategic meaning. Further, the tip line handbook provides information on how agencies can prepare for critical incidents and provides examples and suggestions on a variety of operational activities, from setting up a tip line command center to what types of analysis might be generated and how such analyses might be used in investigation."

The last phase of the project was finalizing the software and testing it. The developers' law enforcement partners provided feedback about both the handbook and software. The free software was released in August 2008, restricted to government agencies.

Uses for tip lines are not limited to high-profile, critical events such as the Washington area sniper case. Law enforcement can use tip lines for a variety of reasons, including missing person cases, terrorism prevention and response, natural disaster recovery efforts, cold case investigations, community-based drug reduction efforts and such mundane matters as reporting trash in an alley.

"The software uses basic technology similar to online surveys," says Lum. "Tipsters do not have to call tips in, which reduces call volume during critical incidents. They can go online and type in information through an agency Web site. If a person does not have access to the Internet, they can still call in a tip, which is then entered by an officer or dispatcher.

"An advantage of TIPLINE is that multiple agencies and citizens from any jurisdiction can enter tips into a single database, which can then be accessed for analysis. Officers and citizens can select choices, such as hair color, and also write narratives. Such information is then automatically transferred using a secured server into a database that can then be accessed for analysis. The software can be housed on a standalone computer or a server, which allows for wide usage."

For more information on how to obtain the TIPLINE software and handbook, contact Joey Pomperada of SPAWAR at (843) 218-4528, Joey. pomperada@navy.mil.

SHERIFF

NTOA defines a Special Weapons and Tactics team, better known as a SWAT team, as a unit with designated members specifically trained, equipped and assigned to resolve critical incidents involving a threat to public safety. Handling these incidents exceeds the capabilities of traditional law enforcement first responders and/or investigative units. SWAT's primary purpose is to provide a systematic approach to saving lives.

(Standards for Swat. . . cont. from page 1)

The NTOA multijurisdictional committee and chair Tom Nolan provided input into RULETC's efforts, and the Center in turn became involved in the development of the standards and presented a small agency training track at the annual NTOA conference held in September 2008 in Albuquerque.

"We were just in the right place at the right time," Barker says. "We released our best practices guide, they introduced the standards, we did the class. It was like it was all planned, but it really just came together very well."

"It can be done if you get the right guidance and the right leadership," says NTOA Executive Director John Gnagey. "Scott and RULETC provided that under the leadership of Dr. John Morgan from NIJ."

Gnagey says the enormous scope of the 2004 Beslan incident caused the tactical community worldwide to take a serious look at whether teams would be prepared to handle a similar incident. NTOA started Project Red, which involved convening focus groups of tactical commanders, supervisors and operators from around the country and asking them some basic questions; the answers they got back were resounding "no's," accompanied by requests for standardization of policies, procedures, equipment and training. Then, in the wake of Hurricane Katrina, the Federal Emergency Management Agency came up with classifications — not standards — for SWAT teams and requested NTOA's assistance in reviewing and rewriting the National Incident Management System as it applies to SWAT teams.

At that point, Gnagey says, NTOA decided to stop waiting for a federal agency to take the lead in developing a SWAT standard, and to take on the task.

"The board of directors said look, we have feedback from members, we've been in business 25 years and we've been teaching things and suggesting model policies. Why not just go one step farther and say this is a standard," Gnagey says.

> NTOA assembled a committee of practitioners, drew on some existing documents developed by various states and asked

RULETC if the Center would be interested in a partnership and alliance.

"Within about five meetings, we were able to knock this thing out and get it ready to release at the conference," Gnagey says.

"They said they weren't going to play around, and they didn't," Barker says. He adds that NTOA originally hoped that the standards would be published by NIJ. However, NIJ chose to provide funding and input, and NTOA published the standards.

As with NIJ standards, compliance with the NTOA standards is voluntary. Another point of similarity is that Gnagey and NTOA see the standards as "a living document, always ready for potential revisions." Although copies of the standards have been distributed and are available, NTOA also sent copies to organizations such as the International Association of Chiefs of Police, the Fraternal Order of Police and the National Sheriffs' Association asking for comments, and the association plans to incorporate valid feedback as needed. Ultimately, NTOA would like to see the standards adopted by the U.S. Department of Justice, the U.S. Department of Homeland

Security and the FBI, with compliance potentially tied to receiving certain types of federal funding.

While NTOA waits for feedback from these associations and agencies, feedback is already coming in from SWAT teams around the country. Barker says response to the standards has been mainly positive, although some jurisdictions seem to feel it is too tough.

"A lot of chiefs will say this is too expensive to do, but others will say this is what they've been looking for. The days of the four-man SWAT team are over, and some teams will be forced to combine to meet the standards," Barker says. "NTOA is just trying to take the teams we have today and make them better, and RULETC is trying to facilitate NTOA to do this."

To obtain copies of Multi-Jurisdictional Special Weapons and Tactics, *RULETC's CD-ROM that also includes* the standards, or for more information about the cooperative effort between RULETC and NTOA, contact *RULETC at (866) 787-2553, e-mail Ruletc1@aol.com/.*

TECHNOLOGY NEWS Summary

ECHshorts is a sampling of the technology projects, programs and initiatives being conducted by the Office of Justice Programs' National Institute of Justice (NIJ) and the centers, specialty offices and criminal justice technology Centers of Excellence (CoEs) that constitute its National Law Enforcement and Corrections Technology Center (NLECTC) system. If you would like additional information concerning any of the following TECHshorts, please refer to the specific point-of-contact information that is included at the end of each entry.

