



The Bullet'n



Volume 3, Issue 15

"Supporting the Warfighter"

October 10, 2008

Excalibur: amazingly accurate

By Audra Calloway
Picatinny Arsenal Public Affairs

“Another positive of Excalibur is its consistent ability to engage targets at a variety of ranges”

Capt. Victor Scharstein

Alpha Battery, 2nd Battalion,
82nd Field Artillery, 3rd Brigade Combat Team

PICATINNY ARSENAL, N.J. -- From taking out top al-Qaida operatives to safely firing within 50 meters of dismounted infantrymen, the Excalibur projectile is already paying dividends a year after its initial fielding to Soldiers.

When Excalibur first debuted in Iraq in May 2007, it became the Army's first all-weather, precision-guided artillery round. It was developed by a joint Armament Research, Development and Engineering Center and Program Executive Office for Ammunition team based here.

While the Excalibur Program Office at Picatinny estimates approximately 70 of the ground-breaking Excalibur rounds have been fired in Iraq, Capt. Victor Scharstein of Alpha Battery, 2nd Battalion, 82nd Field Artillery, 3rd Brigade Combat Team, commanded one of the original units to field the round.

Scharstein used Excalibur multiple times in the Diyala province of Iraq. Operation Arrowhead Ripper, the deliberate clearance of Baquba, was one mission where he recalls using the precision round.

"It was an urban setting, it was extremely bad weather and there were no aircraft able to fly that day," he said.

Because of Excalibur, his unit fired an artillery round at a target within 50 meters of infantryman on the ground, who were clearing the area.

"Had we not had Excalibur, we



U.S. Army photo by Sgt. Henry Selzer

Pvt. Corey Rodriguez pulls the lanyard on the M-777A2 during the first firing of the Army's new GPS-guided Excalibur Round Feb. 25 at Camp Blessing, Afghanistan.

wouldn't have been able to do that," he said. "We wouldn't have been able to engage that target."

While the unit could have engaged the target with conventional artillery, that would have risked significant collateral damage and put civilians and U.S. Soldiers at risk, Scharstein said.

Overall, Scharstein said the round was "amazingly accurate" with his fires producing a 92 percent success rate, meaning that the fired round hit or had an effect on the intended target 92 percent of the time.

The rest of the Army also began seeing the powerful effects of Excalibur almost immediately after its debut.

In July 2007, it was used to take down a top target for al-Qaida south of Baghdad, Iraq, according to a July 16, 2007, news release by Multi-National Division-Central Public Affairs.

This al-Qaida in Iraq cell leader was responsible for improvised explosive devices, vehicle-borne IEDs and indirect fire attacks on coalition forces in Arab Jabour.

The operative was in a meeting house when the 1st Battalion, 9th Field Artillery Regiment fired two Excalibur rounds and destroyed the house, the release said.

Such precision can be attributed to Excalibur's global-positioning system technology.

When the projectile leaves the gun, it does a self-test, acquires its signal and uses the signal to find its target, Scharstein said.

This precision accuracy has "brought artillery back into the close urban fight," Scharstein said. "Excalibur gives you the confidence that you can support Soldiers in the close fight.

"With conventional rounds, the first few rounds may not be on target so there has to be some adjusting," he added. "With Excalibur, as long as I have an accurate target location, I know I'm going to get an accurate hit every time."

"The accuracy of the system is
"Excalibur" continued on page 13

Army News

Picatinny engineer awarded two patents for new grenade ammunition designs

By Audra Calloway
Picatinny Arsenal Public Affairs

PICATINNY ARSENAL, N.J. — On Aug. 5, the United States Patent and Trademark Office issued an Armament Research, Development and Engineering Center employee two patent approvals for new designs to be incorporated into the ammunition belt for the MK 19 grenade machine gun.

The MK 19 is used by all military services to deliver intense firepower against enemy personnel and lightly armored vehicles.

The designs to be incorporated into the belt, which is called a 40 mm M16A2 link, are meant to keep gunners safer on the battlefield, help conserve ammunition and save money.

ARDEC engineer Eric Goon designed the new concepts, the first of which is a coupling, or pivoting, used to connect grenade ammunition cartridge loops.

The new coupling design provides a potential life-saving feature. It allows MK 19 gunners to attach ammunition belts without having to



U.S. Army photo by Sgt. Henry Selzer

Eric Goon, invention designer and Picatinny employee, and Capt. Mike Roth with the Special Operations Command display a MK 19 grenade machine belt linked with the new coupling and loops.

reload the weapon when under hostile gunfire, Goon said.

In the current attachment system, grenade ammunition comes in a continuous link of 32 grenades,

Goon said. The grenades cannot be detached, or reattached to other ammunition belts, unless they are cut or

"Patent" continued on page 13

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The editorial content of The Bullet'n is the responsibility of the Public Affairs Office at Joint Munitions Command headquarters.

