Director’s Message

At the 100th anniversary celebration of the U.S. Army Edgewood Chemical Biological Center in June, our center’s acting director, Eric Moore, Ph.D., along with several guest speakers from the DoD and federal and state government, spoke about the tremendous accomplishments ECBC has achieved since its predecessor, the Edgewood Arsenal, was established in October 1917. Amazingly, each speaker mentioned the FDHS mission as among the center’s list of accomplishments. It was an incredibly proud moment for our CBARR employees who attended the program, and a significant vote of confidence to our customers who were guests in the audience. We are honored that three years later, the success of the FDHS mission still resonates within the Army, throughout the chemical biological defense community and around the world.

Just days prior to the celebration, seven members of our team were presented with the patent award for the FDHS technology. I was proud to be one of them. This is the third patent CBARR has attained, but we didn’t do it alone. Thanks to the culture of innovation that exists at ECBC, we’re able to draw from across the organization to develop technology that meets critical customer needs, from research and testing to design and engineering. You’ll read more about the FDHS patent and our other patented inventions in ECBC Innovative Technology Results in U.S. Patents, on page 8.

We’ve moved on from the FDHS mission, taking with us the lessons learned and experience gained, to complete several missions at home and abroad since 2014. Our team continues to provide chemical demilitarization and chemical biological defense training in an impactful way.

ON THE COVER
CBARR has acquired a bench-scale ampule sealer that improves speed and efficiency in sealing ampules filled with dilute agent, improving the process for completing customer orders.

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A destruction operation was performed at the former Savanna Army Depot, a follow-up action to a previous phase of remediation that occurred last year. In mid-May, a 155mm mustard projectile was destroyed at the former Savanna Army Depot with an explosive destruction system (EDS) operated by a crew from CBARR. The munition was recovered during an environmental investigation in December 2016.

CBARR supported the U.S. Army Engineer Support Center Huntsville (CEHNC) in the investigation of three mustard burn areas at the former Army depot in 2016. CBARR’s team provided continuous air monitoring during intrusive operations at the site. During the initial investigation, two items were found. The first item, it was determined, contained no chemical agent and was disposed in accordance with local policies and procedures.

But when this second item was discovered during the investigation, said CBARR Project Manager Laura Graham, an indication from the Miniature Continuous Air Monitoring Systems, known as MINICAMS, alerted workers to the potential of a chemical-filled munition. After thorough assessment, it was determined that the munition contained the chemical agent HD.

“We used the field investigation data along with the assessment results and decided to treat it as a “leaking” munition,” Graham said. Further analysis determined that the munition was not leaking.

The destruction was conducted using the P2U2 EDS owned by the U.S. Army Chemical Materials Activity, which had overall responsibility for the operations. CBARR personnel serve as operators and maintainers for all of the EDS systems.

The initial site visit for the EDS team was held in January 2017. CBARR’s first crew arrived for site setup on April 17. A preoperational survey took place May 9-11. Destruction operations occurred May 13-14, and the site was closed by May 25.

Savanna is located in northern Illinois on the Iowa border. Located on the banks of the Mississippi River, remediated portions of the depot have been turned into public wildlands.

A project team of U.S. Air Force and U.S. Army, including CBARR, conducted the second phase of an environmental investigation at the former Chanute Air Force Base in Rantoul, Illinois, earlier this year to determine whether past chemical agent training activities have impacted the environment.

The first phase of the investigation was completed in November 2016 when the project team used ground scanning equipment to identify anomalies buried in the ground, initially suspected to be containers once used to ship and store training materials.

The project team evaluated the data collected and selected 100 anomalies for further investigation in the second phase of the project conducted in early May, which included soil sample analysis performed by ECBC laboratories, said CBARR Project Manager Satchell Doyle Jr.

It was determined that the metal was construction materials such as metal rebar, likely associated with the demolition of numerous buildings that were constructed in the area after training activities occurred, according to information provided by the Air Force Civil Engineer Center (AFCEC).

No items related to former training activities were found and no contamination is present, said the AFCEC.
CBARR has acquired a new machine that improves speed, efficiency and safety in processing orders of dilute agent for customers.

CBARR’s Chemical Transfer Facility (CTF) manages chemical agents for research and testing, on behalf of the Army and the nation in accordance with the Chemical Weapons Convention treaty (CWC). The CTF prepares the dilute agent in support of the Chemical Agent Standard Analytical Reference Material (CASARM) Quality Assurance Team.