In addition to TECHshorts, an online, biweekly technology news summary containing articles relating to technology developments in public safety that have appeared in newspapers, newsmagazines, and trade and professional journals is available through the NLECTC system's Web site, JUSTNET, at www.justnet.org. This service, the *Law Enforcement and Corrections Technology News Summary*, also is available through an electronic e-mail list, *JUSTNETNews*. Every other week, subscribers to *JUSTNETNews* receive the news summary directly via e-mail. To subscribe to *JUSTNETNews*, e-mail your request to asknlectc@nlectc.org or call (800) 248-2742.

Note: The mentioning of specific manufacturers or products in TECHshorts does not constitute the endorsement of the U.S. Department of Justice, NIJ or the NLECTC system.

AmberView Continues to Enhance Its Technology

West Virginia High Technology Consortium Foundation

Each day in the United States, more than 2,000 children are reported missing or abducted.

Although the majority of them are safely returned to their families, about 115 abducted children are murdered each year, 74 percent within three hours of their abduction. AmberView mass broadcasts a digital picture of a missing or abducted child to law enforcement, news media and citizens within minutes of an official Amber Alert – effectively putting thousands of people across an entire region on alert. To an abducted child, time is the greatest enemy.

Three years ago, through a partnership between the National Institute of Justice and the West Virginia High Technology Consortium Foundation, parents in West Virginia were introduced to AmberView. This innovative technology directly assists law enforcement by quickly issuing an up-to-date digital picture and current biographical information of a missing or abducted child. AmberView has experienced tremendous growth in participation by law enforcement, parents, academia and the media since its introduction in West Virginia.

As AmberView has progressed, its technology has been enhanced. Facial recognition capabilities using biometrics technology have been added to the process. In the event of an abduction, the image of a suspected missing child can be captured by a law enforcement officer's cell phone or digital camera and transmitted to AmberView's secure database, where it is compared against the images of missing children in the system. The result of the biometrics comparison is transmitted back to the officer's cell phone within minutes and can be used as a tool in identifying a suspected missing child. To further increase the chances of facial recognition for a missing or abducted child, AmberView also employs a system



and angular views. AmberView assisted law enforcement in December 2007 by providing, within minutes, an image of a "runaway" 14-year-old female, resulting in a successful recovery.

For more information on the AmberView program, contact Karen Whipkey at (866) 725-9300 or kwhipkey@wvhtf.org/, or visit http://www.amberview.org.

Double Dervish Tool Improves Legacy Robot Performance

National Institute of Justice

NIJ funding has led to the development of the Double Dervish, a cutter attachment for legacy explosive ordnance disposal (EOD) robots. The tool, which helps bomb technicians cut belts, vests and other items from an improvised explosive device carried by an individual, currently is undergoing evaluation. The head cuts through cloth, ballistic nylons, mixed textiles with zippers, buckles, zippers or chains, key shanks and cables, all with a single tool. A shoe guide prevents damage to the surface, which is particularly important in



hostage or suicide cases. It can be activated via a push switch at the incident site or by hooking into a robot's accessory ports, all without requiring any additional software or control interfaces. Its operator uses the robot's standard controls. For more information, contact Brian Montgomery, program manager, NIJ, at brian.montgomery@usdoj.gov.

Earthquake Field Exercise One of Nation's Largest

BRTC-Austin and NLECTC-Northwest

Representatives from NLECTC-Northwest and the Border Research and Technology Center-Austin observed and documented one of the largest school

safety field exercises in the nation in Anchorage, Alaska, in order to determine its effectiveness and the possibility of its being duplicated elsewhere in the country. The Northwest Center, in working with the Anchorage School District, was able to recommend strategies for training sustainability.

More than 450 Anchorage school district staff members, students, and city and state emergency responders participated in the earthquake simulation. Principals and staff from 60 district schools gathered at Birchwood Elementary, Gruening Middle School and Eagle River High School to simulate search and rescue, evacuations and sheltering. Participants role-played what to do in the event of a massive earthquake that collapses buildings, eliminates telephone communication, takes out bridges and makes major roadways impassable. Schools involved in the drill activated their emergency response teams, triaged victims and evacuated them to shelters as needed. Following Incident Command System (ICS) protocols, the district stood up an emergency command center to provide communications with school-based staff. During the exercise, the district's command center worked closely with the

municipality's Emergency Operations Center and police and fire departments.

This field exercise was part of a larger training program involving all Anchorage School District schools. Staff members are learning to use the National Incident Management System and ICS.

For more information, contact NLECTC-Northwest at (866) 569-2969, e-mail nlectc_nw@ctsc.net/.

GPS Review

Weapons and Protective Systems Technologies CoE

The Weapons and Protective Systems Technologies CoE, a partner with NLECTC-Rocky Mountain, in October 2008 completed an independent review of the Connecticut Courts Supports Services Division (CSSD) offender tracking program as part of a larger review of the division's use of electronic monitoring technology.

