

Public Works *Digest*



In This Issue...

**2003 DPW Worldwide
Training Workshop**





U.S. Army Installation Management Agency

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*Dr. Fiori poses proudly with Mr. Phil Sakowitz,
MG Andy Aadland and CSM Debra Strickland after receiving the IMA
Stakwart Award.*

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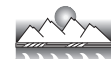
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L E T T E R F R O M T H E E D I T O R



This issue of the *Public Works Digest* is dedicated to the 2003 DPW Worldwide Training Workshop. This year's workshop focused on people, readiness and transformation, which translated to the global war on terrorism (GWOT) and what we are doing or can do in support of our deployed troops. Co-hosts John Nerger (OACSIM) and Kristine Allaman (HQUSACE) introduced the keynote speaker, Assistant Secretary of the Army for Installations and Environment Dr. Mario Fiori, to a packed auditorium. Later, all the speakers at the general sessions reiterated his overarching goals for Army installations-- to preserve the training environment, privatize/modernize housing and utilities, foster public/private competition and improve our enduring infrastructure assets. Making our installations flagships for our deployed soldiers is a must, Dr. Fiori said.

Dr. Fiori also took the opportunity to announce his retirement at the end of 2003. He was recognized for his many years of outstanding service in support of installations with the IMA Stalwart Award, which was presented by IMA Director MG Andy Aadland.

Others performing outstanding service in support of installations were cited with the announcement of the traditional DPW awards by MG Aadland and a belated presentation of the Secretary of the Army Energy and Water Management Awards by Vice Chief of Staff GEN George Casey and Assistant Chief of Staff for Installation Management MG Larry Lust. Please check pages 6 to 8 for photos and writeups of these deserving individual, group and installation winners.

There was also a lot of information about standing up the new USACE Gulf Region with MG Ronald Johnson, HQUSACE Director of Military Programs, at the helm. In keeping with the Chief of Staff's GWOT focus, this issue also boasts a plethora of articles about USACE support to Iraq from the Engineer Research and Development Center (ERDC), Europe District and others.

In the months to come, you will be hearing about the Common Levels of Support (CLS) concept, which is explained by Stan Shelton in the Installation Management section. The Army will allow garrisons "to do what they do well" as a result of this process. This section also contains an article by Bob Sperberg, Chief of the ACSIM's Facilities Policy Division, which explains how his division has reorganized to better support DPWs in the field and provides a list of division personnel as well as their new phone numbers.

The March/April issue of the *Digest* will feature Housing issues. We hope to have updates on privatization, barracks modernization and changes to current policies. The deadline for the next call for Articles is February 27, so please start writing now! I look forward to receiving many articles about installation successes and challenges in the housing arena.

Until next time...

Alexandra K. Stakhiv
Alexandra K. Stakhiv, Editor, *Public Works Digest* **PWD**



2003 DPW Workshop focus – supporting people, readiness, and transformation

by Alexandra K. Stakhiv

This year's DPW Worldwide Training Workshop, held in Washington, D.C., from 1-3 December 2003, was an excellent opportunity to receive and share the latest information and innovative practices in the DPW arena, particularly since it was combined with a large trade exposition. More than 50 booths displayed the latest products and technologies.

In keeping with the theme of "Army Installations – Supporting People, Readiness, and Transformation," the general sessions were designed around an impressive array of speakers from the public works, housing, environmental services and facilities arenas. These Army leaders and champions were on hand to discuss the many challenges today's installations are facing in support of the Army's current missions and transformation. The goal of creating installations that support an Expeditionary force where soldiers train, mobilize, and deploy to fight and are sustained as they reach back for support was echoed throughout the workshop.

Ms. Kristine Allaman and Mr. John Nerger were the co-hosts once again, representing the Corps and ACSIM, respectively. Nerger asked participants to keep in mind what they are doing for those involved in the war in Iraq. "Your efforts are playing a very important part in winning the global war on terrorism," Nerger said.

The keynote speaker was Dr. Mario Fiori, the Assistant Secretary of the Army for Installations and Environment. Fiori announced his retirement and thanked everyone for their hard work in supporting our deployed troops. He introduced the overarching goals for installations of preserving the training environment, privatizing housing and utilities, fostering public/private competition, and improving our enduring infrastructure assets in making our installations flagships for our deployed troops despite cuts in funding.

Fiori warned that, "It will take two years to get a solid handle on the cost of



IMA Director MG Andy Aadland chats with Diane Devens, Northeast Region Director, IMA.

garrisons and where our money goes. Fiscal Year 2004 will not be a piece of cake as the budget is flat and has a downward slope."

In his talks with garrison commanders, Dr. Fiori noted first that FY04 is underfunded for environmental dollars, so it is important not to migrate BASOPS money to other accounts. We need to understand the environmental issues, he said. Second, demolition didn't get much money either. So, if your installation has money for demolition, he cautioned, spend it right away. And third, money for force protection is underfunded by half. Again, Fiori admonished DPWs not to migrate any money from BASOPS.

Praising 2003 as a great year for MILCON with over 1,000 projects, Fiori said that BRAC is also one of the successes of FY03. "We got rid of about 107,000 acres using early transfers," he explained. "We now have the Installation Design Guide, but if you can't do something, you need to let us know. We also have a roadmap for addressing contamination, and safety is becoming a big issue that will require a cultural change."

MG Larry Lust, the Assistant Chief of Staff for Installation Management, brought the audience up to speed on barracks,

housing and utility privatization. Today, 75% of our barracks are adequate or have been funded to meet the standard, including the U.S, Europe and Korea, he said. The strategy for implementing the Barracks Modernization Program is to renovate the worst barracks first and centrally fund the necessary furnishings.

In Army family housing, the obvious goal is to get rid of all inadequate housing as soon as possible. "We have already programmed in the budget funds for FY07, but it will be 2012 before we get rid of all of it," Lust said. "We hope to increase the privatized inventory from 13% to 58% by FY09. Our strategy here will be to increase the housing allowance, privatize where possible using the Residential Communities Initiative (RCI), and build or lease some new housing."

There are 351 utility systems to consider for privatization, Lust continued. Eighty-four have already been privatized, 141 are under consideration and 93 are in negotiations. "We plan to complete all privatization evaluations by the end of Sep-



MG Andy Aadland and ACSIM MG Larry Lust prepare for a general session.

tember 2005," said Lust. "In addition, those utilities exempt from privatization must be modernized by 2010. Our strategy does not include the 226 systems



turned over to local utilities in Europe or the 128 systems exempt or owned by the host nations in Korea and Japan.”

Lust advised installations to commit all demolition funds by the end of the 1st Quarter and spend only allocated funds for environment issues and force protection. He also touched on the Installation Design



BG Guy Swan, Army Legislative Liaison, explains how DPWs can “educate” Congress on installations.

Standards, which were approved in April 2003. “They provide for a common look and feel but are not written in stone,” Lust reminded the audience. Pointing out that there was no benefit to the installations in having woodlands if they weren’t being managed, he said, “We can make a profit from the trees and provide money for maintenance. For that matter, why mow what you mow? Habit? We can lessen our operational costs by using other ground covers that do not require regular maintenance the way grass does,” Lust suggested.

“What needs to be done while the troops are deployed?” asked Lust. It’s important to get those work orders for painting and repairs done before the troops return. Some of our regs needs to be changed too, he said. There is a \$1.3 million effort in ACSIM to rewrite these regs.

The Chief of Engineers, LTG Bob Flowers, talked about the change in U.S. Army Corps of Engineers culture with the war being the first priority. The Corps is currently in more than 90 countries doing technical assistance or construction.

“Field force engineering is part of the POM and a way to involve the Corps in the fight,” Flowers said. “The USACE divisions are aligned with Combatant Commands, giving us deployable teams with ‘reach-back’ tele-engineering capabilities to support forward elements.”

There is a new Afghan battalion created every 28 days, and the Corps is working to ensure that barracks and mess hall facilities are coming on line to support these new soldiers. In Iraq, the Corps is providing support to the Coalition Provisional Authority (CPA) and U.S. forces, reconstructing the oil infrastructure, restoring Iraqi electricity and supporting the Department of State.

Explaining why Iraq is so important, Flowers said, “This is a cataclysmic battle. If the U.S. and the coalition are successful, the terrorist organizations will be discredited and there will be a rapid conclusion of the war on terrorism. If we are not successful, the war will go on for a very long time and the terrorists will be emboldened. This has a direct tie to security and institutions.”

Flowers also stressed that the Corps could not do what it does without its private sector partners. “We use them for 100% of our construction, 75% of military design, and 61% of civil works. We are committed to the success of small businesses,” Flowers added.

Referring to the Corps as a *learning* organization, Flowers said, “We share our experience across the whole organization. We are instituting communities of practice with effective team members who have the proper training. No more stovepipes. We are creating a 2012 team of teams committed to partnering with IMA and ACSIM to provide the best support to the Army. Let us help you.”

IMA Director MG Andy Aadland asked the audience to think about the things we need to be fixing together. IMA’s first year was very successful, but the organization plans to do much more in the “way ahead.”

“This is all about the troops, because without them, we wouldn’t be here,” Aadland said. “What do we see IMA becoming? What will our warfighters say about IMA a few years from now? We need to pull our whole workforce together.”

FY04 will be harder for IMA because of

great expectations. Aadland explained that the Army intent is to create a corporate structure that focuses on installation management and achieve regional efficiencies through innovative outsourcing. “We’ll do this by supporting installations as flagships. This means turning our installations into power projection platforms with ‘reach-back’ capabilities, supporting the well-being of deployed soldiers and enforcing common standards throughout,” he said.

“The last is very important,” Aadland added. “General Keane told us that the Achilles heel for IMA success would be adhering to a common standard. And we’re working very hard on implementing common standards through the Installation Design Standards (IDS) and the Army Baseline Services (ABS).”

Calling installations launching pads for the fight, Aadland said that current funding levels only lead to continued facility deterioration, and years of underfunding have truly taken their toll. “We’re working on applying common standards to eliminate the ‘have nots.’ We need to strategize our funding better. We must know how to use the scoring model or we won’t get the ‘bacon,’” he said.

BG Guy Swan gave the legislative update explaining how we can better deal with Congress and educate them on our



GEN George Casey (Right), Vice Chief of Staff, U.S. Army, and MG Larry Lust respond to a question on readiness.

Army mission, budget and plans.

We are building and maintaining a relationship with Congress, where National security and defense is the first priority, he said. There has been a recent decline in military experience in Congress. Now that everyone is more interested in the



(continued from previous page)

military due to the war, Swan advised installations to take advantage of Congressional visits to show their Congressmen what they want them to see.

“Remember, all politics are local!” Swan concluded.

Phil Grone, Principal Assistant Deputy Under Secretary of Defense reiterated the OSD I&E’s objectives for installations. “An excellent installation equals a good foundation for defense,” he said.