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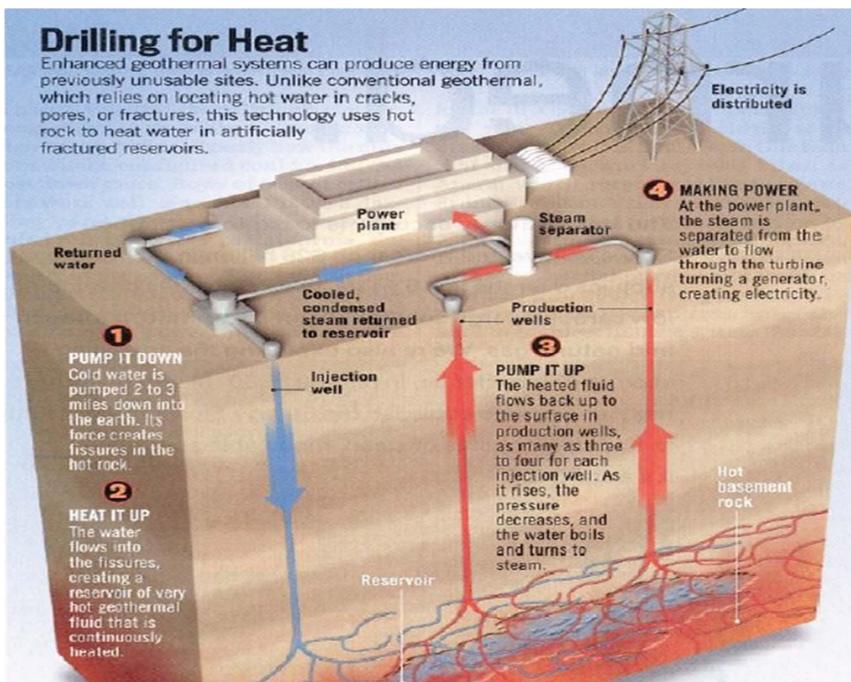
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Army launches new energy initiative at Hawthorne Army Depot



Army News Release

WASHINGTON -- Secretary of the Army Pete Geren on Sept. 26, established a Senior Energy Council to serve as a board of directors focusing on Army energy policy, programs and funding to leverage the Army's nationwide energy-conservation efforts.

The secretary also announced five major energy projects as part of the council's initial work. These projects are in addition to ongoing efforts like the solar projects at Fort Sam Houston, Texas, and Fort Carson, Colo.; large-scale energy-management programs at Fort Hood, Texas; ambitious recycling programs at Fort Bragg, N.C., new photo voltaic equipped housing at Fort Shafter, Hawaii; and high-tech energy conservation projects at Fort Lewis, Wash.

The council is co-chaired by the Assistant Secretary of the Army for Installations & Environment Keith Eastin and the Army Vice Chief of Staff Gen. Peter Chiarelli. It will report to the Secretary of the Army with a report card on the status of Army energy initiatives and plans and programs. In a related move, the Army also established an Army Energy & Partnership Office headed by Paul Bollinger, who will serve as the Senior Energy Executive for the Army with the responsibility of implementing its energy enterprise strategy.

"This new leadership structure will provide a consistent and steady focus on energy that will provide the oversight required as well as the effective management of energy programs to deliver the greatest return to the Army," said Geren. "We spend over \$3 billion every year on energy and the majority of it is spent on our installations. We can significantly reduce our energy consumption by partnering

within government and with the private sector to capitalize on the great strides in proven technology that have been developed and implemented across the country."

"The Army plans to increase efficiency and serve as a model for the military and the nation when it comes to the operation of our housing, buildings, and forward operating bases. By making greater use of alternative and renewable energy, Army initiatives will bring energy savings and security to the Army, reducing the risk of power disruption," said Eastin.

To renew this focus on energy security, conservation and installation-level innovations, the Army announced several pilot projects, including:

- The Army will partner with the private sector to construct a 500 megawatt solar thermal plant at Fort Irwin, Calif., in the Mojave Desert, that will provide renewable power on the grid and provide the sprawling Army post with added energy security against disruption of power supply.

- The Army is pursuing the purchase of 4,000 small Neighborhood Electric Vehicles to replace gasoline-powered vehicles traditionally used by maintenance and operations staff for use on its posts.

- Six Army posts have been selected as sites for biomass to fuel demonstrations through a contract with the Defense Logistics Agency. Also the Army is working with the private sector and with the Navy to develop a major geothermal project at Hawthorne Army Depot, Nev., with the capability of producing 30 megawatts of clean power.

- The Army will enter into a pilot energy savings performance contract with the private sector on an installation to serve as a model for monitoring and reducing energy consumption. The savings will be shared by the Army and the civilian contractor.



The A&A connection: Anniston and Amtec a winning combination

By Miranda Myrick
Anniston Munitions Center

ANNISTON ARMY DEPOT, Ala.-- An award-winning, one-of-its-kind tactical missile demilitarization and recycling program has fostered a thriving partnership between the Army and Huntsville, Ala.-based Amtec Corp.

Anniston Munitions Center's Missile Recycling Center dismantles obsolete tube-launched, optically tracked, and wire-guided missiles that were first manufactured in the early 1970s.

Prior to the 2003 startup of the recycling center, obsolete missiles were destroyed in an open burn/open detonation, or OB/OD, operation where the missiles were buried in the ground and then remotely detonated.

At the 34,000-square-foot MRC, about 20 center employees and three Amtec employees jointly disassemble and then remotely process the energetic components of the missiles. Three other Amtec personnel work onsite at the depot to collaborate with government production planners in carrying out the center's program objectives.

