Homeland Security
Science and Technology

Newsletter

U.S. Department of Homeland Security
SAVER
System Assessment and Validation for Emergency Responders

The U.S. Department of Homeland Security (DHS) established the System Assessment and Validation for Emergency Responders (SAVER) Program to assist emergency responders making procurement decisions.

Located within the Science and Technology Directorate (S&T) of DHS, the SAVER Program conducts objective assessments and validations on commercial equipment and systems, and provides those results along with other relevant equipment information to the emergency responder community in an operationally useful form. SAVER provides information on equipment that falls within the categories listed in the DHS Authorized Equipment List (AEL).

The SAVER Program is supported by a network of technical agents who perform assessment and validation activities. Further, SAVER focuses primarily on two main questions for the emergency responder community: "What equipment is available?" and "How does it perform?"

For more information on the SAVER Program, contact the SAVER Program Support Office.

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FEMA news photo.

Shelf Stable, Ready-to-Eat Food Packs

Emergency responders may be required to work in remote settings or in areas that have been compromised after an incident or natural disaster. In the absence of other means of sustenance, shelf stable, ready-to-eat food packs are used to provide responders with nourishment and enable mission completion. Food packs may also be provided to civilian populations.

Shelf stable, ready-to-eat food packs contain a variety of individually wrapped components to meet the user's nutritional needs, including entrées, snacks, and beverages. These food packs do not require refrigeration during storage or transport, nor do they require reconstitution with potable water or heating prior to consumption. An exception to this is the possible inclusion of powdered beverages, which do require reconstitution with potable water prior to consumption. Food packs may include a flameless heater to warm the entrée or a side dish. These heaters are not required for consumption; they are used to increase the palatability of the meal.

In order to provide emergency responders with information, the U.S. Army Natick Soldier Research, Development and Engineering Center (NSRDEC) produced the *Shelf Stable, Ready-to-Eat Food Packs Technical Guide* and the *Shelf Stable, Ready-to-Eat Food Packs Market Survey Report*.

The technical guide provides an overview of commercially available shelf stable, ready-to-eat food packs. It includes descriptions of food pack contents, procurement considerations, information on storage and disposal, and guidance on standards and regulations.

The market survey report provides a snapshot of the current marketplace for shelf stable, ready-to-eat food packs. Product data from six vendors is included in the

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report as is a product matrix for a quick comparison of the products. Information contained in the matrix includes the shelf life, calories and cost per pack, packs and cost per case, and whether a powdered beverage or flameless heater is included.

Laser Aiming Devices for EOD Disrupters

The Space and Naval Warfare Systems Center (SPAWARSYSCEN) Atlantic recently completed an assessment of laser aiming devices for explosive ordnance disposal (EOD) disrupters. Laser aiming devices are sighting mechanisms used by bomb technicians to quickly and accurately aim EOD disrupters at targets.

A focus group was conducted in January 2012 to recommend evaluation criteria, product selection criteria, and possible scenarios for assessment. Seven responders from various jurisdictions—all of whom had experience using laser aiming devices with EOD disrupters—participated in the focus group.

The focus group developed 17 evaluation criteria for the assessment: value, beam quality, accuracy, activation, laser color, beam properties, interoperability, battery life, rangefinder, deployment, environmental, size, durability, calibration, battery replacement, customer service, and warranty. Detailed explanations of these criteria can be found in the *Laser Aiming Devices for Explosive Ordnance Disposal (EOD) Disrupters Focus Group Report*.

SPAWARSYSCEN Atlantic conducted an assessment of six laser aiming devices in June 2012. The assessment focused on devices that fit over the barrel of the 12 Gauge PAN Disrupter™ manufactured by Ideal Products, Inc. Five evaluators participated in the assessment. Each evaluator was a certified EOD technician with at least 11 years of experience using laser aiming devices with EOD disrupters.

The assessment was conducted in two phases: the specification assessment and the operational assessment. During the specification assessment, evaluators assessed the laser aiming devices using vendor-provided information and specifications. Hands-on experience using the devices served as the basis of the operational assessment. The operational assessment consisted of two scenarios: variable lighting conditions and disrupter shot.