The CSSD uses electronic monitoring equipment to supervise probationers, including more than 200 radio frequency and 30 GPS tracking units. The program had been brought into

> a case earlier in the fall suggested that a repeat sexual offender had strayed from his residence without authorization. A vendor review determined that the results were inconclusive, raising questions

question when

about the reliability of the equipment, the accuracy of the GPS technology and the viability of the entire program. The Office of the Chief Court Administrator requested an independent review, which resulted in recommendations by the Weapons and Protective Systems Technologies CoE.

The NU Conference 2009

Who Should Attend?

- Policymakers responsible for shaping public safety or social services.
- Practitioners in criminal justice.
- Researchers interested in criminal justice.
- · Students interested in criminal justice issues.



Several are listed below:

- Establish realistic expectations of GPS capabilities.
- Create a monitoring center that screens after-hours alerts.
- Develop a crime scene correlation program by partnering with the state's parole division and public safety department.
- Consider using offender tracking equipment on additional classes of offenders.
- Develop a uniform response protocol.
- Meet with the vendor to discuss contractual requirements of providing timely installations and equipment retrievals.
- Remain informed about emerging technologies.

Connecticut's emergency program faces many challenges that are common to other programs throughout the country. This review was provided as part of the services offered through the Electronic Monitoring Resource Center (ERMC) of NLECTC-Rocky Mountain, in partnership with the Weapons and Protective Systems Technologies CoE.

The full report, *A Review of the GPS Program of Connecticut's Court Support Services Division*, can be found on at http://www.jud.ct.gov/external/ news/GPSReviewFinal111708.pdf/. For additional information about electronic monitoring of offenders, contact the CoE at (814) 865-7098.

SAVE

JUNE 15-17, 2009 MARRIOTT CRYSTAL GATEWAY ARLINGTON, VIRGINIA

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n the market for patrol cars, rifles, an armored personnel carrier, helicopter, computers, trucks, perhaps a horse? Law enforcement and other public safety agencies can obtain these and countless other items through programs that offer federal government goods for free or at reduced cost.

As public safety budgets tighten up, the 1033 and 1122 programs can help agencies obtain equipment they might not otherwise be able to afford.

PROPERTY Aids Public Safety

1033 Program

Through the U.S. Department of Defense, the 1033 Program provides equipment no longer needed (excess property) to state, local and federal law enforcement free, but agencies can incur some cost under the program. Each state has a coordinator to run

the state program, and each state runs its 1033 program differently. About 25 percent of states and U.S. territories charge an administrative fee, and the agency receiving the item is responsible for transport.

The 1033 Program is open to all law enforcement programs, with special consideration given to agencies needing equipment for counterdrug or counterterrorism activities. Corrections agencies' use of the program is limited to obtaining equipment for the law enforcement-type functions of a corrections facility such as probation and parole activities and fugitive squads.

> During fiscal year 2007, more than \$81 million worth of equipment was transferred to agencies under the 1033 Program, according to Ken Dover of

the National Law Enforcement and Corrections Technology Center (NLECTC) system, which is a program of the Office of Justice Programs' National Institute of Justice. Between fiscal year 2003 and fiscal year 2007, \$500 million worth of equipment was transferred nationwide. NLECTC can work with agencies to help facilitate transfer of items.

"The number of people using the program has steadily increased over the years through outreach, word of mouth, conferences and news articles," says Dover, who has been involved in the 1033 Program for more than a decade. "But there are still a lot of agencies that are not aware of it and don't use it to their benefit."

Agencies receive equipment in "as is" condition. The system has become more computerized and automated over the years to help speed transfer of goods. Property transferred over the years includes used vehicles (land, air and sea), weapons, computer equipment, fingerprint equipment, night vision equipment, radios and televisions, first aid equipment, photographic equipment, helicopters and armored personnel vehicles.

"The first person agencies need to contact is their state coordinator," says Dover. "Agencies should work through their state coordinators because each state is different."

1122 Program

The 1122 Program is a purchase program that allows state and local governments to buy new equipment from the Department of the Army, the General Services Administration (GSA) and the Defense Logistics Agency (DLA) at government cost.

In the past only law enforcement could participate in the 1122 Program and the equipment had to be used for counterdrug activities. The program has been expanded to include purchase of equipment for

Revised

he date of June 23, 2003, holds a prominent place in the memories of the law enforcement and correc tions communities. On that night, in Forest Hills, Pa., Officer Edward Limbacher, wearing body armor constructed primarily of a fiber called Zylon[®], threw open the side door of an unmarked Ford van and stepped out to move in on a drug suspect. The suspect fired, striking Limbacher in the arm and abdomen with .40-caliber rounds, then ran.

The shot to the abdomen penetrated Limbacher's body armor. Body armor that, according to its rated level of protection under the National Institute of Justice (NIJ) Compliance Testing Program, should have stopped the bullet.

This incident touched off five years of intensive research, five years of focus group meetings and manufacturer workshops, and five years of inten sive scrutiny of the entire testing program and the standard behind it. Then-Attorney General John Ashcroft created the U.S. Department of Justice's Body Armor Safety Initiative in response to concerns from the law enforcement and corrections communities about armor's effectiveness, and directed NIJ to undertake an examination of both new and used Zylon-based armor, to ana lyze upgrade kits provided by manufacturers that retrofit Zylon-based armors and to review the existing program.