Anniston and Amtec workers have processed more than 60,000 missiles to date through the program. About 98 percent of all TOW missile components are recycled or reused, according to Patricia Page, chief of Anniston's production management division.

A total of 5,085 TOW missiles were processed at the facility during the initial low-rate production schedule in fiscal year 2003. The next year, 9,640 TOW missiles were processed under a limited production effort.

Researchers anticipated that Anniston would eventually have the resources and experience to process up to 15,000 TOW missiles a year, and it did. It processed 15,700 in 2005. However, a decrease in processing was seen in 2007 when the amount of obsolete TOW missiles lessened, yielding an average of 10,000 to be processed annually.

"Currently, there aren't enough missiles at the end of their shelf life to process 15,000 a year," said Page.

The MRC is the brainchild of Army scientists at Aviation and Missile Research, Development and Engineering Center at Redstone Arsenal, Ala., who collaborated with



U.S. Army photo by Miranda Myrick

Anniston's Missile Recycling Center is located at Anniston Army Depot, Ala. Anniston Munitions Center explosives operators Donna Gardner and Kevin Ginn prepare a TOW missile to be removed from launch tube. Ginn is removing the holdback pin while Gardner removes the launch motor.

Amtec and the Army's Aviation and Missile Command in the research, development and testing of missile component recycling. It's the only recycling center of its kind in the Army.

The five-year Anniston Munitions Center-Amtec partnership can be attributed to the relationship both entities have with the Army's AMRDEC. It wasn't until 2007, however, that Anniston and Amtec signed a memorandum of understanding to formally define their roles in the success and future of their MRC mission.

The partners continue to look across the family of tactical missiles for other sustainment initiatives that could be supported by personnel at Anniston, said Tom Chandler, director of ordnance operations for Amtec.

Partnering leverages the capabilities and experiences of all parties involved, and this joint venture is no exception. Amtec, a 20-year-provider of solutions and services in the area of engineering design, equipment fabrication, operations support and business planning, partnered with AMR-

"Partnership" continued on page 7

Anniston Munitions Center welcomes new commander, hosts JMC commander



U.S. Army photo by Miranda Myrick

Patricia Page, an Anniston division chief, shows the visitors from Joint Munitions Command the future site of Anniston's Multiple Launch Rocket System recycling facility. Pictured here left to right are Anniston Munitions Center Commander Lt. Col. Duncan MacMullen, Blue Grass Commander Col. Joseph Tirone, and JMC Commanding General Brig. Gen. Larry Wyche.

By Miranda Myrick
Anniston Munitions Center

ANNISTON ARMY DEPOT, Ala. -- Lt. Col. Duncan MacMullen assumed command of the Anniston Munitions Center in a Sept. 25 ceremony.

MacMullen comes to Anniston from Washington, D.C., where he served as an action officer within the supply division of the Directorate for Logistics, The Joint Staff.

"I am humbled by this opportunity to serve the Army here at Anniston," said MacMullen. "From experience I know that the deployed forces have their burdens eased by the world class support achieved by workers at ADMC."

As a tenant on the depot, the munitions center provides receipt, storage, shipment, maintenance, inspection, demilitarization and recycling of conventional ammunition and missiles in support of the joint warfighter.

Anniston's deputy to the commander Anthony Burdell, served as the commander's representative of the organization for four months beginning May 29 when former Anniston Munitions Center Commander Lt. Col. Garry

McClendon deployed to Kuwait.

With approximately 125 government civilians, the organization has been in existence in its current state since 1998 when it stood up its operations for the first time as a major tenant activity under the name Anniston Munitions Center. Before then, the same operations were being conducted under the installation commander in the depot's Directorate of Ammunition.

And in 1999, Blue Grass Army Depot, located in Richmond, Ky., assumed command and control of Anniston Munitions Center. The name was changed to Anniston Defense Munitions Center in 2004 when it received its first military commander.

Blue Grass Commander Col. Joseph Tirone presided over the ceremony.

"You are making a direct impact on the warfighter," said Tirone. "You're doing a great job. It's hard work, dangerous work, and you're doing it safely."

In conjunction with MacMullen's arrival, the commanding general of Joint Munitions Command, Brig. Gen. Larry Wyche, spent time in Anniston Sept. 24 and 25 touring the organization's ammunition and missile logistics, maintenance and demilitarization operations.

As Wyche was briefed on current initiatives and opportunities in Anniston, he collaborated with its leaders on workforce sustainment and warfighter support. "Utilize interns the best you can to build the bench for the future," said Wyche.

JMC is making a global impact, especially on the wars in Iraq and Afghanistan, said Wyche.

Anniston is home to the only tactical missile demilitarization and recycling program in the world. The Missile Recycling Center dismantles obsolete tube-launched, optically tracked, and wire-guided—missiles that were first manufactured in the early 1970s.

Additionally, the organization has been taking the necessary steps to become a recycler of the Multiple Launch Rocket System.

"There is no doubt that JMC production plants and storage depots are made up of the best that the Department of Defense has to offer. We're the experts," he said.

Holston is modernizing for the better...



