



The Bullet'n



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Phillips leaves for Iraq



U.S. Army photo by Erin Usawicz

Brig. Gen. William N. Phillips, commanding general, Joint Munitions and Lethality Life Cycle Management Command, spoke during an interview session in October 2007. Phillips has been reassigned to support Operation Iraqi Freedom.

Picatinny Arsenal
News Release

PICATINNY ARSENAL, N.J.
-- Joint Munitions and Lethality Life Cycle Management Command Commander Brig. Gen. William N. Phillips is being reassigned to support Operation Iraqi Freedom, Army Chief of Staff Gen. George W. Casey Jr. announced Jan. 8.

Phillips has been tapped to serve as commander of the Joint Contracting Command for Multi-National

Forces-Iraq.

Phillips told the LCMC workforce he expects to report to his new position by Jan. 30.

In his new capacity, he will be responsible for planning, executing and managing mission-critical contracting efforts supporting U.S. and coalition forces, security operations, humanitarian relief and the reconstruction efforts in Iraq and Afghanistan.

Phillips has served as commanding general of Picatinny Arsenal, commander of the Joint Munitions

and Lethality Life Cycle Management Command, and the Program Executive Officer for Ammunition since June 1, 2007.

Previously, he served as the deputy program executive officer for Aviation at Redstone Arsenal in Huntsville, Ala., from September 2004 to May 2007, and as the director of Unit Set Fielding for the Army's Resource Management at the Pentagon from July 2001 to August 2004.

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Commanding General

Teammates, as 2009 begins to unfold before us, now is a time to reflect on the extraordinary work of the civilian, military and contractor workforce here and the tremendous successes we've accomplished in 2008.

The Joint Munitions and Lethality Life Cycle Management Command and every teammate can be justly proud of our many accomplishments. With the Program Executive Office for Ammunition and Mr. Jim Sutton's superb leadership as deputy PEO, we fielded Excalibur 18 months ahead of schedule and Soldiers fired the first GPS-guided Excalibur artillery round in Afghanistan. We fielded the Army's first Brigade Non-lethal Capability Set (which will soon be reported within the Army Times), and there are many other important PEO Ammunition milestones reached this past year, too numerous to mention. I remain incredibly proud of all that we have done – together – as a team.

Brig. Gen. Larry Wyche and the Joint Munitions Command team have continued to do a remarkable job supplying the warfighter's conventional ammunition needs. In addition, JMC's completed Lean Six Sigma projects account for 16 percent of all Army projects and equate to \$43.5 million in financial benefits. This speaks volumes of the employee's dedicated efforts to continually find better ways to



Brig. Gen. William N. Phillips

support the warfighter. Furthermore, this past year, JMC and our LCMC met 100 percent of all warfighter combat ammunition requirements – a remarkable achievement.

And I remain so very proud of the Armament Research, Development and Engineering Center under Dr. Joseph Lannon. Their accomplishments are many, including the Army's lab of the year award, Malcolm Baldrige award, and inventing four of the Army's top 10 inventions. Amazing!

While this is my first commander's column of the year for the JM&L

LCMC, it will also be my last. By the end of this month I'll deploy to take command of the Joint Contracting Command for Iraq and Afghanistan.

As I depart for theater, it remains doubtful that I will return to the JM&L LCMC. However, I have the highest confidence that in my absence, our teammates – Team JM&L LCMC – will continue their tremendous efforts supporting our warfighters by providing them the safest, most efficient equipment possible and maintaining our technological edge in the fight. I have the greatest confidence in Brig. Gen. Larry Wyche, Mr. Jim Sutton and Dr. Joe Lannon, and I know they will take the LCMC to even greater heights!

While I'm truly honored for and looking forward to the opportunity to serve in theater with the best Soldiers, sailors, airmen and Marines the world has ever known, I deeply regret that I will leave the JM&L LCMC team.

I've been amazed by the continual talent I've seen here, and my heart has been warmed by the dedication you show for our warfighters. Thank you again for all your hard work and especially for your service and sacrifice for our warriors.

I'm honored to have served with each of you. Marilyn and I wish you and your Family the absolute best!