“Our facilities are the home of combat power for generating and sustaining the military, but this doesn’t mean you’ll get every dollar you need and deserve,” Grone continued.

Installations have to weigh against other capabilities in the trade-off and still provide the greatest long-term support of the mission. Success means not looking at stovepipes but using a multi-functional approach and not just meeting the crisis of the moment, Grone said. He sees installations as “national assets” to be managed in an integrated way.

“We have proven that privatization can work and is working well,” Grone continued. “The Army has led in many ways—RCI means working with corporate partners. We need to approach privatization



Phil Grone (L), Principal Assistant Deputy Under Secretary of Defense (I&E), sees installations as “national assets.”

as a market that needs to be served and go for the best deal for the government.”

GEN George Casey, Jr., the 30th Vice Chief of Staff of the Army, asked participants to remember that, “Our country is under attack and we can never forget the events of 9/11. Terror is the indiscriminate killing of innocents. Freedom isn’t free and it never has been.”

Explaining how the Army must become more expeditionary with campaign qualities, Casey said adaptation is key as we fight the global war on terrorism. We must support the Army’s core competencies of training, equipping, and growing soldiers and leaders and providing power to joint teams.

“Continuous adaptation will lead us to fundamental change more relevant to the

future. To be successful in this endeavor, we need creative, adaptive leaders,” stressed Casey.

Mr. Wayne L. Arney, Deputy Assistant Secretary of the Navy for Installations and Facilities, explained public works, the Navy way. Their goal is simple—make fleets more agile, responsive and ready. To accomplish that, they have established a single responsible office for installations with unified procedures, standards and practices. Base support funding is now separate from mission funding, he said.

The Navy has consolidated to fewer regions, even making some commanders dual-hatted. Bachelor housing is finally being privatized but it took the Navy 20 years to get there. “Without privatization, you could not build the needed bunks for when ships are on shore,” he said.

The Navy is also taking advantage of alternative financing such as ESPC to improve their management of energy. Utilities privatization remains the primary tool for upgrading facilities, and roughly 650 utility systems are being studied.

“We are using a standard set of web-based tools capable of providing data management and decision support capabilities at regional and installation levels,” Arney continued. Enterprise-wide facilities management information systems such as

Dr. Mario P. Fiori retires

Dr. Mario P. Fiori, Assistant Secretary of the Army for Installations and Environment, retired December 15, 2003, after 38 years of dedicated government service as a military officer and civilian employee and returned to the private sector.

“It has been a privilege and honor to be a part of the Bush/Cheney Administration and to serve the President, the Soldiers, the Army and the Nation,” said Fiori.

During Dr. Fiori’s tenure as the Assistant Secretary of the Army for Installations and Environment (ASA I&E) he had overall responsibility for establishing Army policy for managing Army installations worldwide, the Army’s environmental programs and the Army’s safety and

health programs.

Among Dr. Fiori’s contributions to the Army as the ASA I&E were his innovative policies in transforming the Army’s management of installations. The establishment of the Installation Management Agency (IMA), the implementation of the Army’s Residential Communities Initiative (RCI) and his environmental stewardship policies contributed immeasurably to force readiness and a higher quality of life for the Army’s soldiers, family members and civilians.

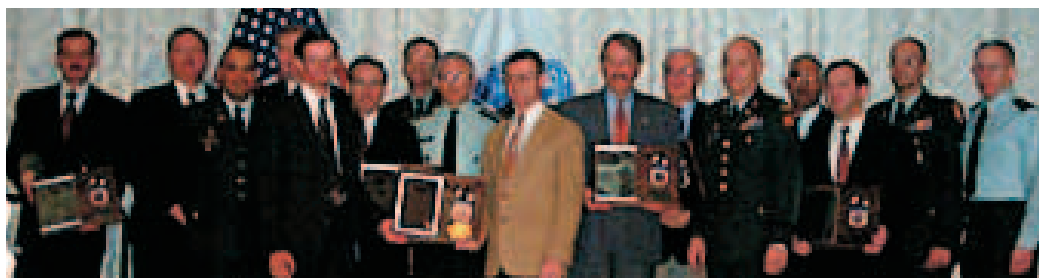
At the annual DPW Worldwide Training Workshop in December 2003, IMA Director MG Andy Aadland presented an IMA Stalwart Award to Dr. Fiori for being a model leader and representing the highest standards of performance in sup-



Dr. Mario P. Fiori smiles after receiving the IMA Stalwart Award.

porting and promoting the IMA mission.

Mr. Geoffrey Prosch, Principal Deputy ASA (I&E), has been designated as the Acting ASA I&E. **PWD**



2003 Secretary of the Army Energy and Water Management Award winners with GEN George Casey (Center) and MG Larry Lust (Right).



2003 DPW Award winners with MG Andy Aadland (Right).

MAXIMO, RPLANS, and GIS Repository are helping the Navy with facilities construction, sustainment, disposal, and demolition.

“We are trying to shorten the BRAC process and make it better for the surrounding communities,” said Arney. “The Navy’s BRAC goals include better closure that minimizes disruption to the mission and better disposal meeting all environmental responsibilities. The last sailor/marine would hand the deed over to the new owner on the last day.”

Honorable Nelson F. Gibbs, Assistant Secretary of the Air Force for Installations, Environment and Logistics, gave his Service’s take on public works. The Air Force housing privatization goal is to accelerate their ability to eliminate inadequate housing units and provide their families access to safe, quality, affordable and well-maintained housing but in a community where they choose to live.

Air Force policy changes in housing requirements include retaining existing housing to the extent that there is a demand and relying on the local community for the balance.

“We could eliminate 20,000 inadequate houses just through privatization alone,” said Gibbs. “Only 40% of our people live on base. We wanted both the ones who do and those who don’t (live on base) to have the same quality facilities. It would take

about 12 years to fix the 40,000 inadequate units that we have at a cost of \$5.6 billion. We needed a non-traditional approach to family housing revitalization and we found it in privatization. Our goal is to eliminate all inadequate housing by 2007.”

Air Force privatization is not a partnership, explained Gibbs. The developer builds, owns and operates the property for 50 years. The Air Force conveys any existing housing and leases land to the developer. The amount of Air Force involvement varies based on condition of the existing housing and the amount of BAH the units will draw.

The Corps’ BG Robert Crear concluded the general sessions with a rousing presentation on his work in Iraq. Together with the Iraqi people, Task Force Restore Iraqi Oil (RIO), under the leadership of BG Crear, is restoring the oil infrastructure of Iraq to ensure that country’s economic recovery.

Task Force RIO is comprised of USACE military, oil and EOC subject matter experts, government civilians, host nation sub-contractors, third country nationals, general contractor KBR (Kellogg-Brown-Root), the Coalition forces and 60,000 Iraqi oil workers.

“My day job is the commander of Southwestern Division, USACE, but I’ve been away from it for the last 8 months,” began Crear. “This has been a once in a lifetime

opportunity and a partnership symbolic of this great organization,” he continued. “Who but the Corps could have taken on the mission of restoring oil infrastructure in Iraq?”

Crear also had high praise for the work being done by our soldiers, contractors and Army staff in Iraq, putting them all in the same “great” category.

During the bombing, the Coalition targeted only the military assets and the Iraqis remained at home, said Crear. The oil workers returned to work as soon as the security situation improved. Although \$7-13 billion in damages had been anticipated, they identified only \$1.4 billion with \$940 million due to looting. By October, they were already exporting over 2,000,000 barrels a day and the work plan was

approved by CPA (Coalition Provisional Authority) for \$961 million, he said.

“Under the humanitarian assistance portion of our mission, we are providing emergency supplies of gasoline, LPG and other petroleum products to distribution points operated by the Iraqi Oil Company. We are also assisting the Iraqi Ministry of Oil to export oil to benefit Iraq,” explained Crear.

For now, Task Force RIO is maintaining vigilant management of critical path projects, including the 50-kilometer Iraq-Turkey pipeline, the LPG product line, back-up electrical power and the infrastructure security plan. “We will continue with the work plan as outlined, integrate troop construction on small projects and mitigate sabotage losses as best we can, and complete the mission by March 2004,” Crear concluded.

In addition to the general sessions, participants had access to the exhibits and breakouts, which covered Sustainability, Planning and Programming, Outsourcing and Privatization, Public Works and Construction, and the Private/Public Sector Perspective. The winners of the 25th Annual Secretary of the Army Energy and Water Management Awards and the Directorate of Public Works Annual Awards were also presented during the workshop.

Alexandra K. Stakhiv is the editor of the *Public Works Digest*. **PWD**



2003 DPW Award winners announced during workshop

The DPW Awards Program is an annual competition conducted within the Army since 1994. The program was initiated to foster a spirit of peer recognition for the best in the DPW business worldwide. It involves selecting the winners for outstanding accomplishments in nine categories of installation Public Works activities.

Installations/activities submit nominations to Installation Management Agency (IMA) Regions (in previous years, to MACOMs), who forward their selections to HQ IMA (in previous years, to HQ USACE) for consolidation, and then return to the IMA Regions for ranking. IMA Regions may not vote on their own submissions. When ranking is completed, the packages are returned to HQ IMA for computation. Here are the 2003 winners.

2003 Directorate of Public Works (DPW) William C. Gribble, Jr., Executive of the Year:

COLONEL JOHN L. RAMEY, Director of Public Works, Fort Drum, New York



Shortly after COL Ramey's arrival at Fort Drum, the Directorate of Public Works won the A-76 Commercial Activities (CA) study to keep Public Works

activities in-house for a 5-year period beginning in January 2002. At that time, COL Ramey began a transformation of Fort Drum's Public Works that has not only met the requirements of the CA study, but has taken the DPW into areas well beyond the scope of the initial study. He has methodically built a successful Master Planning/Project Design team that manages MCA projects, MRR projects and JOC projects; and established a positive working relationship with the U.S. Army Corps of Engineers (USACE).

COL Ramey has led the DPW in revamping the service order process by executing 51,000 service orders with 91% completion to standards, reducing the service order backlog by 2500 open documents and getting a 98% rating in customer satisfaction. The cyclical maintenance program completed 55,000 hours of work over the last 18

months with no major system failure. COL Ramey was able to achieve both of these O&M improvements through workforce cross-training, reorganization of the service order reception section, and an aggressive, proactive customer service program.

Over the past several years, Fort Drum has experienced a flat Basic Allowance for Housing (BAH) rate. COL Ramey developed a new method that reversed the requirement of reporting what is not rented to report instead what is rented, effectively determining the true cost of rental property. The DPW challenged and won an issue regarding rented townhouses available in the Fort Drum area, thereby requiring the BAH rate to move to single-family units. As a result, Fort Drum obtained a 23% increase in BAH allowance when the rest of the Army received 8% overall.