U.S. Army photo by Darryl Howlett

To the left are old coal stoker feeders inside the steam plant at the Holston Army Ammunition Plant in Kingsport, Tenn.

By Darryl Howlett
JMC Public Affairs

KINGSPORT, Tenn. -- At a time when the U.S. Armed Forces are deployed throughout the world, Holston Army Ammunition Plant is modernizing its facilities to produce newer, safer products for those protecting our freedom while providing a reliable source of explosives for numerous weapon systems.

Holston AAP, located in northeastern Tennessee in the heart of the Appalachian Mountains, was completed in June 1942 to support the Allied war effort. It closed briefly in 1945 before reactivating in 1950 to support the Korean War conflict, and has been operational ever since.

Holston's mission is to manufacture Research Department Explosives (RDX) and High Melting Explosives (HMX) for inclusion in a wide variety of conventional munitions. Research and development plays a vital role in the formulation of new and better explosives products. The facility is government-owned and contractor-operated and BAE Systems has been the operating contractor since 1999.

"A robust modernization program is essential to maintaining this strategic asset and our modernization initiatives have been in full swing since 2006," said Jeffrey Pierson, engineering manager, at BAE Systems.

Pierson said the plant has an elaborate modernization plan focusing on upgrading both production and support facilities to provide reliable explosives production for the future needs of the warfighter. The plan is also focused on providing facilities to produce the next generation of explosives for insensitive munitions.

"We commenced the modernization program by



U.S. Army photo by Darryl Howlett

Newly installed coal stoker feeders inside the same steam plant at Holston.

developing a modernization master plan, in conjunction with the government. Now, each year, we revisit the plan and present this to the government for consideration. At a joint meeting with representatives from Joint Munitions and Lethality Life Cycle Management Command and the local government staff we jointly prioritize which projects add the most value in terms of an economic and critical impact."

From the Joint Munitions Command's headquarters in Rock Island Arsenal, Ill., personnel work on funding the projects. A request for funding proposal is initiated from JMC. At this point, BAE Systems develops a response to the RFP, which includes cost data and concept design estimates. After negotiations, projects are placed on contract with BAE Systems for execution.

One of the more visible projects at Holston is the modernization of its steam plant. New EPA-mandated regulations for particulate discharge required modernization of the plant.

"The steam plant modernization is one of critical importance. It is a multi-million dollar project that will bring Holston's 1940s vintage coal-fired boilers and 1970s vintage emission controls up to current standards," said Nancy Gray, Holston's media spokesperson.

Government staff and BAE officials said the basic infrastructure (power, steam, water, and auxiliary facilities) remain of the original 1940s vintage. As a result, the plant must undergo an infrastructure modernization program over the next several years in order to mitigate the risks and costs associated with maintaining the aged infrastructure.

Another modernization project is the construction of a

"Modern" continued on page 7

Partnership continued from page 4

DEC and AMCOM to build the prototype recycling equipment.

Anniston's missile maintenance and modification program led to the decision for it to manage and operate the TOW MRC facility.

"Amtec, familiar with ADMC's tactical missile life-cycle support experience and capabilities, worked closely with ADMC in support of the AMCOM and AMRDEC MRC initiative to build the recycling center at Anniston," said Chandler.

The resource recovery and re-

use of tactical missile components demands a broad skill set for success, said Chandler. Amtec, he said, "is very responsive in providing the necessary skills to support government missile programs, particularly in the areas of explosive chemistry and mechanical explosive design."

This 'chemistry' between Anniston and Amtec also helps the Army's sustainability initiative by preventing pollution, shrinking the overall environmental footprint made by the OB/OD method, and saving money.

"Missile recycling reduces the cost associated with environmental cleanup and

provides, to the maximum extent possible, recovered components that can be used in the production of new missiles and to generate spare parts for sustaining the missile system late in this shelf life," said Tony Burdell, commander's representative at Anniston Munitions Center.

The Missile Recycling Center has received several awards from the Army and the Alabama Department of Environmental Management.

Modern continued from page 6

facility to produce explosives for the MK80 bomb program. This facility uses fluid energy milling technology to produce explosives which result in safer weapon systems.

"The plan addresses the need for facilities which manufacture explosives needed for next generation Insensitive Munitions programs, while providing the capability to meet new environmental regulations," said Gray. "The plan also addresses the aging infrastructure of Holston, consolidating operations, significantly reducing the facilities footprint, and reducing the ongoing operational costs."

The plan also includes relocating Holston's acids concentration facility, which is currently located seven miles from the main plant. This project will consolidate operations and bring improved efficiency while reducing the overall operational costs related to explosives production.

A relocation study was completed in 2007 and determined a \$30 million net present value government savings by relocating this facility. Construction is scheduled to start in 2010.

Other near-term modernization

projects that are planned for fiscal year 2009 include:

- Removing RDX from wastewater streams
- Upgrading facility chemical containment systems
- Reducing NOx emissions
- Modernizing raw material production facilities
- Replacing the material handling equipment

Future projects include upgrades to the electrical and water distribution systems and additional capability to produce

reduced sensitivity explosives to meet insensitive munition program requirements.