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ARDEC lab dazzles participants with non-lethal studies

By Audra Calloway
Picatinny Arsenal Public Affairs

PICATINNY ARSENAL, N.J.

-- How could Soldiers determine if suspicious vehicles contain innocent civilians or dangerous insurgents? Are there ways to suppress an insurgent from opening fire on Soldiers without injuring innocent civilians in the immediate area? What are the most effective methods to clear crowds?

Thanks to research underway at the Armament Research, Development and Engineering Center's Target Behavioral Response Laboratory here, these questions may soon be answered for the U.S. military.

The laboratory, the first of its kind in the Department of Defense, conducts various scientific experiments that gauge the effects that lights, lasers, acoustics and other non-lethal items have on individuals.

The information will be used to develop systems that suppress and deter potentially unfriendly forces, according to the lab's research director Kenneth Yagrish.

Currently, the lab is focused primarily on finding simple solutions to manage crowds, stop wayward vehicles at checkpoints, and inhibit insurgents from shooting at American targets.

The TBRL's tests are designed to determine if different lighting variations will stop an enemy from targeting and shooting Soldiers, explained Gordon Cooke, lab engineer and principal investigator.

One of the tests is a multi-chromatic, non-coherent experiment.

During the experiment, a participant uses a modified M4 rifle that shoots light beams instead of bullets at targets on a screen. Data is collected



U.S. Army photo by Todd Mozes

An enclosed golf-cart driver rounds a corner in an experiment hosted by ARDEC's Target Behavioral Response Laboratory staff.

as each shot is fired. Throughout the experiment, different lighting techniques are applied to determine if they affect the shooter's ability to aim or hit the target.

"We take the broad data and compile the numbers down. Then we can understand how long it took them to get to the target, how long it took to pull the trigger while they're fixing their aim-point and whether or not they hit their target," Cooke explained.

The team will use the data to help engineers create a device that will either cause the shooter to delay pulling the trigger or affect the shooters ability to aim at the Soldier, he said.

"Soldiers on the move frequently encounter large groups of people tending to their daily business, such as in marketplaces. Convoys have to stop,

making it more vulnerable to insurgent attacks," Yagrish said. "Clearing crowds quickly without escalating to a confrontation is difficult and time-consuming."

If there were a lighting or sound technique that could suppress the shooter from firing, it could "give you five or 10 seconds to get out of there - something to get out of the trouble spot," Yagrish said.

These few seconds could potentially save a Soldier's life, he said.

"From an engineer's perspective, if you told me 'go design this system,' there are certain questions as an engineer you would want to know about. What's the requirement? How bright does it need to be? Does color matter? How long does it need to be on for? So those are the questions we're trying to answer with these experiments," Cooke explained.

Cooke said that to design for the field, engineers need to know things that are currently unknown.

"We've tried different colors and different intensities to see how those things interact and what would be the requirement to achieve a certain affect," he said.

"It's a brand new science, as far as I'm concerned," Yagrish said. "What we're trying to do is understand those measures so we know what is expected."

"The real problem is the data's never been there before - everything's been anecdotal. We're trying to get the real data, and I know a number of the reports prove here's a second or here's half a second that the guys not shooting at you - he can't," Yagrish explained. "None of these metrics have ever existed, because when you look at it, if you

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Radford looks to new plant

U.S. Army photo by Justine Barati

A view of Radford Army Ammunition Plant's current Nitrocellulose Plant. Officials are hopeful a new plant will begin construction between 2010 and 2013.



By Justine Barati
JMC Public Affairs

RADFORD, Va. -- Radford Army Ammunition Plant is undergoing a major modernization effort. Construction began on a new Nitric Acid Concentrator/Sulfuric Acid Concentrator in December, and the U.S. Army Corps of Engineers is now designing plans for a new nitrocellulose plant.

"We hope to begin construction on a new facility between 2010 and 2013," said Rob Davie, the chief of Operations Division for Radford.

"Radford is the sole North American source for Nitrocellulose. NC is the key ingredient in the manufacture of all propellants," said Lt. Col. (promotable) Jon Drushal.

"Think about the ammo in Afghanistan and Iraq, 99 percent of the small caliber ammo contains NC from this facility," said Kent Holiday, vice president and general manager of ATK, the contractor that operates Radford.