2003 Directorate of Public Works (DPW) Operations and Maintenance Executive of the Year:

Thomas Ferguson, Chief, Operations and Maintenance Division, Fort Drum, New York



Under Mr. Ferguson's leadership and the development of the Most Efficient Organization (MEO) model, Fort Drum won its A-76 Commercial Activities (CA) bid to keep Public Works

operations in-house for a 5-year period beginning in January 2002. In the two years prior to implementation of the MEO, Mr. Ferguson was instrumental in restructuring the O&M component of the MEO, serving as principal author of the supporting management study. He ensured that each affected employee was evaluated for competency and possession of essential skills needed to perform assigned or expanded duties in a safe and effective manner.

Accordingly, specific and multi-purpose craft training for all of the O&M Division personnel was conducted over a 6-month period with dramatic results. Each craftsman can now perform multiple types of repairs, and a single craftsman can be routinely dis-

patched to complete multiple service orders at a single location.

Mr. Ferguson also played a pivotal role in Fort Drum's utilities privatization competition, which resulted in a "best value" decision to keep all Fort Drum utilities in-house at a savings of \$4,000,000 annually to the Army. Mr. Ferguson continues to be the DPW's key proponent for developing priority projects, budget cost estimates and associated justifications required for the Army's Utility Modernization Program and the Energy Savings Performance Contracting (ESPC) Program. Participation in these programs resulted in \$23 million dollars of modernization and energy efficiency improvements for Fort Drum during the past fiscal year.

2003 Directorate of Public Works (DPW) Engineering, Plans, and Services Executive of the Year:

Keith Yamanaka, Energy and Utility Privatization Manager, US Army Garrison, Hawaii



After taking over the energy program, Mr. Yamanaka more than doubled the energy savings of the installation, orchestrated the development and construction

of the DPW electric car, used an innovative contract to award the nation's largest water heating project with an utility energy savings contract, and established a basic ordering agreement with the Navy and Hawaii Electric Company. Concurrent with his duties as energy manager, Mr. Yamanaka also oversaw the entire utilities privatization program. His strong leadership and innovative foresight have led the installation to the forefront of energy and natural resources conservation.

2003 Directorate of Public Works (DPW) Housing Executive of the Year:

Jutta Williams, Chief, Housing Division, 284th Base Support Battalion, Giessen, Germany

Ms. Williams has created a true home and friendly place to live in at the housing



communities supporting the 284th Base Support Battalion. She manages seven housing areas stretching more than 45 minutes driving time from one area to another, providing housing for every rank from private to colonel. In addition, some 454 private rental houses scattered over nearly 1000 square kilometers are supported with a full range of lease initiation, termination, and complaint resolution services. This wide geographic and demographic dispersion have created significant challenges that Ms. Williams has met with great success.

She has also made great strides in improving housing statistics to include customer satisfaction, reduced the number of days a soldier spends on the waiting list and average days on Temporary Lodging Allowance, and reduced the cost of Vacant Quarters Maintenance.

2003 Directorate of Public Works (DPW) Support Executive of the Year:

John Erichsen, Chief, Fire and Emergency Services Division, Fort Monmouth, New Jersey



Under Chief Erichsen's leadership, the Fort Monmouth Fire Department has won numerous awards, including selection as

the best in the Army Material Command for seven consecutive years. His department has had eight consecutive years of no-loss fires due to heavy emphasis on fire prevention.

During 9/11, Chief Erichsen's department deployed to Highlands, NJ, and established a HAZMAT decontamination and medical triage point which treated and decontaminated over 6,000 evacuees from New York City. His department also built a Regional Army Fire Training Center and hosted a NFPA 1500 training seminar, receiving accolades from many surrounding towns and cities. Chief Erichsen reflects all the characteristics a fire chief should have-- strong on customer service, a leader in innovation, and a quality manager who insures quality of life for his firefighters and the community.

2003 Directorate of Public Works (DPW) Business Management Executive of the Year:

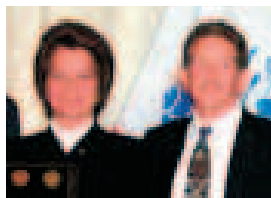
Rolf E. Kuefer, Chief, Engineer Resource Management Division, 280th Base Support Battalion, Schweinfurt, Germany



Mr. Kuefer is recognized for the complex activities and responsibilities he assumed in successfully integrating requirements, plans, and programs for effective execution. Masterminding innovations in work processes, he increased employee productivity, reduced labor costs, and developed an Annual Work Plan emulated throughout the command. For the past three years, his work reception team has averaged 4.9 out of 5 on customer satisfaction surveys and has assisted others in raising their customer service.

Under Mr. Kuefer's leadership, his staff developed an Activity Based Costing model using the existing IFS database and spearheaded the application of management engineering systems. His drive, fortitude and dedication to excellence, covering the entire range of ERMD functions, greatly enhanced the entire DPW operation and serves as a beacon for others Army-wide.

2003 Directorate of Public Works (DPW) Installation Support Program of the Year: U.S. Army Audit Agency (AAA), Alaska



This award recognizes the U.S. Army Audit Agency's support to the installation RPMA mission. The U.S.

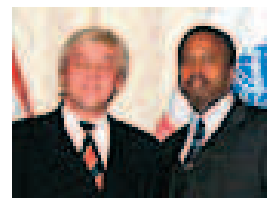
Army, Alaska, requested AAA assistance with Fort Richardson's energy savings performance contract, believing the energy services company had greatly overstated savings for the conversion to decentralized gas heat.

The AAA economic analysis determined that baseline costs were not accurately identified and additional savings would not be sufficient to fully repay the energy services company's investment in new gas heating equipment and related O&M costs. The AAA also convened a task force of managers, engineers and contract specialists from throughout the Army, developing a multi-pronged

strategy which included exploring options to reduce electricity costs, obtaining a lower interest rate, and extending pay-back period of ask orders. With the support of the U.S. Army Engineering and Support Center, Huntsville, the US Army, Alaska, negotiated a lower electricity rate reducing annual electric costs by about \$400,000. The lessons learned by AAA management of this analysis will be incorporated into the guidance for all Army activities.

2003 Facilities Engineering, Housing, and Environmental Management Support Contractor of the Year:

EMC Ingenieure, GmbH, United States Army, Europe



Eligibility for this award is restricted to contractors providing extensive base operations (BASOPS) sup-

port to an Army installation including all or part of the engineering, housing operations, SRM, environmental, or engineering support functions. Nominated by U.S. Army Europe, the selection of EMC Ingenieure, GmbH reflects outstanding achievement in the areas of customer relations and customer satisfaction, a dedicated workforce that displays pride in its work, overall quality and responsiveness to installation requirements, including numerous innovations to enhance service, improve safety and operational efficiency, and motivate employees.

EMC's achievements since the mid-1980s attest to the company's outstanding service quality, which has ingratiated it to the USAREUR command. The company's Efficient Basing East studies, leadership of the efforts to privatize all utility systems by FY 06, and leadership of the energy reduction program are resulting in significant cost avoidance and immediate cost reductions. EMC's expertise, knowledge, and experience contribute immeasurably to the success of the Installation Management Agency's Europe mission. **PWD**



Fighting for every penny we get!

by Don LaRocque

Over the last couple of decades, particularly in cold areas, there have been many applications of new technology on installations. These installations have done a really good job in reducing energy consumption with tremendous improvements such as more efficient insulation and infiltration reduction. In hot climates where air conditioning is the main energy consumer, we haven't done as well. Air conditioned space continues to increase, and we are air conditioning many "things" such as computers that we didn't air condition in the past.

It's funny how in the summer, it can never be cold enough; and in the winter, it can never be hot enough. It seems that everyone has a different definition of "comfort."

It's always a struggle. Is an air conditioner failure an emergency? Is it the same priority as an emergency service order? The answer is "NO" because it's not a life-threatening situation. However, if your heat goes out in the middle of winter, then the answer is yes because that is a life-threatening situation. There's also the possibility of the loss of a structure or facility use if this happens.

The Installation Management Agency's Public Works Branch provides the day-to-day execution, oversight and management of the public works and engineer functions, including the sustainment, restoration and modernization (SRM) of utilities. Our objectives include improving energy efficiency and conservation by 30% in 2005 and by 35% in 2010, using the 1985 baseline.

We plan to manage and execute the Army energy program and utility privatization more effectively and efficiently through the IMA Regions since MACOMs don't exist anymore. Getting energy program ownership back to the garrison commanders is high on IMA Director MG Aadland's agenda. Some things were let go because it was assumed that the MACOMs would take care of them and now we need to put them back. Lots of folks still expect



Don LaRocque answers a question about ESPC during the breakout session on energy issues.

us to continue what the MACOMs were doing, but we are starting with a clean slate. This means there will be more accountability at the installations for all programs, not just energy programs.

One of the things my branch is trying to do is organize the energy and utility program better. We're doing this by working with our counterparts in the Office of the Assistant Chief of Staff for Installation Management (ACSIM) to better define our respective roles and responsibilities. Our job is the execution and implementation, while the ACSIM's is oriented towards policy, program and budget.

We found so many energy issues that have to be dealt with that we felt the only way we could do that properly was in a corporate way using the principles of Army performance improvement criteria and total quality management. Together with the ACSIM, we are standing up an Army Energy Quality Management Board at IMA Headquarters. We've asked the ACSIM's Bob Sperberg to act as chairman of this board and we will be the facilitators.

Some energy issues we're looking at revolve around policy, plans and guidance. This includes working on the Army Energy Master Plan and Army Energy Management Plan and updating the Department of Energy Master Plan as well as old Army regulations like the one on

power procurement.

We're also looking at technical manuals, design criteria, and design standards. The ACSIM stood up an Army Facility Standardization Committee to reenergize the process of bringing our facility standards design and design criteria up-to-date. Further, we found a section on energy management and energy design criteria in the Architect/Engineer Instruction that is more than 10 years old and we asked CERL to fix that. Our documentation is badly dated in many cases, and there is a lot of work we must do to get clear and better guidance out to the installations.

A capital investment is money spent on improving infrastructure on an installation. We have SRM monies and yes, we do spend some SRM dollars on infrastructure. But ESPC (Energy Savings performance Contracts) and UESC (Utility Energy Service Contracts) are a means to get dollars invested in Army infrastructure. Through ESPC alone, \$700 million was spent on revitalizing energy infrastructure on our installations. This is a very successful program.

ESPC is just an alternative method of financing energy projects and improvements. The contractor puts up the money for the improvements and recoups it over the years. A faux pas made in many places is that the RM folks see the contract and pay for it out of the M-account. Then the J-account obligation goes down with no corresponding increase in the M-account. The folks who plan/program the J-account use historical consumption and rate data, so you need to make sure you charge everything related to ESPCs to the J-account. ESPC has truly been a major contributor to meeting the Army's energy goals. Nevertheless, we still don't have new legislation to re-authorize the ESPC program. We're waiting for the Energy Bill to get passed by Congress and signed by the President.