The CASARM Quality Assurance Team provides the National Institute of Standards and Technology traceable chemical agent dilute solutions to customers. Customers, including laboratories and chemical storage depots place orders with the CASARM QA team and then the CTF prepares and packages the products. This year the CTF must prepare 2,400 vials to fill customer orders.

“The dilute agent solutions contain a high-purity sample of chemical agent dissolved in solvent that has been analyzed and certified, so other research labs, when they use it, know exactly what concentration they’re working with,” said Brandon Bruey, a chemist at the CTF. “Most customers utilize the dilute agent solutions as standards to ensure they can identify and quantify chemical agent material on analytical instrumentation.”

Once a dilute solution containing agents such as mustard, lewisite and sarin, among others, are certified they must be injected into open-ended glass vials called ampules, and the glass is heat-sealed closed. Until now, each ampule was carefully sealed by hand using a hand torch and glass rod. Although they can be sealed manually, the process can be quite labor-intensive. “To hand-seal that many is a time-consuming and labor-intensive process,” said Bruey.

But now CBARR has begun to utilize an innovative bench-scale ampule sealer that automatically seals each ampule. Ampules are loaded onto a slotted carousel and passed one by one in front of a fixed torch. The system spins each ampule and melts the glass over so that the glass is evenly sealed. “This gives every one of our vials a uniform seal and speeds up the process immensely,” Bruey said.

Previously, inconsistencies in the hand-torching method led to imperfections in the glass which could cause leakages. CBARR technicians inspect each ampule inside a chemical fume hood before final packing; any defective ampule would automatically be snapped open and discarded, its contents transferred to another vial. The automated sealing process will significantly reduce the inconsistencies as well as the number of rejected sealed ampules.

The new machine provides consistent heating with a gas mixture of oxygen and propane that is controlled to ensure the best flame temperature. The weld time can also be adjusted for optimum performance. If the vial is not in the flame long enough, it does not fully seal. If the vial is in the flame too long, the glass will expand like a bubble, forming very thin and fragile glass. Bruey explained that the sign of a bubble at the top means that evaporating solvent expanded inside the sealed vial before the glass has a chance to completely harden. “Once the flame temperature and weld times are set, the ampule sealer will produce a more uniform seal for all ampules,” he said. “It takes human error out of the equation.”
According to information from the manufacturer, the ampule sealer can process up to 900 ampules per hour. It takes about five seconds on the flame for small ampules such as 1mL and up to 30 seconds for the larger vials. CASARM QA team orders include ampules that range from 1mL to 40mL in size.

Following protocols, CBARR scientists conduct practice drills to test the flame levels and propane and oxygen levels within the gas, “so when we start with the dilute agent solutions, it will be perfect,” Bruey said. “We also purge all ampules with nitrogen before they’re flame-sealed to displace any oxygen or moisture in the vial that could cause agent degradation.”

When they’re in production, Bruey said, “the operator sits in front of the machine constantly putting on unsealed ampules and pulling off sealed ampules once they exit the flame and cool.” They inspect the glass for cracks and turn each ampule upside down inside a chemical fume hood to look for any leaks, and that it’s completely sealed before going into low-temperature storage.

It takes a team of four, including chemists and chemical engineering technicians, to complete a production run: one filling the ampules, one operating the ampule sealer, one performing leak checks as each ampule comes off the sealer, and one person labeling the ampules.

“The machine didn’t eliminate the work,” Bruey said. “It just made it simpler and improved the quality of our product.”

Ampules come off the sealer hot and sit on racks to cool. After the sealed ampules cool off in the containment room, they’re labeled with a lot number for agent volume. Each ampule has a unique number. “That’s how we know what is shipped and how the customer is accountable for what they receive,” Bruey said.

The ampules are then crated and stored in a walk-in refrigeration unit until they’re shipped. Shipments are based on the expiration dates to ensure that the customers maintain current solutions. Orders are also packaged for shipping based on where in the U.S. the customer is located, Bruey said.

The CASARM QA team provides the CTF a list of what customers have requested for the year, to include the agent, the number and size of ampules. They take a batch of solution and fill the ampules. About 10 different customers will receive dilute agent solutions this year, including other departments within CBARR. Other customers include chemical demilitarization operations such as the Pueblo Chemical Agent Pilot Plant (PCAPP) in Colorado, which uses it to verify their lab instruments are working properly and calibrated.