"Every Soldier, sailor, airman, and Marine needs to know that the round in their rifle or artillery is going to work. When it goes downrange and hits a target, that's the Joint Munitions Command message of ready and reliable ammunition," said Jyuji Hewitt, deputy to the commander for JMC.

The current NC plant is housed

in the original structures built on the base in 1941. "Those buildings are the same as they looked back then," said Davie.

"They served their purpose very well for the last 70 years," said Dan McGlothlin, a civil engineer at Radford.

"It's amazing that wood buildings even last so long," said Davie.

"We need the new building because the NC plant is the building block in all ammo, and we must produce it cost effectively and safely. It's really important, that's why we need to modernize this facility," said Davie.

The new plant will have a much smaller footprint. "It's a lot smaller, but it won't be smaller on production output. It will use less energy, less water, and will be more efficient. It will also discharge less waste," said Davie.

The new facility will also be safer for workers with "a lot more automation and controls and better lighting," said Davie.

However Davie and McGlothlin aren't waiting around for the construction of the new facility to begin improvements to the NC production process.

"We make good NC now, but we'll make it even better with the equipment we are installing," said McGlothlin.

The new equipment installed in December includes a deflaker unit and a cutter. These pieces of equipment will help reduce agglomerates. According to McGlothlin, agglomerates are clumps of fibers that don't absorb the acids needed to make them effective propellants. Reducing these agglomerates "will produce a product that will satisfy ever tighter quality and performance requirements," he said.

"The NC produced at Radford continues to meet all military specifications and meets the majority of our customer needs, but there continues to be an increased need for higher quality NC that actually exceeds the MilSpec. These changes are being driven by advances in technology and Radford is prepared to meet those challenges," said McGlothlin.

Radford is a government-owned, contractor-operated facility that manufactures a diverse range of propellants in support of small, medium, and large caliber military munitions for the warfighter. Radford also creates ammo that goes directly to theater.

"A key product produced at Radford is the M789 medium caliber round that is shot out of the Apache. Within weeks of the rounds coming off the line, they are in a gun in Iraq or Afghanistan," said Drushal.



Anniston Munitions Center's mission uses open burn techniques

U.S. Army photo by Darryl Howlett

Anniston Munitions Center workers unload M-15 anti-tank mines for future use in the demilitarization of outdated ammunition.

By Darryl Howlett
JMC Public Affairs

ANNISTON ARMY DEPOT, Ala. – “Nothing left but the air,” would amply describe the demilitarization process conducted by the Anniston Munitions Center.

Several times a day, weather permitting, employees with ANMC eliminate outdated and suspended ammunition through a “below ground detonation or open burn.”

“(The employees) are unpacking M-15 anti-tank mines getting them ready for demil process,” said Clyde Hill, a munitions operator, guided missiles supervisor with the munitions center. “After the (below ground detonation) you have an instant swimming pool.”

Preston Morgan, an explosives operator supervisor, or “Demo pit” supervisor, said the demil process has kept the munitions center busy during his nine years with the demo pit.

“We completed the Spartan missiles in eight months in 2007,” he said. “Right now we’re destroying rejects from the TOW missile recycling center and 66 mm rockets, incendiary rounds.”

Morgan said specific steps must be taken to ensure the demo burn goes smoothly. None is more important than daily safety briefings.

“My safety philosophy is to have the least amount of explosives for the least amount of people, for the least amount of time,” he said. “We have a safety briefing every morning, to address what to look out for.”

Following the safety briefing, an elaborate process begins for the total destruction of ammo.

“We shoot one to 15 holes at one time and up to 1,000 pounds (of ammunition) in each shot,” he said. “The M-15 mines assist in the total destruction of ammunition. We use one pound of TNT on each corner, and use a detonating cord out of hole. After a bulldozer places dirt over the material to be destroyed, blasting cap/time fuse are added and we’re ready to go.”

Morgan said due to the tricky nature of a detonation, explosive operators have to also dabble in the “weather-man” business.

“Any wet weather, cloud cover, or high wind speeds and the demo pit is a no-go,” he said.

If everything is a go, crews have a bunker and television cameras set up down range from the explosions.