Utility Energy Service Contracts are like ESPCs but here the utility company is the provider. ➤



Former MACOM programs to re-capitalize central energy systems have a price tag of about \$25 million to finish started projects on central energy systems. Keep in mind that if we hold back the monies for anything so that we can centrally fund the program, you still have to pay the bill in the long run. We'll be asking for some sort of buyout requirements for central energy systems. What is a good recapitalization figure? What is it that we need to recapitalize? A number have already been recapitalized through the ESPC program. The Fort Richardson central energy system was totally recapitalized and Picatinny Arsenal is being recapitalized.

Utility privatization—as much as we may dislike privatization, that has been a very successful program too. Here the private firm does the revitalizing of the infrastructure, financing it up front and recovering their investments through long-term contracts. In this area, the big thing is transference of the utility grid— utility distribution system on an installation— to a private entity. That includes the electric system, water system, sewer system and gas system. The Army will become just a purchaser of the commodity, no longer in the business of maintaining the transmission system or other parts of the utility grid.

But not all systems will be privatized, and those that won't be privatized still need to be modernized. There are quite a few in this modernization category. The ACSIM is trying to get the numbers in the POM for centralized funding to modernize those systems that are definitely not going to be privatized. The cost of the Utility Modernization Program will be a \$2.2 billion investment. We need to find SRM resources somehow because something has to be done.

Central energy systems are big ticket items but we cannot afford to use SRM funds here. We need to find a way to resource them like the central energy plant modernizations at Forts Wainright, Stewart, Gordon and Benning. SERO is committed to buying out the project at Fort

Stewart. Keep in mind that all available resources have been distributed in the funding allocations. In fact, our RM folks distributed more money than we were given! But don't worry, they're not going to pull it back.

Some installations are moving to strategic energy plants, which are small power plants built by a power company on an installation like Fort Bragg. The power company sells the electricity at a reduced rate to the installation. All we have to do is provide the land. In Fort Bragg's case, the company produces more than the installation can use and the company sells that excess power elsewhere. We need to build these plants at places like Fort Wainright.

Corrosion control is another big area, particularly for central energy systems. CERL has done a tremendous amount of research and development in this area. We strongly encourage installations to work closely with CERL to ensure that you're doing everything you can and using the best possible methods to avoid corrosion. Last year we had an installation with a total catastrophic failure of a central energy system. One of the biggest contributors to this failure was the fact that the central steam system had no condensate return at all—it was 100% make-up water!

By 2010, all installations will have to use a minimum of 5% of some type of renewable energy. This includes solar, geothermal and wind energy. Right now, I don't know how we're going to track achieving that goal; I just know it's something we have to do.

All installations need to have water conservation plans, and we have a due-out through the IMA Regions for this. For the most part, garrisons already have water conservation plans. The areas in the desert southwest have always been conservation-minded and we're not generally wasters of water. In a lot of places, water conservation falls in the environmental arena under natural and cultural resources management, and that's fine since water is a natural resource.

We're also working on providing more

training seminars. The ACSIM hosts and puts on a very good energy seminar every year and the last one was in Orlando, Florida. We're also trying to encourage regions/installations to participate in the DOE federal Energy and Water Management Award program to get recognition for their innovative ideas and efforts to conserve energy.

By now, we're all familiar with the 10 Best Management Practices (BMPs) for Water Conservation that were mandated for the Army by ACSIM Director MG Lust in March 2003. The goal is to have all Army installations incorporate water management plans into their utility management plans by October 2004 and implement a minimum of 4 out of the 10 BMPs no later than December 2010. While most of the BMPs are just plain common sense, the first one on public information and education programs is very important and often overlooked. It states that when using new technologies, we must clearly define what they are and how to properly use them. We must also publicize them to enhance public awareness.

Lastly, our web sites need much improvement. They don't really offer much information. You should be able to go to the IMA web site and find anything you need on energy management like details on current policies. We are working on this, so stay tuned.

Like the stickers say, "Use energy wisely." That old adage is alive and well and applies to us all. In the coming months and years, we will be asked to tighten our energy belts again and again. Are you up to it? You can be sure that the Installation Management Agency will be there, fighting for every penny, to help you do your job more efficiently and with less energy.

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Enabling successful and uniform delivery of installation services through Common Levels of Support

by *Karan Fotch*

Army leadership says “what we do, we will do well.” The Headquarters, Installation Management Agency (HQ, IMA), located in Arlington, VA, took this guidance, along with approved Army Baseline Services (ABS), and developed the Common Levels of Support (CLS) concept. CLS is designed to create consistency in service delivery across Army installations, providing soldiers and their family members consistent, high quality programs and services at every installation they experience in their Army career. CLS will also create a process that allows Army leadership to fully fund the Army’s highest installation support priorities.

Historically, the Army has asked garrison commanders to execute all established base support programs, i.e., maintenance, security, information technology and morale, welfare and recreation, etc., even though funding in many cases is below what is required for satisfactory service. This often leads to sub-optimization of many programs. In addition,

mission funds are frequently used to supplement base support programs, and in other cases, base operations funds are used to supplement mission programs.

Service Analysis Teams (SATs), consisting of Army stakeholders and customers, will meet during a series of ten sessions starting in January 2004, and use the CLS approach to divide each ABS into smaller components called Service Support Programs (SSPs).

Each SSP is discrete, so it can be funded separately and individually when 100% funding for all SSPs within a service for a specific year is not available. The teams will prioritize the SSPs within each service, based on the importance to the customer and the needs of the Army.

Teams will then develop performance measures for each SSP, setting Army and customer expectations about the performance to be achieved for the funds expended. Finally, the teams will determine the percentage of service funding necessary to perform each

SSP at the high performance level.

Information from the Service Analysis Teams, along with information that identifies differences among installations, will be used in the development of an automated CLS decision support tool. This tool will assist IMA leadership in making decisions about what SSPs to fund within each service. These funding decisions will also be made in conjunction with funding needs required to support budget guidance and strategic initiatives.

The result of this process is that the Army will begin funding the highest priority services adequately to achieve a high level of performance, or in other words, allowing garrisons to “do what they do well.”

The CLS initiative is planned for use during the Army’s FY 05 funds allocation.

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Don’t be caught by the tire TRAP

by *David Fuchs*

Tire Tread, Rotation, Alignment and Pressure (TRAP) are keys elements of tire safety. However, many personnel nimbly avoid this trap by lack of knowledge, lack of time, and most unfortunately, a lack of consideration for their fellow drivers and pedestrians.

For tire tread, be penny-wise. Tires must be replaced when the tread is worn down to 1/16 of an inch in order to prevent skidding and hydroplaning. An easy test is to place a penny into a tread groove. If you can see all of Honest Abe’s head, be honest with yourself and inform your vehicle maintenance team and recommend that the tires be replaced immediately. Check for uneven wear, unusually smooth areas, and signs of damage.

For tire rotation, think every other oil change. Tire rotation helps achieve more uniform wear on the tread. Unless your vehicle owner’s manual has a specific recommenda-

tion, the guideline for tire rotation is approximately every 6,000 to 8,000 miles. Rotate your tires to enhance their use and to preclude accelerated tire replacement. If your tires do show uneven wear, ask your tire dealer to check for and correct any misalignment, imbalance or other mechanical problem involved before rotation.

For tire alignment, don’t be pulled off course. A sign of an alignment problem is that your vehicle has a tendency to want to drive or pull to the left or right by itself or there is increased vibration. Tire alignment problems will cause rapid and uneven tread wear. You need to periodically check your alignment and be conscious of your vehicle drifting out of its lane.

For tire pressure, never under inflate its importance. Under inflation can lead to tire failure. It results in tire stress, irregular wear, loss of control and accidents. Under inflation

can contribute to increased fuel use. When checking for pressure, make sure the tires are cool. Do not even drive a mile before the check, as it is normal for tires to heat up and the air pressure to increase even after driving a short distance.

The above information has been painlessly extracted in whole and in part from the consumer education program of the Rubber Manufacturers Association. For more information on the “Be Tire Smart” program and tire safety, log on to www.rma.org and click on Tire Safety. Make a resolution this year to be “Tire Smart” and do your Pressure, Alignment, Rotation and Tread “PART”!

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ACSIM's Facilities Policy Division relocates, reorganizes

by Bob Sperberg

In the past few months, the Facilities Policy Division of the Office of the Assistant Chief of Staff for Installation Management (ACSIM) has made some significant changes in location, staff and mission.

Our division used to have three branches: Facilities Management under Greg Tsukalas; Facilities Engineering with Bryan Nix; and Utilities Privatization under Satish Sharma, and we were located in the Casey Building at Fort Belvoir, Virginia. Last fall, we moved, reorganized, and hired new staff to enable us to be more responsive to both the installation and facilities management community and the senior Army leadership in the Pentagon.

The Pentagon elements of the ACSIM moved out of the Pentagon and into modern office space in Crystal City, Virginia, in October 2003 as the huge renovation project took over their wedge in the five-sided building. (The Crystal City offices are immediately adjacent to the Pentagon complex.) At the same time, to take advantage of the synergy of being collocated with all the other ACSIM staff elements, as well as to position our staff closer to the key offices of our senior leaders in the Pentagon, the Facilities Policy Division also moved into the Crystal City offices. We are now on the 8th floor of Presidential Towers, immediately across the street from MG Aadland's Installation Management Agency (IMA).

Simultaneously, we restructured the

division into a two-branch organization with Facilities Engineering under Bryan Nix and a Utilities Branch under Satish Sharma. We hired key new staff members, including Phil Columbus (who came to us from NERO and was in their offices at Fort Monroe, Virginia); Jim Paton (most recently, the EURO Energy Manager in Germany); and Dave Williams (moving over from the NERO office here in the Washington, D.C. area). Phil joins the Facilities Engineering team and works with the Technology Standardization Program; Jim Paton works the Army Energy Program; and Dave Williams is heading up our ESPC program.

Further, the members of our disbanded Facilities Management Team were reassigned as follows: Greg Tsukalas took a position (and well-earned promotion) with the USACE Installation Support Division; Dave Purcell moved over to our Utilities Branch; Lu Lillie and John Scharl shifted to the Facilities Engineering Team, where Lu has begun to help out on the Non-tactical Vehicle program and John is working on our Facilities Standardization program. Finally, Mike Ostrom, completing a career as a Corps of Engineers lieutenant colonel, most recently a professor at the Army Management Staff College, and previously the DPW at Fort Myer and Fort Drum, is working on some special programs and assisting me as my deputy.

Along with these organizational, per-



Bob Sperberg

sonnel, and office location changes, we have been taking on some new missions. For example, we have been coordinating the efforts to execute the most efficient and effective program to assimilate the Facilities Engineer Career Field into the Army Acquisition Corps. We have also rejuvenated and expanded the roles of the Army Facilities Standardization Committee, conducted the December DPW training workshop, became leaders in the Army Non-tactical Vehicle Program, and realigned our contractor support for the energy program.