“These are the gold standard agent solutions,” Bruey explained. “The labs work from them as a reference.”

Different customers order different agents. For example, PCAPP, the facility currently destroying one of the last remaining stockpiles of chemical munitions in the U.S., is designed to destroy mustard so that facility only orders mustard, Bruey said. Other customers, he added, order a variety of dilute G-series and V-series nerve agents.

Each order has a due date to the customer. “A lot is driven by the fact that the previous year’s dilutes expire and we have to get the new batch to the customer before the old batch expires,” said Bruey. The batches have a one-year expiration date.

Starting with neat agent, a chemist fills a flask with solvent and a known quantity of neat agent to create the dilute agent solution. The CASARM Dilute Analysis Laboratory analyzes the solutions and the CASARM QA team confirms the result and matches the expected concentration before the solutions are prepared for distribution. The CASARM QA team will then provide the CTF permission to package and schedule shipment of the product to customers.

They manufacture one agent batch at a time so there’s no cross-contamination, Bruey said. For example, they make the mustard supply all at once, their biggest order. It takes two full days, with four operators, to produce and package the mustard orders. Other agents take far less time and usually can be done in a day.

The facility has other missions so the team must balance the workload for processing customer orders with other projects that the CTF has. Dilute agent solutions are given priority at this time of year and the automated ampule sealing system has made a real improvement to this critical activity, Bruey said.
Did You Know?

**Tim Blades: The Early Years**

Tim Blades, director of operations for CBARR, stands near a display of personal protective equipment at the ECBC Visitors Center.

Tim Blades’ 42-year career at CBARR spans the globe, from U.N. peacekeeping missions in Iraq to supporting chemical remediation projects in Australia. On the homefront, he has earned a reputation among colleagues in the WMD community as one of the nation’s leading experts on chemical demilitarization.

As one of the longest-serving employees at the U.S. Army Edgewood Chemical Biological Center (ECBC), he has built an organization based on four decades of expertise performing missions that few others in the world can do. While discussing the 100th anniversary of ECBC, Blades reflected on the early years of his career, which uniquely parallel the formation of CBARR as a field response unit of ECBC.

On October 20, 1975, a young Tim Blades drove through the gate to Edgewood Arsenal on his first day of employment at the Army installation. He couldn’t imagine then, as a college student, that 42 years later he would still be supporting the Army’s chemical and biological defense mission at Aberdeen Proving Ground.

Now the director of operations for the U.S. Army Edgewood Chemical Biological Center’s Chemical Biological Application and Risk Reduction, Blades took time recently to reflect on his early years at the arsenal, renamed Edgewood Area, Aberdeen Proving Ground.

A native of Harford County, Maryland, where the installation is located, Blades was studying chemistry and chemical engineering at a local community college. He also worked on two local farms while working his way through college. One of the farms was owned by a senior engineer from the arsenal.

“He said he liked my work ethic and told me that Edgewood was hiring,” Blades said. “He said that several jobs were available and I should consider it. He told me to take the Civil Service Exam and if I scored high enough,” Blades emphasized, “then maybe I would be hired.”

Blades sat for the exam in January 1975. “I was notified that my scores were enough to qualify, went on a couple of interviews, and was hired to work at what was the predecessor to the Edgewood Chemical Biological Center.” Blades never completed his degree, but he blazed a path of success in the chemical demilitarization field.

Blades began as a chemical engineering aide. He worked in the Chemical Agent Pilot Plant, a facility where experimental munitions were filled, and hydrolysis and chemical agent destruction were performed.

“There were thousands of 55-gallon drums full of chemical munitions already loaded on a ship to be disposed of in the ocean,” he recalled of his first assignment. “They had concrete poured around the munitions to fill up the drums. The orders came in that they were not going to be dumped in the ocean but disposed in a different way and they were brought back here.”
For more than a year, Blades was on a crew that opened up those barrels and performed drill-and-drain operations on each munition. “I would put on a M3 butyl suit, drill and drain all morning, take it off and hang it on the fence and go to lunch. After lunch, I would put the same suit back on and drill and drain another four hours or more. It was hard work.”

He was also involved in the last bulk production of nerve agent, 2,000 pounds of GB for the testing of carbon filters and butyl cloth.