The end result, officially launched in December 2008, is not only a revi sion to the existing standard (*Ballistic Resistance of Personal Body Armor*, *NIJ Standard-0101.06*), but a complete restructuring of the entire compliance testing program. The new program adds, among other elements, a testing laboratory accreditation process, ongoing manufacturer conformity assess ment and a conditioning protocol to impose controlled elements of "wear and tear" on armor before it is tested. These significant changes to the standard offer greater assurance that armor will provide the protection needed by law enforcement and corrections officers. (NIJ Standard 0101.06 supersedes the NIJ 2005 Interim Requirements and all other previous versions of the standard.)

The overarching theme of this revision is significant expansion of the program, resulting in greater confidence in the performance of armor in field use," says Lance Miller, director of the National Law Enforcement and Corrections Technology Center-National, which administers the Compliance Testing Program for NIJ.

"Key findings out of the National Institute of Standards and Technology [NIST] in the wake of the Forest Hills incident and input from the law enforce ment and corrections communities indicated that it is no longer good enough to just test new out-of-the-box armor," Miller says. "The test process itself has been redesigned with the idea that it is no longer 'once and done.' The NIST Office of Law Enforcement Standards performed extensive testing on used armor made of other fabrics in addition to Zylon and reported its findings to NIJ; those findings have helped inform the revision to the standard. Miller adds: "In addition to adding the environmental conditioning proto col to ensure that armor will provide its intended level of protection when subjected to high temperature, humidity and mechanical stress, the standard has also been beefed up in terms of the number of shots and test velocities, which gives us a higher degree of confidence in the vests' performance capa bility. It really was a top-to-bottom overhaul. We're very happy with the way this moves the program forward.

More than 3,000 police officers' lives have been saved by body armor since the mid-1970s, when NIJ began testing body armor and developing per formance standards. The NIJ standard and its testing program have gained worldwide recognition as establishing the benchmark for ballistic resistant armor performance.

Miller explains that when NIJ started the body armor program with field testing in 1975, ballistic-resistant vests were new to the law enforcement mar ket and little was known about them: "Now we're taking the next step forward. For example, we want to make sure the manufacturer is willing to back up the performance of the armor per the warranty period as stated by the manufacturer."

The body armor worn by every officer must provide protection from common street threats and maintain its performance throughout the manu facturers' warranty period, the manufacturing community must provide armor that instills confidence in its protective ability and this revision to the standard enables the accomplishment of those goals," says Marc Caplan, chief of the Operational Technologies Division in NLJ's Office of Science and Technology.

For a look at each of the three major areas of the revised program — the standard itself, the conformity assessment program and the laboratory accreditation program — please see the related sidebars ("Standard 0101.06: More "Muscle" for Better Protection," "Laboratory Accreditation Promotes Confidence in Testing Results," and "It's Not Just 'Once and Done' Anymore"). For more detailed information on the Compliance Testing Program and body armor in general, visit http://www.justnet.org/ Pages/Topic.aspx?opentopic=10&topic=10/.



Body Armor

Standard and Testing Program

Standard 0101.06: More "Muscle" for Better Protection

Ballistic Resistance of Personal Body Armor, NIJ Standard-0101.06 incorporates a number of major changes, including the addition of a conditioning pro tocol, revised test methods, changes to the levels of armor classification and more stringent performance requirements.

These revisions provide greater assurance that the armor worn by law enforcement officers today will afford the protection they need, says Lance Miller, director of the National Law Enforcement and Corrections Technol ogy Center (NLECTC) National, which administers the Compliance Testing Program for the Office of Justice Pro grams' National Institute of Justice (NIJ).

NIJ Standard 0101.06 supersedes all other previous versions, including the NIJ 2005 Interim Requirements. However, its implementation does not revoke the compliance listing of body armor models previously tested and listed as compliant under either NIJ Stan dard 0101.04 (see *TechBeat* Fall 2000, "New Standard '4' Armor") or the NIJ 2005 Interim Requirements (see *TechBeat* Fall 2006, 30 Years, 3,000 Saves").

Agencies should not feel they must immediately replace armor previously listed as compliant under those versions; however, they are encouraged to pur chase armor that complies with NIJ Standard-0101.06 when they do future procurements. To provide assis tance in that area, NIJ and NLECTC-National have also undertaken a project to coordinate an update of NIJ's *Selection and Application Guide to Personal Body Armor*, which provides indepth information regard ing appropriate armor classifications for various duty assignments, care and maintenance of equipment, pro curement, training/education and other topics.

This revised standard should be the starting point for designing and building armor that not only meets, but also exceeds, the standard, John Morgan, deputy director of NIJ's Office of Science and Technology, said in a May 2008 workshop for the body armor manufac turing community, adding that armor should provide a level of protection that invokes confidence among law enforcement officers that they will go home to their families at the end of their shifts. Dr. Morgan also said a new laboratory accreditation process should reduce variability in test results between different test ing laboratories. However, the law enforcement and corrections communities need to understand that the conditioning protocol does not guarantee that armor will last for any certain period of time in the field; it only provides an initial test of an armor's ability to withstand a certain amount of degradation.