Environmental standards are also of importance to Anniston.

“We are also required to have a good working knowledge of environment issues in relations to our operations,” he said. “Occasionally we are visited by the Alabama Department of Environmental Management personnel who keep a close eye on us to ensure we following state regulations and permits.”

Lt. Col. Duncan MacMullen, commander, Anniston Munitions Center, said open burn technology is still needed for the seeable future.

“Despite the advent of new techniques, like our missile recycling capability, we foresee a continued need for open burn and open detonation for demilitarization of munitions,” he said. “There are some items that are just too tricky to handle otherwise.”



U.S. Army photo by Justine Barati

Randolph Evans, energy manager at Radford Army Ammunition Plant, stands in front of the installation's coal plant.

Conserving energy is a winning formula at Radford

By Justine Barati
JMC Public Affairs

RADFORD, Va. -- Conserving energy is one of the Army's and, in turn, Joint Munitions Command's top priorities.

"The more money you spend on energy, the less money you have (available) to spend on bullets for the warfighter and facility improvements at the plant," said Randolph Evans, the energy manager for Radford Army Ammunition Plant. Evans is an industrial engineer at the plant and is recognized as a conventional fuels expert.

"Even though the Army is making gains in reducing energy use, we see fuel costs continuing to climb," said Evans.

"It is important to increase the awareness of people in the plant about saving energy. Reducing energy consumption is everyone's responsibility, and it even includes water conservation. Most people don't realize that reducing water consumption reduces energy levels, since it takes energy to run water pumps and water treatment plants," he said.

Radford is one of four coal-fired plants within JMC. "We have a combined heating plant that burns coal to produce steam that passes through turbines to produce electricity and then the residual steam is used for processes and comfort heating. We make around 50 percent of our own electricity," said Evans.

The buildings at the plant were designed in the 1930s and constructed in the 1940s; because of their age, Evans says there are lots of ways to improve their cost efficiency.

"The proactive efforts at Radford led by Randolph Evans are a great example of the champions we need to see everywhere on Army installations," said Don Juhasz, the chief of Army Energy and Utility Programs and the assistant chief of staff for Installation Management.

To improve energy management at Radford, steam meters with remote metering capabilities were installed to track where heat was going. Aerial infrared photos of the installation were taken to illustrate steam losses. According to Evans, these strategies showed what problem areas

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Crane employee named 46th Honorary QASAS

By Tom Peske
Crane AAA Public Affairs

CRANE, Ind. -- Crane Army Ammunition Activity employee Frank Dant recently joined a small but distinguished group when he was named the 46th person to be listed as an Honorary Quality Assurance Specialist (Ammunition Surveillance).

Crane Army Commander Col. Charles Kibben presented Dant with the award and the certificate of Honorary QASAS members recently. During the presentation, Kibben praised Dant for his years of service in helping and guiding the QASAS program.

In the 88 years since its inception, the QASAS Career Program has provided special recognition to individuals for their dedicated support and contributions to the "The Program."

During the course of his 27-year surveillance career, Dant directly impacted, through mentoring, sharing of his vast knowledge and experience, teaching, and caring, the career development of hundreds of QASAS.

According to Crane's Deputy Director of Depot Operations Jim Barton, "(Dant) has greatly impacted the



Crane Army Ammunition Activity Commander Col. Charles Kibben presented Frank Dant with the award and the certificate of honorary QASAS member.

surveillance mission; some of his work directly influencing JMC and local policy decisions, as well as the QASAS Career Program itself."

Barton, who nominated Dant for the award, also explained that Dant has gained respect and recognition throughout the ammunition community and across military services. "QASAS and soldiers continue to seek his guidance long after they leave CAAA and from all over the world. He has unquestioned loyalty to the QASAS Program and has even influenced people to enroll in the program."

Radford *continued from page 6*

needed to be attacked first. Fixing these areas first has worked. "Radford is now showing significant reductions in energy consumption in all recorded categories," said Evans.

"We were thrilled to honor and recognize Radford at the Secretary of the Army Energy Management Awards last August for their contribution to reducing energy waste through their infrared overflight scans that revealed areas of steam leaks," said Juhasz.