Overall, Blades recalled his initial observation, “I enjoyed the work. It was different all the time. The Chemical Corps was downsizing. It was the end of the Vietnam War. The peace dividends were in effect, which meant a downsized chemical program.”

Blades was among the Army civilians who were downsized, happening for him twice, in 1977 and 1978. Each time, he was brought back. “Right as I was supposed to go out the door the last time, I got a job at Aberdeen (Proving Ground),” Blades said. “I spent 13 months in Aberdeen but ended up back in Edgewood, remarkably in the same position I’d been downsized from.”

Blades moved from the munitions directorate into the organization that controlled the stockpile (mustard and the WWII stockpiles), the Research, Development and Engineering Support Directorate. At that time, Edgewood Chemical Biological Center was called the Chemical Systems Lab.

Blades became a team leader when the Chemical Transfer Facility was established in 1981. With this opportunity to lead, Blades relied on his early work experiences to establish a culture within his team of dedication, hard work but most importantly, a commitment to performing the work safely.

“I learned very valuable lessons of leadership early in my career,” he said. “I even witnessed as my previous bosses were indicted by the federal government for not properly managing the pilot plant operations. I made a promise to myself that I would never ask an employee to perform a task that I wasn’t willing to do myself. Safety of my workforce is still my highest priority.”

The concept was effective and resulted in a highly productive workforce. Because of his leadership success, his team grew to include the Thermal Treatment Facility, the Chemical Agent Storage Yard, Mask Issue and a Monitoring Group. Under Blades the unit was named the Chemical Support Division (1988-1991). By 1991 the CBARR name was formalized, along with the bomblet symbol commonly seen on the logo.
ECBC Innovative Technology Results in U.S. Patents

FDHS patent is one of three received by CBARR

CBARR was recently granted a United States patent for the Field-Deployable Hydrolysis System (FDHS). CBARR has also received patents for the Multi-Powered Distribution System (MPDS), a transportable power distribution technology; and the Frag Suppression Shield Retrieving Tool, an extracting tool used in some destruction operations to retrieve large fragments.

"Each patent started out as an innovative solution to a problem or to make operations more safe or efficient," said Tom Rosso, chief of program management at CBARR. "It’s rewarding when a CBARR solution receives a patent because we don’t always begin our projects expecting to design a product."

The FDHS patent was granted to seven ECBC employees. The technology is described as a “transportable and modular field deployable hydrolysis system for neutralizing toxic chemical agents.” The destruction technology was used in 2014 by CBARR operators to destroy 600 metric tons of Syria’s declared chemical warfare material aboard a maritime vessel in international waters as part of a multinational effort.

The awardees of the patent include Tim Blades, director of operations for CBARR; Ray DiBerardo, CBARR’s project manager for the FDHS; Adam Baker, who assisted DiBerardo as deputy project manager; Jeff Gonce, CBARR’s equipment manager; Jason Adamek, an ECBC engineer on the Advanced Design and Manufacturing (ADM) Team; David Kline, a CBARR mechanical engineer; and Brian O’Donnell, a CBARR project manager who was assigned to the Joint Program Executive Office for Chemical and Biological Defense when the FDHS was being developed.
“This patent is not just a reflection of the seven people named on the patent, but it reflects upon the nearly 40 people who worked on the team,” said DiBerardo.

DiBerardo said the project was a collaborative effort between all three directorates within ECBC. CBARR, which is part of the Directorate of Program Integration, had the lead in the design and construction. Adamek and the ADM Team in the Engineering Directorate worked on modeling using computer-aided design software. Baker worked with the Research and Technology Directorate’s chief scientist, Fred Berg Ph.D., on the chemistry needed to neutralize chemical warfare materials.

“The collaboration within ECBC for this project could be a great model to use in the future if we ever get another project of this magnitude,” DiBerardo said.

This is DiBerardo’s second patent. He is also an inventor of the Explosive Destruction System (EDS), a technology operated by ECBC in the chemical demilitarization sphere to destroy recovered and stockpile chemical munitions at current and former military installations around the country. DiBerardo oversees many of those missions for CBARR.

While the FDHS is CBARR’s most notable invention, it is not the only item CBARR designed to meet the requirements of a particular project that became patentable. CBARR personnel have also been awarded patents for a power supply technology and a utility tool.