The addition of this environmental conditioning protocol marks one of the most significant changes in this version of the standard; the new process should eliminate models with inherent weaknesses in design or materials. Samples are placed in a tumbling device and subjected to folding, tossing and crumpling, in addition to being exposed to extremes of heat and humidity.

The revision also includes a change in the "wet conditioning" protocol included in older versions. Pre viously, armor was "wet conditioned" prior to ballistic testing by means of a water spray. The new version

TRANSLED BAR

Textechno

changes this to a complete water submersion of the panels to better test the resistance of panel covers and seams.

Other significant changes include the following:

- The six-shot test pattern has been revised to allow placement of a three-shot grouping anywhere in a "fair-hit area" to simulate the effects of multiple impacts in close proximity to each other and to expose potential vulnerabilities in the armor. The revised shot pattern also places shots within two inches of the edge of armor panels, instead of three inches as in the previous version.
- Five unique size templates have been introduced to ensure that all sizes of a given model comply with the performance requirements of the standard. Manufacturers must submit representative samples of the largest and smallest sizes in which they will manufacture a given armor model. After a model is listed as compliant, the manufacturer cannot introduce sizes outside the tested range. However, if a manufacturer submits samples representing the largest and smallest template sizes, then they can manufacture vests at any size.
- The testing sample size increases from four vests to 24.
- NIJ has instituted an impartial Special Review Committee to hear disputes or appeals related to compliance decisions. This committee includes technical experts from the disciplines of law enforce ment, testing, research and standards development.

(See Revised Body Armor, page 8)

- Conformity assessment follow-up is a requirement of the NIJ Compliance Testing Program (CTP) and involves the periodic retesting of armor models pre viously type tested and found to comply with NIJ Standard-0101.06. Retesting will be performed on samples randomly selected from each manufactur ing location by inspectors authorized by the CTP.
- Compliance status is issued for a period of five years, after which a manufacturer can apply for renewal, based on its successful participation in the Conformity Assessment Program over the previous five years and limited retesting of the model.
- The Level I classification has been eliminated as not providing sufficient protection against today's street threats.

Although Level I has been eliminated, the other classification levels remain and have been updated. The standard continues to categorize and rate armor at different threat levels that provide protection against handgun ammunition, with additional protection needed for SWAT team operations, hostage rescues and Special Operations assignments (when officers may be exposed to a weapon threat greater than the protection provided by regular duty armor).

The standard divides body armor into five cat egory types, three for flexible body armor designed to protect against handguns, and two for rigid armor designed to protect officers in tactical operations against rifle threats.

The three flexible armor categories and the threat round calibers associated with their testing are as follows:

- Level IIA: 9mm Luger, .40 Smith & Wesson.
- Level II: 9mm Luger, .357 Magnum.
- Level IIIA: .357 SIG, .44 Magnum.

Rigid armor categories are as follow:

- Level III: 7.62 mm NATO (rifle).
- Level IV: 30.06 M2 AP (armor-piercing rifle).

As before, this particular standard establishes minimum performance requirements and test methods for the ballistic resistance of personal body armor designed to protect the torso against gunfire and does not address resistance to knives and other sharp objects.

For the full text of the standard, visit

To view information on compliant models, visit

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Laboratory Accreditation Promotes Confidence in Testing Results

The expanded and revised testing protocols of *Ballistic Resistance of Personal Body Armor, NIJ Standard-0101.06*, place even more emphasis than before on the program's need for top-of-the-line test ing laboratories that provide consistent results and a reduction or potential elimination of any laboratory-to-laboratory variability. For help in that effort, NIJ turned to the National Voluntary Laboratory Accreditation Program (NVLAP) at the National Institute of Standards and Technology (NIST), establishing a partnership with that agency and adding a requirement that laboratories must first receive NVLAP accreditation as a condition of eligibility to apply to participate in the testing pro gram as an NIJ-approved testing laboratory.

Historically, laboratory accreditation for the compliance testing program was a joint effort among NIJ, NIST and the National Center, says Lance Miller, director of the National Law Enforcement and Correc tions Technology Center (NLECTC)-National, which administers the Compliance Testing Program for NIJ.

"One of the things we realized early on is that there are entities out there like NVLAP that do this all the time," he says. "Working with the NVLAP program in our review of the compliance testing program under the U.S. Department of Justice Body Armor Safety Ini tiative, we've designed new requirements that are spe cific to body armor."

"It removes NIJ from the process of accrediting laboratories and places it with an organization that does this all the time," says Alex Sundstrom, testing manager at NLECTC-National.

NVLAP offers unbiased third-party accreditation to testing and calibration laboratories in a variety of areas, and fully conforms with the standards of the International Organization for Standardization and the International Electrotechnical Commission. NVLAPaccredited laboratories are identified in an online directory that lists contact information, accreditation renewal date and area of accreditation for each labora tory. Manufacturers can select approved laboratories from this list and negotiate testing contracts.

"The new Compliance Testing Program and the labo ratory accreditation program complement each other," Sundstrom says. "With requiring NVLAP accreditation, the labs that conduct the testing and the manufactur ers that build the armor both are being assessed by independent third parties. This means that when con sumers purchase the armor, they can have confidence in the testing process."