We strongly believe that we now have the right staff, in the right place, with the right programs to support the DPWs in the field.

Bob Sperberg is the Chief of the Facilities Policy Division, ACSIM. **PWD**

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Privatization cuts costs on Bamberg utility bills

by Rick Emert

One are the days when Bamberg's Warner Barracks heated its facilities with a coal-fired heating plant. A little more than a year ago, the 279th Base Support Battalion began privatizing its utility services, awarding contracts to local utility providers.

The move was part of Installation Management Agency-Europe's effort to privatize utilities at all its facilities by 2006.

To date, about 41 percent of the total utility systems in Europe are privatized, said Michael Beldermann, German deputy director, Headquarters, IMA-Europe.

Bamberg's switch, on the other hand, is nearly complete.

The heating plant was switched to a more environmentally sound and cheaper gas-fired system in October 2002. At the same time, electricity and gas systems were switched to local contractors. The potable water system was switched in 2003.

The Bamberg utilities are about 90 per-

cent privatized, said Jurgen Engeter, chief of Utilities Division, Directorate of Public Works, Bamberg. The only thing left is the sewer system's operation and maintenance, and that's in the contract stage, Engeter said.

Under the privatization of utilities, Warner Barracks pays bills to the service providers each month. Any emergency repairs are performed by and paid for by the contractor.

The installation then pays a monthly service fee through IMA-Europe. More expensive items, such as the \$2 million renovations to the heating plant, are paid for in increments instead of a lump sum when the work is finished, Engeter said.

Installation Management Agency-Europe pays about \$190 million per year for utility costs of facilities and family housing, an average of \$16 million per month, Beldermann said.

These utility costs are considerably lower than the Army in Europe paid in

the 1990s.

Since its inception in 1997, utility privatization has saved IMA-Europe \$43.6 million, or an annual rate of \$16.8 million, Beldermann said.

The program reaps more benefits than just the monetary savings, however.

Engeter explained that under privatization, some projects that would have been paid for with more limited construction funds now fall under funds allocated to pay utility bills or they may even be part of the contract. Emergency repairs also fall under the contract.

"Bamberg city works replaced all of our old wooden light poles with steel ones," he said. "This was part of the [electricity] contract. If we had to do that with our own money, we wouldn't have enough."

(Reprinted from *Stars and Stripes*, January 3, 2004.) **PWD**

Army exceeds energy-reduction goal for FY03

by Gary Sheftick

— WASHINGTON (*Army News Service*, Dec. 23, 2003) —

Conservation, more-efficient systems and projects such as wind-generated power helped the Army exceed its energy-reduction goal of 1.5 percent for fiscal year 2003.

The Army used about 1 trillion less British Thermal Units, or BTUS, in FY 2003 than the year before, officials said. Compared to 1985, the Army has reduced its energy consumption by 30.3 percent.

More than \$500 million in energy-saving projects across the Army over the past several years were financed by private industry, said Satish Sharma, chief of the Utilities Branch for the Army's office of the Assistant Chief of Staff for Installation Management.

Under the Energy Savings Performance Contracts, private firms invested in projects

that will hopefully reap the government savings, and thus bring the firms profits in the long run, Sharma said. For instance, Viron and Pepco partnered to spend \$100 million improving lighting, chillers and boilers at five installations within the Military District of Washington.

T8 florescent tubes, the most-efficient lighting according to Sharma, replaced older incandescent lights at MDW posts. The money the Army saves will eventually be used to repay Viron and Pepco for the installation, Sharma said, along with a bit extra as a return on their investment.

More than \$30 million was invested by Chevron-Texaco, the energy-savings company at Tobyhanna Army Depot, PA, to install new gas-fired boilers in each facility. The gas systems replaced old, less-efficient coal fired central boilers that circulated hot water across the post through pipes that

were in disrepair.

Other energy-saving projects were paid for through direct federal funding. The Army spent \$12 million this past year under the Energy Conservation Investment Program, managed by ACSIM engineer Henry Gignilliat.

High-efficiency heating systems were installed at Fort Drum, NY. Digital controls for heating and lighting were installed at Fort Campbell, KY. And more efficient steam systems were installed at McAlester Army Ammunition Plant, OK, Gignilliat said.

The Army also has continued to expand sources for "green power," such as solar power used at Forts Huachuca, AZ; Carson, CO, and Yuma Proving Ground, NM. This year the Army purchased wind-generated power from windmills in West Virginia for three posts near the nation's



Problems at Fort Pickapost – a Joe Sparks adventure

by Ron Mundt

Joe Sparks slowly rolled out of his red pick-up truck to start his second week at Fort Pickapost. Tuesday mornings were especially difficult for Joe since Monday nights were taken up with refresher electronic courses down at the local community college.

Even though Joe was the new installation electrical engineer, he could see that his educational background needed improving. Joe had obtained his electrical engineering training about twenty years ago (during the Neanderthal period by current electronic standards) during the transition period between vacuum tubes and transistors. For that reason, he did not always feel comfortable when confronted with electronic problems, but he was trying to rectify that.

As Joe walked into his office, John B.T. Punch, the boiler plant foreman, started to talk about a problem. One of his 50 hp, three (3) phase, 460 volt motor driven feed pumps (pump #1) was over heating so much that John had removed it from the line and was using the alternate pump. Punch did not know if the problem was with the motor or the pump, and he wanted Joe to take a look and give him his opinion.

Joe felt a little unsure as he started to check out the pump motor. This motor was driven by a variable speed drive that

was installed several years ago, and as usual, it was a low bid item and not necessarily one of the better drives. Also, he was not as knowledgeable about “drives” as he wanted to be.

Joe started pump #1, and as John had said, it was running very hot. Unequal load voltages and current quickly indicated that the problem was on the motor side.

Unequal motor voltages can cause negative sequence currents and develop opposite motor torque. This in turn can develop heat to the motor and very quickly cause motor winding insulation to fail.

Joe’s first thought was that there was a shorted motor winding, but checking the winding resistance indicated that the problem was not with the motor. This now pointed him in the direction of the “drive.” Joe really did not know where to start, however. He asked himself the question, “What could fail inside the drive that would develop unequal voltages?” The only spare parts that were readily available for the “drive” were silicon-controlled rectifiers (SCRs) and diodes, so that was a good place to start. (SCRs are a common replacement part).

After checking the power inverter circuits, Joe found a faulty SCR and diode. The components were replaced and the motor pump heating problem went away.



Ron Mundt

Later, back at the office, when told of what had solved the overheating, Punch was very surprised to hear that the problem was not anywhere near where the symptoms were occurring. “That is frequently the case with electrical problems,” replied Joe.

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capital: Fort McNair, D.C.; and Walter Reed Army Medical Center; and the U.S. Army Research Laboratory in Adelphi, MD.

“We have always been open to new technology and new ideas,” Sharma said.

“We were on the cutting edge,” Sharma said, “in front of industry in many cases.” He explained that in 1988, the Army first tried geothermal heat pumps and solar heating for commercial applications.

Conservation also helped save energy,

Sharma said, adding that tenants can have a major positive impact by using what energy they need and turning off energy sources when not required. He said the fact many units deployed to Kuwait and Iraq this year really didn’t save much energy, though, because most posts geared up for mobilization and some brought thousands of Army Reserve and National Guard troops onto the installation.

In actual energy usage, the Army consumed about 80.8 trillion British Thermal Units in FY 2003. This was a reduction of 1.55 percent from FY 2002, ACSIM officials said. They added that the Army is “on

target” to reduce energy consumption by another 5 percent before the end of FY 2010, a goal set by a presidential executive order.

“It’s going to be difficult down the stretch,” Sharma admitted, though, because many of the easier and most obvious projects to save energy have already been accomplished.

“All the low-hanging fruit is gone,” was the way ACSIM’s Bob Sperberg put it.

“We’re really counting on the private sector to keep putting the projects in,” Sharma added. **PWD**



The Commercial Activities/Quality Assurance Branch at Fort Stewart is dedicated to providing quality customer service for the maintenance and repair of facilities by actively ensuring all DPW customers are served with efficient, quality work in a timely manner.

Quality assurance process – “making sure the government gets what it pays for”

by Michael T. Phillips

Fort Stewart/Hunter Army Airfield underwent a Commercial Activity Study in the late 1990s to determine if it was cost effective to outsource its Directorate of Public Works (DPW) Operations & Maintenance (O&M) activities. Based on the study's finding, a cost plus/award fee type contract was awarded to Griffin Service, Inc. in April 2001.

The contract's scope of work included the following 15 functional responsibilities: work reception and management, self-help, maintenance/repair of facilities and equipment, management of GSA equipment, pest control, ground maintenance, surfaced areas maintenance, refuse collection, holiday and seasonal decorations, water distribution system, waste water system, central energy plant and associated high temperature/chilled water distribution systems, natural gas system, electric distribution system, and project work.

The contract's start date was August 1, 2001, leaving only a few months to transition from an in-house force to a contractor-based work force. One of the most challenging parts of the transition was the establishment of the Quality Assurance (QA) program in conjunction with reduction-in-force of personnel and still meeting the O&M requirements of the Installations.

The in-house QA team was not developed until late into the transition period with many members still working in their respective areas at the start of the contract period. In hindsight, it would have been preferable to have selected the team members earlier in the process, provide a set training period and allow for the team to get up to speed before the contract's start date.

DPW QA team consists of the following government employees: a Contracting Officer Representative (COR), an alternate

Contract Officer Representative (ACOR), nine QA evaluators (QAE), an administrative assistant, and a property administrator. The Directorate of Contracting provides the following positions: the Contract Officer (KO) and a contract administrator. Fort Stewart and Hunter Army Airfield are separated by a distance of 45 miles and having the ACOR and 2 QAE located at Hunter Army Airfield increases the team's responsiveness to the customers needs and improves oversight of the contractor.

For the QA process to work, the team must demonstrate a positive attitude and be willing to work with the contractor to make this a win-win situation for everybody especially the US Army, our customer. It was the goal of the team to be the “US Army Benchmark for Public Works Quality Assurance.” The first point of business for the QA team was to develop a mission statement to set the attitude and standard of performance for the team.

There are three key parts to contract QA; the Performance Work Statement (PWS), the Quality Assurance Surveillance Plan (QASP) and the Award Fee Plan. The PWS is the document showing the scope of work to be performed, the QASP is the guidance for the surveillance of the PWS and the Award Fee Plan is the guidance used to determine what additional award if any is due the contractor based on his actual work performance score and recommendations from the Award Fee Board.

The QAEs are assigned function areas of the PWS based on their respective specialty and expertise including certifications if required, such as pest control, railroad inspection and the waste/refuse disposal management. The QASP provides the inspection criteria for each functional area and means for conducting inspections. There are three inspection methods: ran-

dom, planned, and incidental. Random inspections are primarily used for service order work and are computer generated to ensure objectivity. Planned inspections are done for repetitive activities such as energy plants and water/wastewater plant operations. Incidental inspections are used to provide additional surveillance if the situation warrants it.