The Multi-Powered Distribution System, designed and patented in 2013 by Gonce, supplies power to CBARR’s projects and reduces the time and money required to establish site-wide power for mobile laboratories and air monitoring systems where electrical power may not exist or may be unreliable. The MPDS provides consistent, reliable power to enable CBARR’s equipment to run without interruption and without dependence on what may be an overloaded power system. Many worksites where CBARR is supporting intrusive operations are in remote areas with the only electricity available through diesel powered generators but the use of the MPDS provides extra assurance to CBARR’s crew.

Kline uses the MPDS at his Spring Valley worksite. “Jeff saw a way to reduce our set-up time and costs to install electrical panels, circuit breakers, wires and disconnects,” Kline said. “By using the rapidly deployable MPDS, we provide a savings to the customer.”

In response to another mission need, employees from CBARR’s Pine Bluff Arsenal offices designed, fabricated and ultimately patented the Frag Suppression Shield Retrieving Tool, a tool used to extract metal munition fragments from an EDS after a shot has been fired. Dale McClellan, one of the inventors of the extraction tool, said the portable tool was developed during the campaign to destroy German Traktor Rockets at Pine Bluff Arsenal in 2006-2007.

“The German rockets were big and heavy, which left a lot of fragments inside the vessel after detonation,” said McClellan, who performs EDS maintenance. “We were looking for a way to reduce possible injuries when dragging the heavy fragments out of the EDS.”

McClellan and his team designed and fabricated a pulling machine that assists the operators moving the fragments out of the vessel and on to a table for disassembly. After preparing the mechanical drawings, the machine shop at Pine Bluff Arsenal manufactured the prototype extraction tool. The tool is still used on some EDS campaigns, he said.

From the Archives

ECBC receives about 20 patents a year, on average, out of about 150 patents the Army’s laboratories and research centers receive yearly, according to ECBC’s patent attorney John Biffoni. Those patents are by no means the extent of the ingenuity exemplified by the engineers and technicians, including CBARR personnel, who daily seek innovative solutions to make customer projects operate more efficiently.

One example of an innovative technology was featured in the December 2012 issue of CBARR News, “RTAP tool improves on-site ergonomics.” The RTAP tool is a portable, self-contained fluid delivery system connected to a mobile Real-Time Analytical Platform (RTAP). The device can be used whenever fluids are required to operate equipment, such as delivering purified water to hydrogen generators located inside of the RTAP. The RTAP tool eliminates the need to hand-carry multiple gallons of water from a water source to the mobile lab, preventing possible workplace injuries.

A patent application was submitted by CBARR to the U.S. Patent and Trademark Office after the invention was created at CBARR’s Pine Bluff Arsenal facility; however, the patent was denied. The lack of a patent, though, does not mean that the invention was discarded. The RTAP tool is still used by CBARR on various projects.
Business Model Reduces Army Cost to Maintain Capabilities
CBARR experts relieve potential burden on Warfighters, commanders

Fielding systems for the destruction of chemical and biological warfare materials is a complex and costly endeavor. The requirements for destroying these materials are specific to the material of concern and its configuration, so each destruction solution is unique. But when the system is needed, it’s often needed urgently.

Take, for example, the Field Deployable Hydrolysis System (FDHS), which was designed as a result of an urgent strategic requirement for a mobile system to destroy bulk Syrian chemical agent and precursor material. The Army may, or may not, need to operate it again under similar conditions. CBARR is responsible for ensuring that the manpower is in place and trained to operate and maintain the FDHS and other systems to meet the Army’s readiness needs, while minimizing the financial burden on the Army.

CBARR accomplishes this goal by maintaining a portfolio of customers such as the U.S. Army Corps of Engineers, U.S. Army Chemical Materials Activity, State Department, Environmental Protection Agency, and other domestic agencies and international organizations. CBARR performs chemical demilitarization and training for these customers and receives direct payment for the work performed. These projects are occasionally developed as partnerships through Cooperative Research and Development Agreements.

Also called reimbursable work, these projects fund the personnel, training, equipment and other resources that CBARR maintains so that they can provide those capabilities to the Army when needed, reducing the cost burden to the Army and the Department of Defense.

“The benefit of doing reimbursable work is that it can pay high dividends to the Army during peacetime,” said CBARR Strategic Planner Ricardo Soto. “We man, train, equip and maintain. It only costs the Army when we’re deployed on a mission.”