Each laboratory accreditation program identifies test standards, related methods and protocols that meet the needs for a specific field. NVLAP accredits both public and private laboratories based on evalua tion of their technical qualifications and competence to carry out specific calibrations or tests. Accreditation is granted following successful completion of a process that includes the following:

- Application submission.
- Fee payment.
- Onsite assessment.
- Resolution of any nonconformities identified during the assessment.
- Proficiency testing.
- Technical evaluation.

Accredited labs receive a certificate of accreditation in addition to being listed in the online directory. Man ufacturers' in-house, commercial, university, federal, state and local government laboratories all may apply for accreditation.

NVLAP accreditation is solely a finding of labora tory competence. A laboratory may cite its accredited status provided that the usage does not imply product certification. In addition, NVLAP accreditation does not guarantee participation in NIJ's compliance test ing program. This requires a separate application to the National Center through the JUSTNET Web site (www.justnet.org). NVLAP also publishes, in electronic format only, handbooks and bulletins specific to each area in which labs are accredited, including body armor. Bulletins keep laboratories informed about revi sions to the program until new handbook editions are published.

For more information on NVLAP, visit http:// ts.nist.gov/standards/accreditation/index.cfm/.

It's Not Just "Once and Done" Anymore

The conformity assessment follow-up portion of the National Institute of Justice (NIJ) Body Armor Compli ance Testing Program (CTP) ensures that, to the great est extent possible, the body armor used by the law enforcement and corrections communities continues to remain safe and reliable through periodic selection and testing of NIJ-listed production models to deter mine whether they continue to meet the standard.

During its initial five-year period of compliance, the CTP will conduct a series of random visits to each manufacturing location of compliant armor, taking samples from the production line without advance notice and subjecting the samples to ballistic testing. (A manufacturer can also renew the compliance status of a model after five years).

This addition to the testing process will ensure that manufacturers continue to build subsequent produc tion units identically to what was originally submit ted to the National Law Enforcement and Corrections Technology Center (NLECTC)-National for compliance testing. This process will assist in ensuring that sub sequent units display similar ballistic performance capability as the original submissions that were found to be compliant with the standard. Applicants must agree to this follow-up testing as a condition of receiving their initial compliance.

Administered by NLECTC-National, the conformity assessment follow-up process includes an abbreviated form of the initial ballistic testing, construction com parison between production samples and the samples submitted for initial compliance testing, and compari son of current and original manufacturer build sheets.

"Adding a conformity assessment component will increase the confidence of the public safety communi ty that body armor performance will continue to meet the standard on an ongoing basis," says Rick James, NLECTC-National conformity assessment coordinator. "Law enforcement and corrections officers can feel confident that the vests that they purchase were pro duced using the same methods as the test samples."

In this new process, samples will be gathered under two follow up options. One option requires that the design and production of body armor be conducted under a registered quality management system (QMS) based on *ISO 9000:2000*, in conjunction with additional body armor specific QMS requirements. In this case, armor will be retested a total of three times in five years. The second follow-up option does not require the manu facturer to have a registered QMS, but choosing this option will require the armor to be retested twice as many times in a similar period as does option one.

(The International Organization for Standardiza tion, or ISO, is the world's largest developer and publisher of international standards. A network of the national standards institutes of 157 countries, ISO is a nongovernmental organization that forms a bridge between the public and private sectors. ISO 9000 puts general controls in place, and then for the body armor program, adds specific requirements unique to body armor with which manufacturers must also comply.)

Once the retesting process has begun, voluntary with drawal of the model from compliance is not an option. Models that fail to pass the retest process may be either suspended or removed from the compliant products list, depending on the severity of the infraction.

"If any problems are encountered during confor mity assessment follow-up, we have ensured that they will be addressed, either by taking appropriate cor rective actions or if necessary, revoking the product's compliance completely," James says.

Editor's note: It is with great sadness that we note that Rick James, NLECTC-National's conformity assessment coordinator, passed away shortly before this article was published. His contributions to the NLECTC program were invaluable, and he will be deeply missed.

INVESTIGATING one story at a time

TechBeat is the award-winning newsmagazine of the National Law Enforcement and Corrections Technology Center (NLECTC) system. Our goal is to keep you up to date with current and developing technologies for the public safety community, as well as other research and develop ment efforts within the federal government and private industry. TechBeat is published four times a year.

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www.justnet.org

Online News Summary. Online News Summary includes article abstracts on law enforcement, correc tions and forensics technologies that have appeared in major newspapers, magazines and periodicals and on and Web sites.

Testing Results. Up-to-date listing of public-safety equipment evaluated through NIJ's testing program. Includes ballistic- and stab-resistant armor, patrol vehicles and tires, protection gloves, handcuffs and more.

Publications. Publications from NIJ and NLECTC that you can view or download to your system, including printer-friendly versions of TechBeat articles and features.

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Calendar of Events. Calendar of Events lists upcoming meetings, seminars and training.

Links. Links takes you to other impor tant law enforcement and corrections Web sites.

For help establishing an Internet connection, linking to JUSTNET or finding needed technology and product information, call the NLECTC Infor mation Hotline at (800) 248–2742.