The inspection results are used to determine the contractor's performance in each functional area and are based on performance of work (PW), technical management (TM) of work performed and quality control (QC) of work performed. These three elements make up 80% of the total score (PW-40%, TM-20% and QC-20%) for the contractor. The remaining 20% of the score comes from the Directorate of Contracting and the KO's Business Management score for the contractor.

The actual performance of work is the most critical element to the customer. The scoring for this phase is considered “objective” in nature, that is, there is an actual measurement of performance. All methods of inspection are applied to this phase, random, planned and incidental; however, only random and planned inspecting results are allowed for this scoring.

Each function area has elements that have been broken down into three areas: quality of work, timeliness of response and data reporting (accountability piece). Each of the elements has a maximum allowable defect rate (MADR), which is included in the contract package and has been agreed upon. Defects in any of the elements are called an observed defect rate (ODR). To calculate the score at the end of each scoring period, the ODR is compared against the MADR and the score is derived from the final calculation.

The technical management of work is



scored using a “subjective” method, that is, the QAE is allowed their personal interpretation of the management processes applied to each job. Elements such as staffing, efficiency, production control, and problem resolution are considered for scoring purposes. Also, incidental inspections can offer insight to work functions management and a subjective score can be applied.

Another evaluation tool used in this process is the budget cost variance analysis (BCVA). The BCVA illustrates the contract bid proposal for operation versus the actual cost. The monthly comparison is projected out to a final year-end cost comparison each month. This is a great tool for forecasting cost overruns or better yet, savings.

Quality control is the final piece of the QAE evaluation. The QASP states that if the work performance of any function scores below satisfactory, the quality control for that function also failed. With that in mind, scores for quality control will be based on actual work performance, but will also include such considerations as corrective actions applied to problem areas, improvements offered in work processes (to include proper recording of work) and customer interface.

The contract performance is evaluated on a quarterly basis. Data from each month are combined and a weighted score applied. During this process the DOC will

evaluate and score the contractor for their business management practices. The Award Fee Board then reviews the award fee package and final proposal for award fee, if applicable, is passed on to the award fee determining official for final decision.

As with any new program, there were problems in the beginning. The PWS’s technical exhibits had not been kept up to date during the CA process. Technical data for real property, facilities, equipment and other service contracts were not being updated with respective changes. Facility reduction/new construction and equipment turn-in/purchases complicated work at contract start. It was quickly learned that technical exhibits needed to be living documents, with changes applied periodically.

QA programs of this size require advance planning and processes in place prior to the actual start of contract. Time for hiring, training and overall familiarization of the entire process including the contractual requirements must be provided.

The scoring matrixes for this contract have been determined restrictive and difficult for the contractor to earn 100% award fee. This point will not be argued. However, the matrixes were part of the original solicitation and stand for this contract cycle. Future contracts will have revised scoring matrixes that are more in line with industry standards.

A cost plus award fee type contract puts minimal risk on the contractor, a large administrative burden on the government and allows for flexibility, but cost overruns must be carefully watched. Fixed price contracts are more rigid and put more risk on the contractor for management, but require more upfront technical specifications from the government. The CA contract for Fort Stewart/Hunter Army Airfield is considering a “hybrid” type contract. This concept allows for specific areas that are daily standard operating order type work to be fixed priced with the service order work left as cost plus pricing.

Overall, the QA program has been a success. Even though this contract has had its challenges, both the government and Griffin Services have been able to overcome them and provide quality service to the customer base...our soldiers and their families. The key factor to this success is the partnering agreement signed by all before contract startup, committing both parties to the success of this contract.

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Michael T. Phillips is the alternate COR for the Service Contract Division of the CA/QA Branch at Fort Stewart/Hunter Army Airfield, GA. PWD

Mike Kastle leaves ISD

Mike Kastle, longtime Installation Support program manager for the Installation Support Division at Headquarters USACE, has taken a position with the Department of the Interior (DOI). He will be reviewing and approving major construction, repair and rehab projects for DOI, a job for which he has ample background and experience.

After spending 15 years in private industry, Mike began working for the Army at USAREUR HQ in 1983 and later went on to the DEH in the Frankfurt and Würzburg Military Communities. He returned to the States in 1990, and after a brief stint as the DEH Operations Officer at Walter Reed Army Medical Center, he joined the staff of

the newly formed Engineering and Housing Support Center (EHSC) as an instructor and general engineer. Mike went back to Germany in 1994 as the Engineer Resource Manager at the Stuttgart DEH. He returned to the Center for Public Works (CPW) in 1996 and stayed through the transition to Headquarters USACE as CPW realigned into the Installation Support Division and other elements at HQ and MSCs.

During his tenure with Headquarters USACE, Mike was instrumental in setting up the direct-funded Installation Support Program. This is basically a four-pronged approach -- Project Managers-Forward at power projection and power support installations, Installation Support Checkbook dol-



lars, Installation Support managers at USACE and a USACE liaison at each of the seven IMA Regions. Mike insured that the direct-funded installation support dollars available to the MSCs to execute these programs were equitably distributed in accord with Army needs and program goals.

“I thoroughly enjoyed my 20 years with the Army,” said Mike, “but all good things must come to an end and it was time for a change.” PWD



Technology Standards Group holds first meeting

by Philip Columbus

The Technology Standards Group (TSG) of the Army Facilities Standardization Committee held its first meeting on 18 December 2003. In addition to some organizational issues, the TSG prepared submissions to the Army Facilities Standardization Sub-Committee for new Army Standards and some good ideas. The TSG recommended one item as a new Army Standard and six as good ideas with potential, depending upon local conditions.

If approved by the Army Facilities Standardization Committee, the Installation Design Standards (8.3.3.7) will call for gutters and downspouts on all pitched roof buildings (those where the pitch is intended to divert rainwater over the eaves). This change will be incorporated into the next revision of the IDS.

Potential good ideas were:

- **Textured wall coverings** – Recommended for use where installations desire a less sterile environment. Care must be taken in selecting locations as textured surfaces can be more difficult to repair if damaged.
- **Semi-gloss paint** – Semi-gloss paint can provide a more visually appealing décor and resistance to wear when frequent cleaning is required.
- **Rubber mulch** – This readily available commercial product is recommended for consideration. While initially more expensive than natural mulch, it may be more cost and environmentally effective.
- **LED traffic signals** – LED traffic signals can provide significantly reduced energy consumption versus traditional signals. The Institute of Traffic Engineers is generating a new LED standard but installations should consider using LED signals for replacements. OACSIM has material from ITE which will enable installations to perform a cost-benefit analysis of LED signals.

- **Porous pavements** – Designers may wish to consider this technology for patios, walkways, and specific paved areas. It permits water diversion without the need for external grates or water run-off areas. It does require significant additional sub-surface work and site preparation. However, practical and aesthetic considerations may over-ride these issues.
- **Ice-Energy** – The firm Ice-Energy, Inc., has developed an innovative approach of using off-peak electricity to generate ice for facility cooling. While not applicable everywhere or in all circumstances, installations should consider this or similar systems to reduce peak electrical demand.

The TSG has also received suggestions from installations and other sources for additional technologies for evaluation. The TSG will begin the evaluation of:

- **Laminate flooring** – The Army does not want carpeting used in high-traffic areas. One potential solution is laminate flooring. While having a higher initial cost than other floor systems, laminates may provide a lower life-cycle cost in certain situations. It can also provide an aesthetically pleasing design at a lower

cost than traditional wood or ceramic flooring.

- **Plastic “timber”** – Firms are making strides in producing plastic replacement for traditional wood timbers. These are currently in use for railroad ties and timber bridge components.
- **Fabric hangar doors** – Traditional hangar doors are expensive to procure, maintain, and repair. The TSG will examine an alternative using heavy-weight fabric doors.

Installations and IMA Regions have already begun processes to promulgate good ideas throughout the Army. IMA's Northwest Region has developed a system using Army Knowledge Online to spread good ideas. These efforts should be supported and encouraged. Ideas which move beyond the “good idea” stage to something that should be mandatory at all Army installations through the Installation Design Standards should be forwarded to OACSIM for evaluation by the Technology Standards Group.

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Philip R. Columbus is a general engineer in the Facilities Policy Division, OACSIM. **PWD**

New Faces at IMA

Muthu Kumar, Utility and Energy Program Manager at the Installation Management Agency (IMA), has retired, and Paul Volkman has assumed this important position. Prior to joining the IMA DPW Branch staff, Mr. Volkman worked with the Navy Public Works Center at the Washington Navy Yard. He also has more than 19 years of experience working for the Army at the installation level. You may reach him at (703) 602-1540, e-mail: paul.volkman@hqda.army.mil **PWD**



Paul M. Volkman



New York District awards its largest funded 8(a) contract for a design-build project at Picatinny

by JoAnne Castagna

The New York District awarded its largest 8(a) contract at \$16.5M to a joint venture firm to design and construct high quality, state-of-the-art high energy propellant formulation facilities on the grounds of Picatinny Arsenal, part of the Research, Development, and Engineering Command located in Picatinny, NJ.

In September 2003, the New York Dis-

trict awarded an 8(a) contract to Hirani/MES, JV of Brooklyn, New York, to perform the work. According to Jeffrey Frye, Project Manager, Picatinny, "What makes this 8(a) contract award unique is the size of the contract going to one firm. Usually 8(a) contracts are awarded at \$2-5M, this one is \$16.5M. This demonstrated that we have competent 8(a) firms that can compete for this type of contract as well as a contract of a higher dollar value."



The Project Delivery Team.

Photo by Vince Elias, New York District.

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"An 8(a) contract is one awarded to a small business that has been certified by the Small Business Administration. This type of contract can be used for any number of services. The Department of Defense must make a certain percentage of contract awards to small businesses each fiscal year," said Kathleen Hirschy, Corps' New York District, Deputy of Small Business.

Hirani/MES, JV was awarded an 8(a) design-build contract to both design and construct the facilities, as opposed to obtaining individual contractors to do the

design and construction. The firm will design and construct a complex of new facilities that will be used to produce "lethality" or single, double, or triple base solvents and solventless propellants needed to fire off the next generation of warheads and weapon systems.

Presently, the installation is conducting this work in 34 buildings located at various

locations on the 6,500-acre installation. These new facilities, which will be completed by 2006, will modernize this mission at Picatinny, and improve efficiency by constructing a complex of 18 buildings in close proximity of one another. These buildings will be used to carry out all of the stages of propellant development.

Constructing such a facility requires general knowledge of propellant formulation. This being the case, the project delivery team (PDT) for this project, which included people from New York, Norfolk and Omaha Districts, Picatinny Public Works and Garrison Offices, and Picatinny, had to do significant research to develop the project requirements.