"Holston is a well-managed, well-operated facility that is a strategic asset to the protection of our nation. But it is nearly 70 years old! The robust modernization program being jointly worked by government and contractor, in partnership, will ensure its continued value to our warfighters," said Bob Ragan, commander's representative at Holston AAP.

JMC Commander views Milan process



U.S. Army photo by Wanda King
Brig. Gen. Larry Wyche, commander, Joint Munitions Command, looks on at the production line at Milan Army Ammunition Plant while installation commander Lt. Col. Kristine Natkutis explains the process.

Spotlight on Lean Six Sigma

Brig. Gen. Phillips receives black belt



U.S. Army photo by Layrn Miller

Col. Andre C. Kirnes, project director for Joint Services, and Brig. Gen. William N. Phillips, commander of the Joint Munitions and Lethality Life Cycle Management Command, pose with their Lean Six Sigma certifications, Sept. 8.

By Mitchell Bomus
Picatinny Arsenal Public Affairs

PICATINNY ARSENAL, N.J. -- The Armament Research Development and Engineering Center's Lean Six Sigma Competency Office staff, which provides Lean Six Sigma support to the Program Executive Office for Ammunition, ARDEC and Picatinny Garrison, recently recognized the Picatinny commanding general as one of its newest certified LSS black belts during a Sept. 8 ceremony.

In addition to Brig. Gen. William N. Phillips, commander of the Joint Munitions and Lethality Life Cycle Management Com-

mand, Col. Andre C. Kirnes, project director for Joint Services, achieved black-belt certification, and Lt. Col. Albert J. Hedeem, the former assistant project manager for PM Joint Services, achieved green belt certification for their efforts in reducing the cycle time in the Industrial Base Determination and Finding Approval Process.

Their LSS project resulted in significantly leaning the process and achieved a cycle-time reduction from four to nine months down to four weeks. As other certified LSS practitioners will attest, Phillips, Kirnes and Hedeem deserve significant credit for their efforts.

In addition to Phillips, Kirnes and Hedeem, the LSS Competency Office is also recognizing all personnel who achieved LSS black belt or green belt certifica-

tion over the past year. During the course of fiscal year 2008, the ARDEC LSS review board certified 94 individuals on 36 green belt project teams and 11 individuals on seven black belt projects across the Picatinny community. Their projects' savings ranged from \$170,100 to \$1,542,523.

It is this success that has propelled the LSS Competency Office to continue making strides in becoming self-sufficient in teaching and deploying LSS across PEO-Ammunition, ARDEC and the Picatinny Garrison community.

Additionally, in the last year, the LSS Competency Office developed and fielded a Design for a Lean Six Sigma course to address the needs of the armaments engineering and design community.

During the first quarter of fiscal year 2009, the LSS Competency Office will be teaching a redesigned LSS green-belt training curriculum, which will more appropriately focus on the requirements of the research,

"LSS continued on page 9"



Joint Munitions Command hosts Safety Conference

By Darryl Howlett
JMC Public Affairs

ROCK ISLAND ARSENAL, Ill. -- The Joint Munitions Command held a successful safety conference recently at the McAlester Army Ammunition Plant in McAlester, Okla.

Brig. Gen. William N. Phillips, commanding general, Joint Munitions and Lethality Life Cycle Management Command, served as the keynote speaker.

"There's no place I'd rather be than in McAlester talking to the folks who are on the forefront of safety in terms of assuring that our workers who are out there, our 15,000 employees that work within the Joint Munitions and Lethality Life Cycle Management Command are focused on safety," Phillips said.

More than 40 safety professionals from JMC installations sites, Armament Research, Development and Engineering Center, Army Materiel Command and Aviation and Missile Command attended.

Jyuji Hewitt, JMC deputy to the commander, also delivered his perspective on safety, offering examples from his time as commander of the Iowa Army Ammunition Plant in 1998, when a press exploded.

"(Maj. Gen.) Arbuckle's philosophy was 'Accidents just don't happen. There is a reason. Commander, go find out what that reason is.' Before we start up an operation, we gotta be darn sure why it happened and put the processes in place to not let it happen again."

Among the topics covered during the conference included the physical affects of TNT exposure, demil programs, OSHA program issues, safety career program and safety-related technologies.

Based on the breakout session discussions, JMC safety office will pursue the following objectives as part of the fiscal year 2009 SOH plan:

- Improve site plan preparation. Expand the prelimi-

nary and final site plan checklists in DA PAM 385-65 and provide to the field.

- Improve site plan processing. Establish review process policy (e.g. standard review checklist/procure; quality review process punch list) and encourage use of electronic submission procedures
- Government-owned, government-operated safety improvement. Improve awareness and opportunities for funding facility upgrades due to safety issues.
- GOCO safety improvement. Provide ACO Safety with guidelines to evaluate contractor oversight of ARMS tenants.
- Reduce risk factors contributing to accidents. Human factors (behavior, attitude) leading to accidents – implement countermeasures to include behavior-based training/education programs and ensure personal accountability at all levels.

Phillips also discussed Picatinny Arsenal's safety concerns when a piece of a testing projectile traveled 1,824 meters and landed in a little girl's home, killing her cat.