TECHINSTITUTE 2009 NIJ Technology Institute for Corrections

September 20–25, 2009 Baltimore, MD

Application Deadline: August 7, 2009

Agenda: The National Institute of Justice (NIJ) is sponsoring its annual Technology Institute for Corrections. Participants will learn about and discuss technology initiatives and issues affecting the corrections community. Attendance is limited to 25 full-time, mid-grade, career, state and local corrections officials who are actively involved in technology-related issues within their agencies.

Registration: To obtain an application, visit http://www.justnet.org or contact Bruce Blair at (800) 248-2742 or bblair@nlectc.org. An agency may submit one application for consideration. Alumni from previous Institutes will not be considered. The application must be completely filled out in order to be considered. All travel, lodging and meal expenses are paid by NU.

FOR COMMUNITY CORRECTIONS NFERENCE 0 0101000111010 June 1-3, 2009

INNOVATIVE TECHNO

San Diego, CA San Diego Marriott Hotel and Marina

For more information, visit the conference Web site at http://www.justnet.org/Pages/

Questions can be directed to George Drake at gbdrake@comcast.net

Hosted by the National Law Enforcement and Corrections Technology Center-Rocky Mountain.

Registration Fee: Through April 30: \$210 On or after May 1: \$250

The 10th Annual Innovative Technologies for Community Corrections Conference will spotlight the innovative use of technology in community corrections as well as technologies on the horizon. A vendor exposition where attendees can interact with technology providers will be available.

Topics include:

Electronic Supervision

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- Monitoring the Sex Offender
- Information Technology Applications Management & Training Issues
- Drug and Alcohol Testing

Offering no-cost assistance to law enforcement and corrections agencies and crime laboratories — large or small, rural or urban — in the implementation of current and emerging technologies, the National Law Enforcement and Corrections Technology Center (NLECTC) system is an integrated network of centers, specialty offices and criminal justice technology Centers of Excellence located across the country.

Established in 1994 by the Office of Justice Programs' National Institute of Justice (NIJ) as part of its research, development, testing and evaluation initiatives, the NLECTC system serves as an "honest broker" resource for technology information and assistance and helps introduce technologies into practice within the criminal justice community.

The NLECTC system seamlessly delivers its expertise to the Nation's 19,000-plus police agencies; 50 state correctional systems; thousands of prisons, jails, and probation and parole departments; and crime laboratories in a number of technology areas. These technology areas are supported by technology partners who provide the leveraging of unique science and engineering expertise. In addition, technology working groups and a national advisory council provide guidance relating to the technology needs and operational requirements of the public safety community for NIJ's various technology focus areas and ensure a focus on the real-world needs of public safety agencies.

Contact NLECTC for:

Technology Identification

The NLECTC system provides information and assistance to help agencies determine the most appropriate and cost-effective technology to solve an administrative or operational problem. We deliver information relating to technology availability, performance, durability, reliability, safety, ease of use, customization capabilities and interoperability.

Technology Assistance

Our staff serves as proxy scientists and engineers. Areas of assistance include unique evidence analysis (e.g., audio, video, computer, trace and explosives), systems engineering, and communications and information systems support (e.g., interoperability, propagation studies and vulnerability assessments).

Technology Implementation

We develop technology guides, best practices and other information resources that are frequently leveraged from hands-on assistance

projects and made available to other agencies.

Property Acquisition

We help departments take advantage of surplus property programs that make federal excess and surplus property available to law enforcement and corrections personnel at little or no cost.

Equipment Standards and Testing

We oversee the development of performance standards and a standards-based testing pro-

gram in which equipment such as ballistic- and stab-resistant body armor, double-locking metallic handcuffs and semiautomatic pistols is tested. NLECTC also conducts comparative evaluations (testing equipment under field conditions) on patrol vehicles; patrol vehicle tires and replacement brake pads; and cut-, punctureand pathogen-resistant gloves.

Technology Demonstrations and Capacity Building

We introduce and demonstrate new and emerging technologies through special events, conferences and practical demonstrations such as the Mock Prison Riot[™] and an annual public safety technology conference. We also provide hands-on training assistance for the latest technologies through workshops and software programs dealing with crime mapping, community corrections and critical incident management. In addition, on a limited basis, NLECTC facilitates deployment of new technologies to agencies for operational testing and evaluation.

Technology Information

NLECTC disseminates information to the criminal justice community at no cost through educational bulletins, equipment performance reports, guides, consumer product lists, product information databases, news summaries, meeting/conference reports, videotapes and CD–ROMs. Most publications are available in electronic form through the Justice Technology Information Network (JUSTNET) at www.justnet.org. Hard copies of all publications can be ordered through NLECTC's toll-free number, (800) 248-2742, or via e-mail at asknlectc@nlectc.org.



Technology Product Network

The Technology Product Network (TPN) provides one-stop access to information on currently available products for law enforcement and corrections. Vendors and technologists who register with the TPN can upload information about their products, while registered practitioners can participate in discussion forums about the products found in the database. Registered users also receive e-mail notifications of new products that match their specified interests. Visit the TPN Web site at www.techproductnetwork.com.