"To create the request for proposal the project delivery team had to do their homework in order to be able to write the scope of work," said Frye. He continued, "This is not a standard design, which made this task difficult. We needed to understand inside and out what is entailed in producing pro-

pellants as well as explosive safety design requirements, so that we could develop appropriate specifications to clarify the scope of work. This required the team to conduct a great deal of research and coordination."

Early in the solicitation process, the New York District's Small Business Office and Contracting Division closely coordinated with the Small Business Administration and conducted a market survey to 8(a) firms. Hirschy said, "The results of this market survey, which identified the potential list of firms that would submit proposals, gave the PDT confidence there would be adequate competition and that an 8(a) contract procurement would be successful. After careful consideration of the firms who proposed, Hirani/MES, JV had the lowest cost of the technically acceptable proposals."

According to Frye, acquiring a contractor under an 8(a) design-build contract can be beneficial to the district in many ways. "Having a single contractor performing the design and construction provides the Government better accountability for resolving design issues during construction as well as aid in increasing project efficiency since the project would be designed and constructed by the same contractor. When you have two separate contractors performing the design and construction, it can take longer to complete a project as opposed to having a single contractor." He added, "8(a) contract awards also help fulfill small business utilization goals of the Department of Defense that encourages the use of these contracts, making opportunities available to small business firms."

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JoAnne Castagna is a technical writer/editor with the Programs and Projects Management Division, New York District, USACE. **PWD**



2003 DPW Worldwide Training Workshop



Ron Niemi (SPD), Ed Gauvreau (HQUSACE), and Jim Kelley (Alaska) smile for the camera.



Jim Lovo (Center), HQUSACE, and Greg Tsukalas (Right), HQUSACE, explain USACE 2012 to William T. Kidd, Fort Worth District.



Bryan Nix, Bob Sperberg and Larry Black, ACSIM, enjoy talking with exhibitor Robert Brooks, Applied Management Engineering.



Dr. Mario P. Fiori, ASA (I&E), listens intently to a general session speaker.



Greg Tsukalas (Right) reminisces with former ACSIM co-workers Jim Paton and Satish Sharma.



Malcolm McLeod (HQUSACE) and Dana Finney (ERDC-CERL) take turns at the USACE booth.

"Supporting People, Readiness, and Transformation"



Annette Stumpf (CERL) and Rudy Stine (IMA) prepare for the breakout session on Sustainability.



ACSIM's John Nerger (Center) greets Mohan Singh (NAD) and Joe Whitaker (ASA (I&E)).



MG Ronald Johnson answers questions about the formation of the new USACE Gulf Region Division which he will command.



More than 50 exhibitors participated in this year's trade forum at the DPW Worldwide Training Workshop in Washington, DC.



Don Emmerling (Right), HQUSACE, discusses AKO with (L to R) Darrell Nation, LRD; John Grigg, LRD; Gary Mosteller, LRD; Mike Whitacre, NWK; and Tor Brunso, NWD.



LTG Bob Flowers, Chief of US Army Corps of Engineers, recognizes a workshop participant during a tour of the exhibit area.



Installation visualization tool enhances situational awareness

by Kenneth Shaffer

The Office of the Secretary of Defense (OSD) is sponsoring a DoD-wide installation visualization tool (IVT) to enhance situational awareness by proving the ability to visualize Army, Navy and Air Force installations.

IVT will meet near-term OSD installation visualization requirements by portraying installation conditions and encroachment characteristics on a commercial satellite image base. The required data are being collected from DoD installations and delivered to OSD this spring.

The Army's Office of the Assistant Chief of Staff for Installation Management (OACSIM), Plans and Operations Division is leading the Army's IVT implementation in close coordination with OSD, the Army National Guard (ARNG), the Installation Management Agency (IMA) HQ and the IMA Regional Offices (IMROs).

The Army has established regional IVT Coordinator positions in the IMROs to facilitate and support the ARNG and IMA installations in compiling and submitting installation geospatial data to the OACSIM. These coordinators will work with installation personnel to identify, compile, and standardize seven overlay data layers across a major subset of Army installations.

The seven IVT data layers meeting near-term OSD visualization requirements include:

- Installation boundaries.
- Clear zones and accident potential zones.
- Noise contours.
- Installation boundaries.
- Explosive safety quantity distance arcs.
- 100-year flood plains.
- Wetlands.

The resulting capability enables centrally located decision makers to increase their situational awareness of Army and other DoD installations by visualizing information that has previously only been characterized statistically at the HQ echelon and OSD.

Data from the identified Army installations are required to be compiled, formatted to content standards, documented to Federal metadata standards, and approved by the base level command authority by 3 March 04.

In order to meet this timeframe, the IMA and the ARNG have established interim deadlines detailed in letters being staffed to the affected installations and states. Joshua Delmonico, OACSIM GIS Manager, is the POC for the OACSIM GIS effort (Joshua.Delmonico@hqda.army.mil), Dan Andrew, IMA GIS Manager, is the POC for the IMA effort (Daniel.Andrew@hqda.army.mil), and Malcolm Ponte, ARNG Installations GIS Manager, is the POC for the ARNG (Malcolm.Ponte@ngb.army.mil).

It is envisioned that the near-term requirements of the IVT will become the basis for a larger, enduring effort supporting additional visualization requirements in support of real property management, homeland defense, etc. This capability, currently termed the Defense Installations Spatial Data Infrastructure (DISDI), will formalize the role of installation geospatial data in the daily decision processes within and across the Services. With this goal, the current IVT efforts are being implemented in a manner that enables them to be leveraged for the long-term.

The OACSIM is implementing the Army's IVT for OSD. The data listed above will be delivered to IMA and the ARNG no later than 3 March 2004. In order to accomplish this, Regional IVT coordinators have been hired and are currently contacting affected installations to assist them in delivering the required data to IMA and the ARNG by the deadline. The IVT data will be utilized by the Services and OSD to enhance situational awareness of DoD installations.

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Kenneth Shaffer is the IVT Manager, OACSIM.

PWD

IDS E-News is online

The Army Installation Design Standards (IDS) Electronic Newsletter (IDS E-News), an online document containing the most current changes and guidance pertaining to IDS and the Installation Design Guide (IDG) Programs, can now be accessed from the ACSIM home page reference tab: <http://www.hqda.army.mil/acsimweb/homepage.shtml> or directly from: <https://secureapp2.hqda.pentagon.mil/acsim-news/>

We intend to distribute by e-mail twice a month, and individuals may register so they do not miss a copy inadvertently. While POCs from each IMA Region are contributing editors, we welcome articles from the Army and civilian communities to share experiences and ideas on setting and implementing standards.

The inaugural issue provides information on:

- Technology Standards Group

- Army Facilities Standardization Committee
- Installation Design Guide Analysis Study – IMA-wide assessment of Installation Design Guides
- Tracking changes in the IDS
- Index Section added to IDS.

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USACE uses TeleEngineering communications equipment to reach back from Iraq

by Grant Sattler

Europe District's Forward Engineer Support Team-Augmentation (FEST-A) recently showed the lengths to which Corps of Engineers teams will go to support the warfighter.

Assigned to the Combined Joint Task Force-7, the FEST-A responded to a request for information (RFI) from the 82nd Airborne Division in Iraq to provide a bridge assessment of a span crossing the Euphrates River at Al Qa'im near the Syrian border.

The 3rd Armored Cavalry Regiment was using the bridge frequently because of continued resistance by hostile forces north of the river. "They needed to know if the bridge would support the M-1 Abrams," said CPT Derek Ulehla, FEST-A Team Leader. "They were already crossing with their Bradley Fighting Vehicles."

Hunter Dandridge, fellow teammate and project manager, said the task was very important. "It was a critical mission," he said. "They needed to know if they could use the bridge to pursue terrorists or insurgents."

There were two float bridges in the area, one placed in the 1980s - a Mabey-Johnson Compact 100 bridge - and a locally constructed pontoon bridge of unknown vintage that was considered hazardous. A new float bridge was on the way to replace the local bridge, but for tactical reasons, a valid load classification was needed on the MJ-100 bridge to allow the safe use of two avenues of approach to the north, Ulehla said.

Combining the bridge assessment with another mission, Ulehla, and other FEST-A members Bryton Johnson and Hunter Dandridge, traveled to the bridge with their tele-engineering communications equipment - deployable (TCE-D) that enables them to communicate with technical experts at the U.S. Army Corps of Engineers' Engineer Research and Development Center in Vicksburg, MS. This "reach-back" capability is a valuable asset the FEST brings to combat units, Ulehla said.

Joining up with the 3rd ACR, the FEST-A explained what it would take to accomplish the assessment. The mission was set for the

next day. Because the area was not entirely secure, the team went in an armored Hummer with a .50 caliber machinegun, accompanied by four Bradley Infantry Fighting Vehicles and two Kiowa helicopters.

The group rolled out, and as security was established, the bridge assessment team set up the TCE-D for video teleconferencing and set to work on what normally would take the better part of a day to accomplish.

"We measured the span, depth, and width of the pontoons. We measured the connections between the pontoons and the bridge, measured the trusses, bracing, and the depth," Ulehla said. "We photographed everything. We looked for missing bolts and found five gone."

Dandridge also noted corrosion on the underside of the steel decking. "Of importance were the connections to the pontoon and the connection of the bridge structure to the framing structure," said Johnson. "On the shores, we were crawling underneath through goat crap to get pictures and measurements of the cross beams. We smelled just like a farm."

The sound of mortar fire in the not-so-great distance encouraged the group to work quickly. "We were doing this in concert with the Engineer Research and Development Center," Ulehla said. "So we... had the bridge expert right there giving us one or two pieces of the equation. He would say look at this or that. We would go and look and take photographs and report back and give him some basic dimensions. Meanwhile, they're working on their side to ensure we're getting all the needed data." The assessment was completed in just 2 1/2 hours.

"It was exhausting. We were hustling back and forth in the body armor, up and down, measuring, with just a few stops for sips of water," Ulehla said. The team returned to the forward operating base to complete transmission of the collected data.

"It was as adventurous as any military project I've ever worked on," Ulehla said. "We were almost expecting mortar rounds to start splashing in the river like you see in the



CPT Derek Ulehla, Hunter Dandridge, and Bryton Johnson pause for a moment at the site of a bridge assessment in western Iraq.

U.S. Army photo.

movies when we were out on the bridge."

For Johnson, it was his first project off post in four months in theater where security was a real issue. "It was a possible target, and then having people watching and realizing that we're there for a while, out exposed on the bridge," he said.

The success of the assessment is due to the ERDC team of Jeff Powell, Gerardo Velazquez, and James Ray who were "... up in the middle of the night to support us," Ulehla said.

Johnson said the reach back contacted the original manufacturer of the bridge to see if it could be repaired and brought back to its original load classification. "They said it really wasn't feasible because of all the missing parts. The components are no longer manufactured," he said.

As a result of the assessment, the 3rd ACR was given a valid load classification within two days based on the current condition of the pontoon bridge.