Improving powerhouse efficiencies was also at the forefront of the energy conservation efforts. "We have made improvements and continue to explore how to make the powerhouse more efficient and reliable," Evans said.

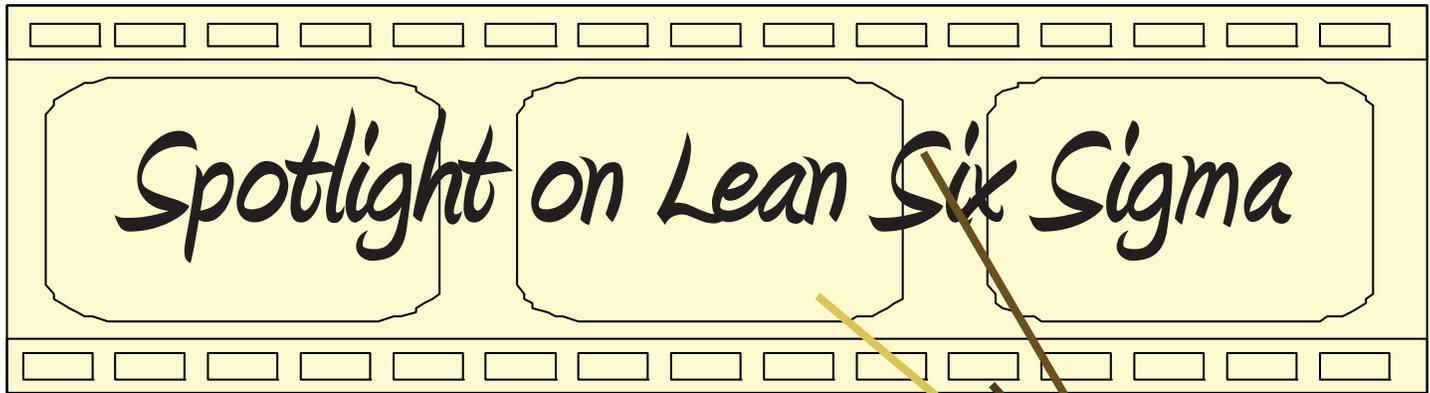
Radford's energy manager is also looking for new ways to increase efficiencies. "We are planning an Energy Industry Day in the spring," said Evans. "We are inviting companies to come to the plant and demonstrate new

energy technologies including renewable types of energy."

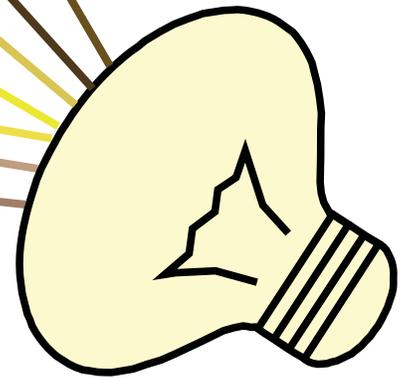
"The Energy Industry Day should give us an opportunity to learn about new technologies that are out there like new burners and more efficient pollution control systems," said Evans. "We're always looking for a way to do it better, do it faster, and do it cheaper," he said.

He has already investigated the possibilities of using wind power, as well as bio-mass and other alternative fuels. "We are partnering with the university to set up a monitor to determine if wind power is feasible at the plant." Unfortunately, according to Evans, this will probably not be possible, since the plant is located in a valley.

Evans offered advice for other energy managers within JMC. "Know what's using your energy. Look for inefficiencies and inherent losses, and see how you can correct them."



*Project improves quality/
accuracy of OMA budget
requirements*



By Ron Stevenson
JMC Logistics Funds Requirements Division

ROCK ISLAND ARSENAL, Ill. -- The Joint Munitions Command headquarters recently completed a green belt Lean Six Sigma project designed to improve the quality and accuracy of identifying Operation and Maintenance, Army budget requirements.

The goal of the project was to reduce briefing changes (defects) on completed budget documents by 90 percent. The scope of this project was JMC ammunition OMA budget requirements.

The project pilot results showed that capturing briefing changes (defects) and implementing project solutions would result in a reduction of 90 percent or more of the defects on completed OMA budget submissions. Additionally, lessons learned showed that control of this process improvement could continue to be achieved by maintaining the added discipline to the process, coupled with continued communication, peer to peer, and top down.