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Forensic Technologies Center of Excellence 7881 114th Ave., North Largo, FL 33773 (727) 549-6067 Info@nfstc.org

Sensors, Surveillance and Biometric Technologies Center of Excellence One Battery Park Plaza New York, NY 10004 (888) 424-8424 = raj@biometricgroup.com

Weapons and Protective Systems Technologies Center of Excellence

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NLECTC-West

c/o The Aerospace Corporation 2350 East El Segundo Blvd. El Segundo, CA 90245-4691 (888) 548-1618 Inlectc@law-west.org

Border Research and Technology Center (BRTC)

c/o The Sheriffs Association of Texas 1601 South I–35 Austin, TX 78741 (512) 445-2316 • brtc@txsheriffs.org

BRTC-Western Operations

c/o SDSU Research Foundation 5178 College Ave., Suite 10 San Diego, CA 92115 (888) 656-2782 brtcwestops@sbcglobal.net

Office of Law Enforcement Standards (OLES) 100 Bureau Drive, Stop 8102 Building 220, Room 8208 Gaithersburg, MD 20899-8102

Rural Law Enforcement Technology Center (RULETC) 101 Bulldog Lane Hazard, KY 41701 (866) 787-2553 = ruletc@aol.com

(301) 975-2757 **oles@nist.gov**

National Law Enforcement and Corrections Technology Center 2277 Research Boulevard Mail Stop 8J Rockville, MD 20850

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Spring 2009



(Excess Property Aids Public Safety. . . cont. from page 5)

homeland security and emergency response activities, according to Dover. Also, participation has been expanded to include state and local governments, which should cover fire departments, emergency medical services and other governmental agencies. These changes are presently being implemented into the 1122 Program.

Items available for purchase through the 1122 Program include the following:

- **Department of the Army.** Aircraft support items and spare parts; field clothing, boots, field rations, generators, watercraft, tents and sleeping bags; weapons; communications, electronic and surveillance equipment; laser range finders; electro-optics; and night vision devices.
- GSA. Contractor-supplied items are furnished through GSA and appear in GSA Federal Supply Schedules. A supply schedule for Law Enforcement and Security Equipment provides the names of suppliers of police equipment belts, holsters, batons, handcuffs and pepper spray;

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accessories for police cruisers; alcohol detection kits; bomb disposal and detection equipment; and forensic and criminal investigation equipment. GSA also will arrange purchase of new motor vehicles for law enforcement agencies.

DLA. Rope/chain/barrier equipment, fibrous rope, telephone and radio cable, digital cameras, security cameras and film; animal handling equipment; lighting products such as floodlights and flashlights; marine lifesaving and diving equipment; tactical vehicles; uniforms such as those favored by SWAT teams with protective devices and flak jackets; first aid kits and other medical products; gun parts; and motor vehicle parts.

For detailed information on the 1033 Program, visit the JUSTNET Web site at http://www.justnet.org/ Pages/ExcessFederalProperty.aspx, or contact Ken Dover of the NLECTC system, (888) 874-5854, e-mail ken_ dover@emainc.com.

Questions on the 1122 Program should be directed to an agency's state point-of-contact, a list of which can be found at http://www.justnet. org/Pages/1122.aspx.

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1033 SWAT Team Vehicle

When a Pennsylvania SWAT team needed an armored personnel carrier, it turned to the government's 1033 Program, which transfers excess U.S. Department of Defense property to law enforcement agencies for minimal or no cost.

"If not for the 1033 Program, we would not have been able to get the vehicle," says Lt. Tom Nolan, team leader for the Central Montgomery County SWAT Team in Pennsylvania. Nolan is with the Upper Merion Police Department, which is part of the SWAT team. He also is chair of Multi-Jurisdictional SWAT for the National Tactical Officers Association.

"If you look at the armored vehicles for SWAT that are commercially available now, they are great vehicles but are in the \$300,000 or more price range, and even as a multijurisdictional team, we would not have been able to get the financial support for an armored vehicle," Nolan says.

Through 1033, the SWAT team obtained a used M113 armored personnel vehicle free. The state 1033 program added a \$2,400 handling fee and a \$900 charge for transporting it. The Pennsylvania team then spent approximately \$12,000 to customize the vehicle, replacing unneeded military instrument panels with police-related equipment such as lights and sirens, front and rear cameras to help the driver, a communications system and a remote-controlled camera for viewing. The carrier, which was painted black, can fit eight to 10 people, depending on the amount of equipment the SWAT team is using. Money for the renovations came from donations from private companies.

Following renovations, the carrier was ready for service in June 2008. The next day, the team used the carrier during an incident involving a gunman who barricaded himself in a hotel, according to Nolan. The suspect was wanted for bank robbery and had access to a large window overlooking the hotel parking lot. To protect officers, the team used the armored vehicle to cover that side of the building. The suspect eventually surrendered. No one was injured.

"I think the vehicle had a psychological effect to motivate him to come out," says Nolan. "It showed we meant business and it stepped up negotiations."

As far as working with the 1033 Program, Nolan says, "You have to be a little bit patient. The paperwork has become easier over the years. Sometimes it can be a little bit cumbersome but if you are patient, if the equipment you want is out there they usually come up with the equipment you need. You have to be prepared to do a little work on the item, but for all the customization we did we have an excellent vehicle that is much cheaper than we could have purchased commercially."

POLICE

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