"I share these stories because we need your help in ammunition and explosive safety," he said. "As a safety officer if you're spending more than 50 percent of your time in your office, you're wrong. I don't want you to be in your office; I want you to be out and about talking to people, working with them, seeing things, helping people understand what site plans are. You need to be out and about."

Hewitt concluded that safety officers and commanders must engage the workforce in keeping safety relevant. "Safety, and we say this everyday, is the most important thing. It can be so complacent. So your challenge is how do you keep it fresh? How do you keep it in the mind of the worker," he said. "You transfer the responsibility of safety with the individual. It's a personnel responsibility. We (JMC) should be able to lead the Army when it comes to safety."

LSS *continued from page 8*

development and engineering community.

The curriculum will address the unique needs of the life-cycle managers and engineering organizations within PEO-Ammunition and ARDEC.

In addition, the redesigned curriculum will be offered to other Research, Development and Engineering Command organizations as part of ARDEC's role as the center of excellence for LSS training.

There are also ongoing efforts to redesign and deploy an improved LSS black-

belt workshop curriculum, which is scheduled for release in the third quarter of fiscal year 2009, which will further meet the needs of research, development and engineering organizations.

Utah officials visit Tooele Army Depot



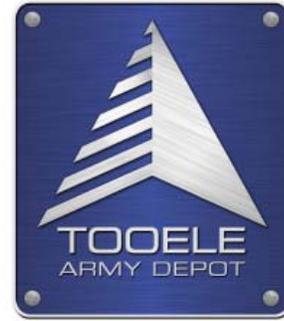
U.S. Army photo by Kathy Anderson

Colleen Johnson, Tooele County Commissioner and Jack Bell, Chairman of Tooele Chamber of Commerce, observe a demonstration of some ammunition, peculiar equipment that was fabricated by TEAD's Pilot Model Shop showing the visitors the depot's capabilities.

By Kathy Anderson
Tooele Army Depot Public Affairs

TOOELE, Utah -- Economic development officials representing state and regional offices met with Tooele Army Depot leadership, Sept. 30, to discuss the installation's strategic importance to the Department of Defense.

DoD has increased its interest in ammunition expertise and this meeting defined how TEAD is meeting those requirements, but also explained that assistance from state and local leaders could help increase their support for fu-



ture needs relative to global defense and mission readiness.

"Tooele Army Depot's capabilities are exciting to talk about and benefit not only our nation's warfighters, but private industry as well," said Col. Yolanda Dennis-Lowman. "We are thrilled to have had the opportunity to share this information and demonstrate our workforce's commitment to our mission to economic development leaders."

Rod Huff, deputy to the commander at TEAD, provided an overview of capabilities that highlighted the depot's worldwide conventional ammunition support, life-cycle management through design and development and fielding of ammunition related equipment.

Attendees were also informed how TEAD supports worldwide partnerships including all services of the DoD, companies like ATK and Safety Management Services as well as numerous allied nations including the Republic of Korea, Turkey, Egypt, Kuwait, Japan and Australia.

"The activities and information that was shared has given me a new perspective of the asset that Tooele Army Depot truly is. As we pursue economic development initiatives, we'll be doing business differently to maximize this resource," said Tooele City Mayor Patrick Dunlavy, who attended the event.

Those also in attendance included officials from the Utah Governor's Office of Economic Development, the Economic Development Corporation of Utah, Tooele County Commission, Chamber of Commerce and the county's Office of Economic Development.

TEAD is an engineering and life cycle management installation that provides specialized services in ammunition related equipment prototype design, development, fabrication and fielding. This support includes innovating ammunition peculiar equipment used for demilitarization, renovation, modification, modernization and maintenance of conventional munitions. Also, to support our various customers' ammunition needs worldwide; the depot receives, stores, issues, renovates, modifies, maintains and destroys conventional munitions.

Specialized train team calls Blue Grass home



U.S. Army photo by John Stephens

Staff Sgt. William Doyle (left) and Staff Sgt. Kevin Powell repair the brush cutter used to clear obstructions from the Depot tracks.

By Justine Barati
JMC Public Affairs

BLUE GRASS ARMY DEPOT, Ky. --Many have heard the legend of John Henry, the steel driver who was immortalized in the song by Johnny Cash, but few realize the Army has its own steel-driving team, the 1151st Transportation Railway Operating Company.

This team of elite Army Reservists conducted an annual training exercise Sept. 8-12 at the Blue Grass Army Depot in Richmond, Ky.

"We support our Soldiers overseas by making sure they get the ammo they need," said Staff Sgt. Becky Cox, the unit administrator.

"The company goes wherever the rail missions are and conducts rail operations, track maintenance and repair of equipment," she said.

According to Cox, they conduct railroad operations in theater and send items like ammunition to ports within the United States. She said they ship ammunition via railcar to be loaded onto ships and transported to the warfighter.

Having railway specialists within the Army ensures the United States has military railroad capabilities anywhere in the world. "This is important for security and if someone [in the Department of Defense] wants to operate by rail, like moving equipment by rail, they have the people to do it," said Sgt. 1st Class Dean Bedient.

Nine reservists were working at the depot

to paint rail cars, cut brush away from the track, repair the brush cutter, repair switches and targets and move rail cars from one location to another during the week.