The team assembled to carry out the project consisted of six subject-matter-experts. It was made up of personnel

from JMC's Munitions Logistics Readiness Center Business Operations Directorate and JMC Resource Management.

The team collected data from recent OMA budget and tested the data against the proposed solutions, rating all proposed solutions against the root causes.

When the project was finished, the goal of reducing defects by 90 percent in OMA budget documents had been exceeded.



Pareto Charts: A type of bar chart in which the horizontal axis represents categories rather than a continuous scale. The categories are often defects, errors or sources (causes) of defects/errors.

A success story of the Munitions Readiness Review

By Penny Cooper
JMC Ammunition Systems Management Specialist

ROCK ISLAND ARSENAL, Ill. -- The Joint Munitions Command headquarters recently completed a green belt Lean Six Sigma project designed to reduce the cycle time involved in publishing the monthly Munitions Readiness Review.

The goal of the project was to reduce the cycle time by 10 percent by developing automated means of loading data into the MRR database and reducing the potential for errors.

The project used detailed process and value stream mapping, the Fishbone (Cause and Effect) diagram, and one-way Analysis of Variance. ANOVA tests whether the mean (average) result of any alternative is different from the others. These methods were used to interpret baseline data gathered from the MRR team.

For example, the value stream mapping allowed the

team to determine which steps of the process involved the most touch labor.

The team assembled to carry out the project consisted of seven members, including the project sponsor and master black belt and three ad hoc members. It was made up of personnel from the JMC Munitions Logistics Readiness Center, deputy chief of staff for Information Management, Worldwide Ammunitions Reporting System office and deputy chief of staff for Resource Management.

Modifications to improve the performance included developing automated methods of obtaining and loading data from Total Ammunition Management Information System, Forecasted Analysis of Ammunition Expenditures, and PRODSTAT Refresh. The team coordinated with the process owners of these systems to provide data that could be used without the need for manual processes.

The project was a great success because the goals were met and kept on schedule. The actual reduction in process time was 18 percent, 8 percent more than the original goal.

...and in unfunded storage improvement projects

By Steb Nelson
JMC Business Directorate

ROCK ISLAND ARSENAL, Ill. -- The Joint Munitions Command headquarters has recently completed a green belt Lean Six Sigma project designed to enhance/streamline the unfunded storage improvement projects submission process.

The goal of the project was to reduce the number of reworked (incorrectly submitted) unfunded storage improvement projects to 5 percent or less of total projects submitted and to enhance the existing process so the best projects are received upfront.

The previous manual submission process for storage improvement projects was very labor intensive, was highly prone to rework, and project orders could be submitted at any time which made it near impossible to ensure the best projects were being funded. This manual process resulted in an error rate (rework) of 42 percent. It would take about 15 minutes to review a project order without any rework. If there was rework, the time more than doubled with an additional 20 minutes (10 minutes at depot + 10 minutes

at JMC headquarters) of resubmit/review time for a grand total of 35 minutes per project order.

Through the LSS process, the solution was determined to be: Establishing controls via error proofing the submission form through automation; providing clear guidance on how to fill out the form; providing an example of a good project order; and instituting submission guidance (all project orders submitted to JMC headquarters no later than 01 Nov XX). The pilot program proved these solutions to be affective as the error rate dropped down from 42 percent to zero exceeding the team's goal of no more than five percent error rate.

The team assembled to carry out the project consisted of nine members and four ad hoc members. It was made up of personnel from JMC headquarters and the ammunition depots.

This project will ensure Unfunded Storage Improvement Projects will be submitted to JMC headquarters correctly and in a timely manner. It also provides an invaluable tool for tracking project orders, as well as the ability to run queries on the Unfunded Storage Improvement Project's data.



U.S. Army photo provided by Picatinny Arsenal

Jason DeVenezia and Yusif H. Yafai demonstrate the confidence clip's ability to securely fasten the pull ring in place to prevent the accidental removal or rattling associated with a loose ring.