A retired sergeant major, Soto is tasked with studying how CBARR can best support military operations. He served 27 years in the Army and has worked in the weapons of mass destruction arena for 26 years. “Our job is to show that we can alleviate the burden on the commander on the ground and meet strategic objectives,” Soto said of CBARR’s operations. “We can’t pull Soldiers in for two weeks, train them to do what we do, and put them back on the ground. That’s a huge burden and risk to put on a Soldier where the consequences of a decision are high.”

The Army has long recognized the value that civilian employees who are technical experts bring to the operational picture. TRADOC Pamphlet 525-7-19, 2009, U.S. Army Concept Capability Plan for CWMD for the Future Modular Force (2015-2024), addressed personnel implications by stating, “New organizational constructs will place greater reliance on experienced civilian personnel to provide the expertise needed to support CWMD training readiness and global operations.”

The Syrian mission, in which the FDHS was used to destroy 600 metric tons of chemical warfare material, is an example of the Army drawing upon the CBARR unit to fulfill a mission. “It was a requirement the Army didn’t have to go far to fill,” Soto said. “To have the Army train Soldiers in these systems would have taken a lot longer but we had the expertise and were able to reduce the time needed to field the capability.”

CBARR’s responsibility in supporting an Army mission is to provide solutions, Soto said. “You have to have a full understanding and appreciation of the system to be able to troubleshoot effectively with an operating system, for example. Sometimes that’s knowledge you can’t pass on.”

“It takes years to build proficiencies in those systems” he added. “When you come into conflict, it’s best to already have those years of experience available to you than to try to create it.”

CBARR drew on its highly skilled personnel in creating a new method of destruction to fit the unique needs of the Syrian mission. They had...
A second round of testing of the DAVINCH-Lite occurred this summer at the U.S. Army Edgewood Chemical Biological Center (ECBC).

Representatives from Kobe Steel of Kobe, Japan, which is the manufacturer of the DAVINCH line of explosive destruction technology, returned to Edgewood in July to oversee testing as they did with last year's test program. ECBC has a Cooperative Research and Development Agreement with Kobe Steel for the project, with CBARR performing the actual testing.

For the new round of testing, CBARR retrofitted the DAVINCH-Lite with an additional skid, a thermal swing absorption unit (TSA). “The TSA was designed to address technical issues identified during last year’s test program,” said CBARR Project Manager Ray DiBerardo.

CBARR performed surrogate testing similar to last year but the surrogate material was changed, DiBerardo said. This time, they used methyl salicylate, commonly known as oil of wintergreen, a mint additive used in the food industry in products such as chewing gum.

“The test items will be filled with methyl salicylate,” DiBerardo said before testing began. “While it’s safe to use, it has a couple of similar properties to mustard and is widely used in our industry as a surrogate material to simulate mustard.”

The mission objectives for this testing round were to demonstrate the ability to destroy surrogate-filled materials, as well as to demonstrate the capability of the new TSA unit.

Setup began on July 5. Testing started on July 31 and was completed in mid-August.

The project could potentially lead to a future phase of testing, although none is scheduled at this time, DiBerardo said. ❍

Continued from page 10

Business

to determine whether to use an alternative solution like the FDHS or a traditional solution like building a destruction plant. CBARR has people experienced in plant design and trained in alternative solutions such as the FDHS, and provided a solution that enabled the Army to accomplish a crucial mission.

Under CBARR’s reimbursable business model, the customers – not the Army – pay to sustain the unit’s capabilities. “We are self-sustaining through the project work we do,” Soto said. “When the Army puts a call out, the equipment is there, the people are there and the people are trained. CBARR has the technical knowledge of the chemistry and makeup of chemical and biological warfare material, and we have the disposal, storage and monitoring expertise. That allows other resources to be used in the fight.”

“You can be capable, or have the ability, of doing a mission but not have the capability – training, equipment, personnel – to carry out the mission,” Soto said. “The uniqueness of CBARR is that we’re both. We’re capable and we have the capability with minimal reorganization.”

“Anyway number of warfighters,” Soto concludes. “By bringing CBARR in, that leaves more of the warfighters to conduct traditional military operations and leaves us to conduct the nontraditional military operations such as [WMD] destruction. We can support both the national security and national military strategy. This frees up the Army to have its concentration in power projection. We’re taking care of the problem and the Army can maintain its resources, not drain them.” ❍
What’s the Word? Contact Us!
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