According to Bedient, maintaining equipment and rails for the depot also saves the depot money because they don't have to hire someone to do the work.

The dedication of the Soldiers to the job is also evident. Bedient drives from Pennsylvania to Kentucky to drill with the 1151st because "I enjoy what I do."

The 1151st TROC is headquartered in Wilmington, N.C., with another detachment in Sunny Point, N.C.

Radford transfers land for veterans' cemetery

By Joy Case
Radford AAP Public Affairs

RADFORD, Va. -- A transfer of honor took place Sept. 22, as 80 acres of the Radford Army Ammunition Plant were transferred to the Commonwealth of Virginia for the creation and operation of a veterans' cemetery.

The property was a portion of Radford's New River Unit in Dublin, Va.

The ceremony was attended by Virginia Governor Tim Kaine; Congressman Rick Boucher; William Tuerk, Under Secretary for Memorial Affairs, Department of Veterans Affairs; State Senator John Edwards; Radford's Commander Lt. Col. Jon Drushal; Jyuji Hewitt, deputy to the commanding general, Joint Munitions Command, as well as state and local municipal leaders and veteran groups.

Boucher presented the deed to the property to Governor Kaine, which will create the third veterans' cemetery in Virginia. Cemetery construction will begin in early 2009 with an opening date scheduled for late 2010.



U.S. Army photo by Joy Case

Radford Army Ammunition Plant Commander Lt. Col. Jon R. Drushal addresses the crowd during the land transfer ceremony on Sept. 22. The land, located in Dublin, Va., will become Virginia's third veterans' cemetery.

JMC Safety: mission first--safety always

By Laura Walker
JMC Public Affairs

ROCK ISLAND ARSENAL, Ill. -- "Safety has no rank, everyone is involved."

Those are the words of Bruce Elliot, director of safety for the Joint Munitions Command. With Elliot it's always, "mission first, safety always."

Elliot is in charge of JMC's safety program, including its 13 ammunition plants and five depots. Elliot joined JMC in 2007 after retiring as Col. Elliott, then commander of the Joint Manufacturing and Technology Center on the arsenal.

Along with his safety duties, Elliot also is the director of the command's Low-Level Radioactive Waste directorate.

In trying to provide the safest command possible, Elliot's department keeps a database that shows an upward trend in reducing accidents.

Elliot credits this decrease to changing the culture of how people perceive accidents and moving from a strictly compliance-based philosophy to a behavioral-based program.

That is, individuals take on a responsibility for their own safety and look around in their own environment to

avoid accidents. Each person becomes a safety officer. "Thus, if there is a deficiency identified, we need to correct it," he said.

Working for Elliot is Tim Gallagher, division safety chief, who collects data and looks over the accident records. The records are called lagging indicators. This data is collected after the accident.

"We look at past failures in equipment and operators and come up with solutions to fix it. This information is used to see how we can prevent accidents in the future. We look at the time of day, weather condition, the speed of automobiles, alcohol consumption, and other factors in lagging indicators to develop safety precautions," Gallagher said.

If there is an accident, the safety office investigates it.

"The safety office produced a video last March that addresses the safety issues in JMC," Elliot said.

On his responsibilities for safety, Elliot said, "Everything we do in accident prevention affects our Soldiers. We all make a difference."

Elliot likes the military life and wants to continue helping Soldiers fighting the war.

"You can take the boy out of the Army, but you can't take the Army out of the boy," he said.



Bruce Elliot

Excalibur *continued from page 1*

unbelievable," he said. "It's incredibly accurate."

Excalibur Range

Another positive of Excalibur is its consistent ability to engage targets at a variety of ranges, Scharstein said.

Generally, the further away from a target you are, the less accurate the fires become, Scharstein said. However, with Excalibur, "you can shoot it at its minimum or maximum range and you'll get that same level of accuracy."

Excalibur, which debuted in Afghanistan in February 2008, currently has an accuracy of less than 10 meters at ranges out to 14 miles, said Lt. Col. Joseph Minus, Excalibur program manager.

However, the next phase of Excalibur, called Ib, will have an accuracy requirement of less than 10 meters out to 24 miles, he said.

Not only do more accurate rounds reduce collateral damage and risk to dismounted Soldiers on the ground, but using fewer rounds limits the strain on the logistics train that provides the ammunition, Scharstein said.

Furthermore, he said Excalibur also gives brigade commanders an organic precision-guided munition.

Previously, maneuver commanders would "use a direct-fire weapon system like a tank or a Bradley instead of

bringing artillery in that close to infantry guys," Scharstein said.

Additionally, the Air Force and Navy could drop GPS munitions, but they're not organic to the Army – maneuver commanders still have to go through layers outside the Army to call for precision support, he said.

With Excalibur, all a battalion commander needs to do is turn around and tell the fire support officer, 'I want precision-munitions on this target,' and it's available to them, Scharstein said.

This is more efficient since the commanders don't need find resources from outside the Army, he said.

Firing Excalibur

Excalibur can be fired from Paladins and M777A2 Howitzers. The Excalibur program is also a cooperative program with the Kingdom of Sweden, which is developing the Archer Cannon System that will also be capable of providing precision fires with Excalibur, according to Minus.