Close Combat Systems employees honored for improvement in hand grenade safety

By Kevin Wong, Yusif Yafai
and Kimberly E. Jamison
Special to the Bullet'n

PICATINNY ARSENAL, N.J. -- Picatinny employees Jason DeVenezia and Yusif H. Yafai were commended here in December for their work on a device that will make hand grenades safer for Soldiers to use.

Col. Raymond Nulk, project manager for Close Combat Systems, presented the two employees with star notes on behalf of Gen. Charles C. Campbell, commanding general of the U.S. Army Forces Command. The notes thanked them for their efforts on a piece of equipment called the confidence clip.

The confidence clip is a simple device that fits between the grenade fuze and body. It securely fastens the pull ring in place to prevent the accidental removal or rattling associ-

ated with a loose ring.

The confidence clip was developed to meet a long-standing need. As far back as World War II, Soldiers have been taping their grenades for perceived safety or to reduce noise. This is a safety hazard because removing the tape can inadvertently pull the pin, resulting, as it has in some cases, in serious injury. It can also obscure vital markings, such as lot numbers, so otherwise functional grenades have to be destroyed.

PM CCS staff was made aware of this unsafe and wasteful practice through feedback from theater and the Department of the Army Explosive Safety Council.

At Campbell's request, PM CCS staff expedited the incorporation of the confidence clip into the existing inventory of lethal hand grenades; they will be available beginning this month. Incorporating the confidence clip into new production items will begin in March or April.

In Pictures: A look back at 2008



U.S. Army photo by Hugh Morgan

Col. Bill Barnett, Pine Bluff Arsenal commander; Brig. Gen. William N. Phillips, commanding general, Joint Munitions & Lethality Life Cycle Management Command; and former JMC Commander Brig. Gen. James E. Rogers, commanding general, watch as an employee does assembly work on the M853 81 mm mortar line in January 2008.



U.S. Army photo by Capt. Angel Wallace

A Soldier performs maintenance on a military convoy truck during Operation Golden Cargo, June 2008.

U.S. Army photo by Nancy Gray

A man posed as a terrorist during a August 2008 mass casualty exercise at the Holston Army Ammunition Plant in Kingsport, Tenn.



U.S. Army photo by Ted Cavanaugh

Brig. Gen. Larry Wyche, center, and Brig. Gen. James E. Rogers, listens to former AMC Commanding General Gen. Benjamin Griffin, during the JMC Change of Command Ceremony in August 2008.

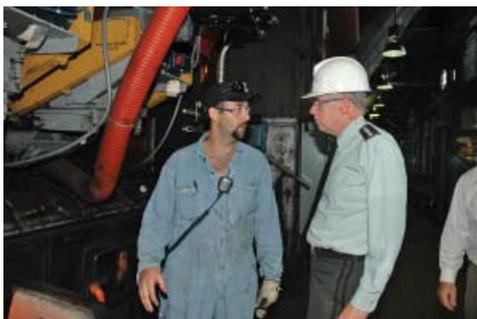


U.S. Army photo courtesy of Scranton Army Ammunition Plant

Scranton Army Ammunition Plant officials illustrate a process to Brig. Gen. Phillips during a July 2008 visit to Sranon, Pa.

U.S. Army photo by Nancy Gray

Gen. Griffin speaks to an employee at the Holston Army Ammunition Plant in July 2008.



U.S. Army photo by Mark Hughes

Firefighters practice their teamwork skills while fighting a "controlled-burn fire" during the a March 2008 course at the McAlester Army Ammunition Plant, in McAlester, Okla.

Phillips *continued from page 1*

Phillips holds a Bachelor of Science degree from Middle Tennessee State University and a Master of Science degree in Procurement and Materials Management from Webster University. He is a graduate of the Command and General Staff College, Defense Systems Management College and the Industrial College of the Armed Forces.

Brig. Gen. Larry Wyche, commanding general of the Joint Munitions Command, Rock Island Arsenal, Ill., will

become acting JM&L LCMC commander, in addition to remaining the JMC commanding general. Wyche has served as JMC commanding general since August 4.

James C. Sutton, currently serving as the deputy program executive officer for Ammunition, will serve as the PEO for Ammunition until a replacement is named. A ceremony is scheduled for Jan. 23 at Picatinny Arsenal.