Laser aiming devices for EOD disrupters assessment.

During the variable lighting conditions scenario, evaluators were given the opportunity to use the laser aiming devices to locate and illuminate targets at various distances in normal lighting conditions as well as low-light conditions. To determine the effect of different materials on the visibility of the beam, evaluators used the laser aiming devices to target several simulated improvised explosive devices (IEDs) (i.e., backpack, cardboard box, PVC pipe, and galvanized steel pipe). The 12 Gauge PAN Disrupter was not loaded or fired during this scenario.

During the disrupter shot scenario, evaluators mounted each laser aiming device on an unloaded disrupter in a designated safety area. Once mounted, evaluators used each laser aiming device to target several simulated IEDs (i.e., cardboard box, cardboard box with a sticker on one side, black backpack, PVC pipe, and galvanized steel pipe). Once all evaluators mounted each laser aiming device and targeted all four simulated IEDs, each laser aiming device was used to mark a target for two live fire shots. Evaluators also observed each beam against an orange backpack, camouflage backpack, and a blue bag to evaluate the visibility of the beams on various colors.

When applicable, evaluators used a laser pointer attached to the outside of the disrupter to determine if the laser aiming device caused the aim of the disrupter to shift when removing it from the barrel.

As evaluators completed the assessment scenarios, they were given the opportunity to rate each laser aiming device based on its performance. Evaluators reviewed the ratings and comments for all of the devices at the end of the assessment. SPAWARSYSCEN Atlantic will publish the assessment results in the *Laser Aiming Devices for Explosive Ordnance Disposal (EOD) Disrupters Assessment Report*.

In addition to the assessment, SPAWARSYSCEN Atlantic conducted market research to provide law enforcement personnel with information on laser aiming devices for EOD disrupters, and produced the *Laser Aiming Devices for Explosive Ordnance Disposal (EOD) Disrupters Market Survey Report*.

Fingerprint Processing and Identification Equipment

Fingerprints—the small ridges of skin that form a unique pattern for each person—have been used as a means of identification for more than 100 years. They may be used for comparison against local or national criminal databases or border security watch lists, to identify casualties, or as a means of access control. Latent prints—fingerprints that are left behind on surfaces from residual sweat, oils, or other substances—may also be used during forensic investigations.

An automated fingerprint identification system (AFIS) uses imaging technology, computers, and software to acquire, store, and search fingerprint data. Regional and state organizations may maintain their own system, while smaller organizations may send prints to local or national databases for comparison.

The National Urban Security Technology Laboratory (NUSTL) recently completed the *Fingerprint Processing and Identification Equipment TechNote*. The technote provides an overview of the components of fingerprint identification systems including: fingerprint capture, minutiae encoding, and recognition software. Certifications, evaluations, and standards are also discussed.

Optical scanner for electronic capture of exemplar prints. Photo courtesy of Homeland Security Investigations.

Personal Flotation Devices for Law Enforcement Use

When conducting operations in, on, or around water, law enforcement personnel may be required to wear personal flotation devices (PFDs), including multi-purpose vests, hydrostatic collars, inflatable pouches, and floatation clothing. While most adults require 7 to 12 pounds of buoyancy to keep their heads above water, law enforcement personnel carrying mission-essential equipment may require a PFD with substantially more buoyancy. The overall fit, comfort, and mobility allowed by the PFD are additional factors requiring consideration.

SPAWARSYSCEN Atlantic recently completed the *Personal Flotation Devices for Law Enforcement Use TechNote.* The technote provides an overview of U.S. Coast Guard PFD classifications, as well as brief descriptions of multi-purpose vests, hydrostatic collars, inflatable pouches, and flotation clothing.

Law enforcement officers patrol the Sherlock Park area of East Grand Forks, Minn. FEMA news photo.

The reports listed in the Spring 2013 Newsletter are published in the SAVER section of the Responder Knowledge Base (RKB) website. These reports are available to the responder community.