Scharstein fired his Excalibur rounds from a Paladin and said firing Excalibur was similar if not easier than firing conventional artillery.

Because Excalibur is accurate, he said, operators do not need to frequently adjust fire to hit a target.

Patent *continued from page 2*

pried open.

Therefore, if a MK 19 gunner needs more ammunition he must open the feed cover to reload. With the new attachment, an assistant gunner could fasten another belt to the partial belt so that the weapon does not require reloading.

Goon said this saves time and potentially a warfighter's life.

The reattachment feature also allows military members to recover partially used clips and attach them to other ammunition belts for future use, he said. This new reattachment feature provides a way of salvaging costly field ammunition that would be rendered useless or costly to recover with the current design.

Goon estimates the coupling will save the Army more than \$2 million dollars per year in unused grenade rounds, which cost approximately \$40 per round.

The second patent invention is for a new method of making 40 mm one-piece loops for the grenade ammunition cartridge.

The metal loop, which surrounds the individual grenade, is what the coupling will attach to in order to link the grenades together.

Currently the loop comes in two parts and is bonded together using resistance-welding, Goon said. This welding, although effective, is seen as an undesirable operation because the welded sections could potentially rust over

time, weakening the bond and threatening the integrity of the link.

The approach taken for the invention is to eliminate the welds in their entirety, creating a solid one-piece loop, he said.

This new single-piece loop design offers a more durable product, a 15 percent weight reduction of the component and a potential cost reduction of approximately 30 percent, said Goon.

For the Soldier

Goon said he decided to improve the grenade ammunition link after a request from troops in the field who said they needed a reliable way to reuse ammunition through re-linking the belts.

He heard about the issue through an ARDEC engineer team deployed in battle zones to survey warfighters and gain feedback about complaints or technological deficiencies.

"When I heard about that I said, 'Wait, we need to answer the call for the Soldier, our customer,'" Goon said. "I said 'let's do something about it.'"

Goon said he spent approximately six months designing the inventions.

Troops could see the coupling device as early as fiscal year 2009 and the one-piece loop as early as fiscal year 2010.

JM&L LCMC's Safety Spot Check

Service safety leaders discuss best practices



By Jennifer J. Albert
U.S. Army Combat Readiness/Safety Center

FORT RUCKER, Ala. -- Safety leaders from the Army, Navy, Air Force, Coast Guard and Marines met at the Army Combat Readiness/Safety Center Sept. 24-25, to discuss each service's safety programs and challenges, as well as to learn how they can leverage each other's best practices.

Brig. Gen. Bill Forrester, director of Army Safety, hosted the bi-annual meeting designed to provide a venue for the safety leaders to talk openly about their services' safety objectives and the key safety issues facing each service.

"We have a common focus on improving safety and preserving our fighting forces," said Forrester. "This meeting affords us the opportunity to discuss what we are doing well and to see what we're not doing or could be doing better."

In his opening remarks, Forrester said he believes the Army has turned a corner on the on-duty mishaps and credits leadership for that success, admitting it has been a challenge moving that collective approach from the battlefield to off-duty.

"We are a values-based organization and we need to move from doing it [risk management] from a compliant-based perspective to doing it because it makes sense for the formation and it takes care of our Band of Brothers."

Rear Adm. Mark Tedesco, the Coast Guard's chief medical officer and director of Health, Safety and Work-Life, said the Coast Guard was embracing that same type of ideology and targeting the mindset of their Guardian Ethos. He said engaging leadership at every level, even the most junior leaders, has to be part of the solution.

Each of the service leaders provided a snapshot of their respective service's accident statistics and programs and then turned their attention to an area of shared concern for each service – motorcycle safety.

During the past year, there has been a decline in the number of off-duty accidents involving automobiles; how-

ever, motorcycle mishaps are on the rise, and each service is seeing an increase in motorcycle ridership and subsequently fatalities.

Tedesco said motorcycle mishaps in the Coast Guard happen at a rate five to seven times higher than at the four-wheel (automobile) vehicle mishap rate, which is slightly higher than the national average and underscores how important it is for all the services to engage on it.

"We've got a population that is a little bit risk taking overall," said Tedesco. "That kind of personality type presupposes to maybe a little higher level of using motorcycles."

He added he believes gas prices are also a key factor driving up motorcycle ridership numbers.

Rear Adm. Arthur Johnson, commander of the Naval Safety Center, said the 90 percent of the motorcycle fatalities in the past two fiscal years for the Navy and Marines were on sport bikes.

One of the areas the Navy is looking into is the possibility of partnering with insurance companies and the Motorcycle Industry Council to incentivize training and mentorship riding programs.

"Right now, number one on the list at the Naval Safety Center is (Private Motorized Vehicles) and motorcycle safety," said Johnson.

Over the course of the meeting, the leaders discussed the harmonization of the services' motorcycle safety training programs and how to best integrate each of their capabilities.

"It's great when we get the opportunity to get together," said Maj. Gen. Wendell Griffin, Air Force chief of safety and commander of the Air Force Safety Center. "There is a lot of power in this [meeting] and a lot of power in us getting together."

Forrester added, "In taking care of our formations, we have more in common than we have differences."