Studies *continued from page 3*

want a crowd to move out of the way so you can drive down the road, how long does it take them to move? Nobody really knows because there's no data."

Besides testing light suppression, the lab also tests the effectiveness of some blunt impact non-lethal weapons.

"We can use paintballs to safely simulate many of the systems because we're not interested in the actual level of pain being inflicted. We're more interested in the decisions people make when faced with the threat of the pain," he said. "Some people will endure far more pain than others, but the actions they decide to take are what we measure."

Other experiments include examining crowd behavior such as studying how people act while working as a group.

Yagrish said all experiments adhere to federal laws, Department of Defense directives and Army regulations.

Additionally, all research involving human participants is reviewed and approved by the ARDEC Institutional Review Board at Picatinny. An assurance of compliance to conduct human research also had to be obtained from the Army Assistant Surgeon General for Human Research Protection.

Each experiment must be thoroughly explained to each participant and participants must sign an IRB-approved consent form before the experiment begins. Nothing can be done without the participants' full knowledge and they are free to withdraw from the experiment at any time without penalty.

Although pre-requisites vary with each experiment, most studies are open to individuals between the ages of 18 and 65, according to Charlie Sheridan, who coordinates the experiments.

So far this year, Yagrish estimates nearly 200 people have participated in various experiments at the lab. Test subjects have ranged from retired police officers to local college students and stay-at-home moms.

For their time, participants are paid \$20 per hour and also have the opportunity to earn additional money, Sheridan said.

To make the experiments as realistic as possible, the participants are paid additional money if they negotiate the



U.S. Army photo by Todd Mozes

In this simulated experiment, a Target Behavioral Response Laboratory staff member uses a laser dazzler while attempting to make an enclosed golf-cart driver slow down or stop the vehicle. Information from these studies can be used at check-points in theater.

obstacles and still achieve their goals. For instance, in the crowd-behavior experiment, participants are asked to throw simulated rocks at vehicles while a control force tries to stop them. The crowd participants could earn \$2 for each simulated rock they throw at a military vehicle, but could lose \$10 if they don't comply with instructions from the control force to stop or back up.

Participants who 'lose' money are not asked to repay it and they still receive their \$20 an hour in earnings.

Yagrish said the incentives are built into the experiment so that participants will want to move closer and score higher while the control force attempts to keep them away. This model provides critical data on how crowds move and how various intervention and control techniques and technologies can affect that movement.

"We're trying to find out what works and what doesn't," he said. "Our goal is to provide that information to the warfighters who have to do the job. It's possible that the simplest of tactics or devices work far better than sophisticated, expensive systems. Also, information can be used to develop requirements for new non-lethal systems."

JM&L LCMC's Safety Spot Check

Winter Storm Safety Precautions

Winter Storm Watch - Severe winter conditions, such as heavy snow and/or ice, may affect your area, but its occurrence, location, and timing are still uncertain. A winter storm watch is issued to provide 12 to 36 hours notice of the possibility of severe winter weather. A winter storm watch is intended to provide enough lead time so those who need to set plans in motion can do so.

Winter Storm Warning - When 4 or more inches of snow or sleet is expected in the next 12 hours, or 6 or more inches in 24 hours, or 1/4 inch or more of ice accretion is expected.

Winter Weather Advisories - Inform you that winter weather conditions are expected to cause significant inconveniences that may be hazardous. If caution is exercised, advisory situations should not become life-threatening.

Blizzard Warning - Snow and strong winds will combine to produce a blinding snow (near zero visibility), deep drifts, and life-threatening wind chill.

**Be sure to listen carefully to the radio, television, and NOAA Weather Radio for the latest winter storm watches, warnings, and advisories. Visit the Winter Weather Awareness web page at: <http://www.nws.noaa.gov/om>

Winterize your car:

Check antifreeze, defroster, emergency signals, heater, lights, oil, tires, windshield washer fluid, and wiper blades.

Have emergency supplies in your car:

Blanket, jumper cables, first-aid kit, flashlight, ice scraper, matches and a candle, sand/gravel, small shovel, and a charged cell phone (Do not talk or text on a cell phone while driving – if you must talk on a cell phone in the car, use a "hands free" device/mode).

Enjoy Winter:
Be Safe