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Civilians step up to help combat engineers in Iraq

by Lou Fioto

Combat engineers are on the front lines in Iraq trying to stabilize the nation, rebuild its infrastructure, and help it recover from the devastation of a tyrannical regime and the war that toppled it.

Besides working in harsh conditions with the threat of terrorists and saboteurs, they must achieve their objectives with limited resources.

However, they are not alone. Their family, thousands of Corps of Engineers employees worldwide, stand ready to help. By e-mail, conference calls, or video teleconference, most of them help from afar. But some, civilian volunteers from Europe District and around the Corps, are willing to join soldiers on the front lines, working as part of Forward Engineering Support Teams (FESTs).

These civilian volunteers, experts in engineering, architecture, design, contracting, and human resources, help the combat engineers overcome whatever challenges they face.

"I have been pleasantly surprised and very proud of the great response we've had each time we've reached out for volunteers to deploy," LTC Michael Picard, chief, military operations, Europe District said.

Even though there are obvious dangers, Picard said, people, including local nationals, volunteer for these assignments.

One of the most important capabilities Picard looks for in volunteers is a positive mental attitude because that helps them meet the challenges they will face, he said. Of course, there are some special incentives to volunteer.

North Atlantic Division pays a bonus to volunteers who support Field Force Engineering (FFE). Those who deploy to Iraq receive premium pay entitlements once they have returned, but how much depends on time in theater and their pay grade, he said.

The FEST evaluates problems and engineering challenges up on the front lines and figures out how to solve the problems and overcome the challenges. Often, the FEST reaches back for help from the Corps workforce because some skills, such as the electri-

cal engineer, are the hardest to find.

"We don't have many, and those we do have are very critical to ongoing work, or are ... not interested in deploying. Otherwise we have done very well in matching people to skill requirements," Picard said. "I've been told by many people here that they are very proud of their office-mates who have volunteered to go to Iraq," Picard said. "Many people who would like to go, but cannot, have asked what they can do to help."

Those are the people working by e-mail and teleconference. They come up with the necessities the FEST team does not have. They find the answers, prepare the designs, and create the information packages the FEST needs to do its job quickly and efficiently.

"I'm impressed with how much effort Corps employees put into getting answers for the FEST team," MAJ Kenneth "Al" Reed, project manager, International Engineering Center said. "They make getting answers for those on the front lines their priority."

Reed said everyone supporting the FEST appreciates their dedication and sacrifice and ... they go the extra mile to provide world-class support."

"What is really amazing about the reach-back capability is the compounding nature of it," Reed added. "If the FEST can describe their requirements sufficiently, they can get an answer or design back to meet their requirement. For every forward



CPT Guy Joseph, 248th Combat Heavy Company attached to the 130th Engineer Brigade (front), along with CPT Edward "Ed" Chamberlayne (rear) and Fritz Ligday (right), both of the U.S. Army Corps of Engineers Europe District, inspect water coagulation tanks in Baghdad, northwest of Ar Ramadi, in the 3rd Armored Cavalry Regiment's Area of Operations.

U.S. Army photo.

deployed person we have at least 100 people supporting them."

When the FEST needs assistance, it typically sends an e-mail request, Reed said, and the Corps works around the clock to answer it. Simple requests can be completed in 8 to 36 hours, he said. For complex projects or challenging problems, forward teams set up video teleconferences on site to receive online guidance from throughout the Corps.

Requests for technical expertise vary, said Jeff Raney, team leader for the Barracks Design and Infrastructure Assessment Support teams, but the most often requested is cost estimating. "I can't even imagine what could come up that we couldn't support," Raney said. "Most people on the Infrastructure Assessment Support Team already have experience being deployed so they know what the situation is like there and what is required."

Reed said this reach-back staff pro-



Dr. Eugene Stakhiv is the chief of the Policy Division of the Corps' Institute for Water Resources in Alexandria, VA. From April through August 2003, he served as the Coalition Provisional Authority (CPA) Senior Advisor to the Ministry of Irrigation, later renamed the Ministry of Water Resources, in Iraq. In the article below, he describes the reconstruction of the Ministry and the difficult conditions under which it took place.

Dispatch from Baghdad

by Dr. Eugene Stakhiv

August 2003, Baghdad--These are the days in August the Iraqis call "the furnace." A hot wind swirls dust and searing plumes of 122°F heat around the burned out hulk of what was once the Ministry of Irrigation and the former Iraqi Intelligence Service.

It is readily apparent what floors



The headquarters building of the Iraqi Ministry of Irrigation, later renamed the Ministry of Water Resources, was burned and looted.

belonged to which agency. The looting of the building began after the Intelligence officials burned their records starting on the fourth floor and up. There was a prison in the basement, and a block of houses in the back with bars on their windows. Prisoners were detained and tortured in those buildings, and we were preparing to paint and paper over the past.

"Stretch" Daniels from NY District is patiently describing the sequence of reconstruction activities to two separate Iraqi contractors who show up on the same day, after two months of inactivity. One has a contract from the USAID (U.S. Agency for International Development) to work on the first three floors, the other has money from Ambassador Bremer's ministry reconstruction program. The timing is bad, but the reconstruction of Iraq and its Ministries must begin.

This scene is being replayed many times over, in numerous ministries, schools, hospitals and power plants around Iraq. And just about everywhere where there is construction in Iraq, the Corps is there. In my case, though, the Corps is not only managing the reconstruction of the Ministry building, but we are "running" the Ministry.

Back in April, when MAJ Regan

McDonald (Deputy District Engineer, Detroit District) met with Ministry of Irrigation representatives, the Corps was already involved in the effort to "stand up" the Ministry as part of the overall Coalition effort termed ORHA (Office of Reconstruction and Humanitarian Assistance) under the leadership of General Jay Garner. About the same time, three senior Corps managers were completing their "basic training" at Fort Benning before being deployed to Kuwait and then on to Baghdad. Pete Gibson (NWD) was to take charge of the Electricity Commission; Dan Hitchings (MVD), the Ministry of Housing and Construction, and I, the Ministry of Irrigation. Steve Browning (SPD) was already in Baghdad running three different Ministries under conditions unimaginable to most viewers of events in the U.S.

As it turned out, many of the senior advisors to Iraq's 24 ministries were former and current Ambassadors, retired Generals, SESs from various agencies and young White House "policy wonks." During my four months in Baghdad, it became clear that the Corps team – at all levels of engagement, both military and civilian – operated the most effectively in getting their respective programs off the ground, standing up the Ministries, and restor- ➤

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vides company names, contact information, and how to order equipment for specific missions. They also provide details allowing the FEST to put together funding requests and contracting details so others can get the work done, including the Iraqis. Reed said they can answer most requests, but call upon experts from within the Corps or other military agencies for expertise they don't readily have.

Raney, Reed, and Picard all agree the

tempo of such operations and the ability to help those on the front make the job very exciting.

"It's knowing there are limitless challenges facing the US forces in Iraq," Picard said, "and by taking on projects and turning them around quickly, we are working to make a positive difference in the conditions for Americans and Iraqis."

And the biggest challenge?

"Predicting the future," Picard said.

"Being able to tell our next group exactly what they will be involved in and what to

expect. Knowing what their mission is will help them prepare mentally for their upcoming service."

Although the future may be unpredictable, one thing is for certain, whatever the problem, wherever the place, their family, the U.S. Army Corps of Engineers, will be there to help.

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ing basic services to the public.

It was very difficult for all the Ministries. The looting and pillaging of Iraq's public assets was astronomical. Everything was burned, stolen or damaged. We recently estimated that the Ministry of Irrigation, alone, lost over \$100 million worth of assets.

During the first six weeks, Ministry meetings were typically held in looted buildings stripped of furniture, with no windows or doors. There were no communications systems--no maps, reports, files, or records. We were all literally starting from ground zero, while trying to ensure that the Mosul Dam did not fail; the electric power grid was repaired; the water for the irrigation season flowed through the proper gates and channels; and the 275 pumping stations operated to lift water onto the fields, farms and into municipal water intakes.

Further, the Baghdad Zoo and Park had no pumps or water – everything was stripped, and the Corps pitched in to fix it. The trick was to do it with hardly any money.

For the first three months, Saddam's palace was our home and our office. We were packed like sardines in our "offices" with no running water and toilets outside the building! We slept on the second floor, each day getting hotter and hotter.

Every day was a challenge just getting to the Ministry offices, with all the security precautions that were required, yet we never missed a day in four months. Despite the hardships, we managed to get our Corps Dam Safety Assessment team to visit 20 sites all over northern Iraq in late May. They provided the Ministry of Irrigation a very valuable report that was needed for the budget justification for immediate dam safety repairs. A USAID Marsh Assessment Team followed in June, traveling all over southern Iraq. That effort gave the Ministry the impetus to get started with its Environmental Analysis Center and begin studying 10 potential restoration sites.

Through it all, we underwent constant turmoil. Inside the palace, there were



The Ministry of Water Resources Advisory Team: Dr. Eugene Stakhiv (IWR), "Stretch" Daniels (NAN), and MAJ Regan McDonald (LRE).

weekly reorganizations and management changes as new people came in and new directives from Washington were enacted. "DeBaathification" came with Ambassador Bremer, and it caused a considerable stir. It was difficult enough for me to run an empty shell of an agency with the shadows of the past regime filling the empty halls of the 10 state-owned enterprises (SOEs) and 5 Commissions that comprised the Ministry. But who would be left now? How would I decide whom to choose from among unfamiliar candidates with checkered pasts? In the end, I conducted a purge, reducing the Ministry of Irrigation from 20 Directors General (SES-level) down to 6.

Several months later, MAJ McDonald and SSGT Todd Finley (489th Engineer Battalion) completed the training of 350 new guards for a Ministry security force. They were part of the rejuvenation of the Ministry, which was moving forward rapidly, spurred by the success of a \$20 million, 100,000-person Jobs Program to manually clean 6,000 kilometers of irrigation channels and drainage ditches in southern Iraq. Organizing unskilled, unemployed laborers

during a period when each district office was still empty and bearing the scars of recent looting was a huge challenge. But by mid-August, the total employed workers surpassed 100,000 – a phenomenal achievement under the circumstances – and many more Iraqis were demanding jobs.

Yet there would be more to our success. Four marsh restoration projects were initiated as part of the FY03 budget, which also included \$5 million for dam safety repairs and \$13 million for completion of 13 ongoing construction projects. There was nearly \$20 million additional assistance from two key organizations, FAO (Food and Agriculture Organization) and USAID for training, modeling, repairing pumping stations and buying equipment for a hydro-meteorological network for the renamed Ministry of Water Resources (MoWR).

Now it is August and we are in the midst of the MoWR's weekly staff meeting in the borrowed office space of a modern, massive office building belonging to the Ministry of Oil. It would look like a typical meeting of 25 top executives, were it not for the fact that we are discussing execution of the FY03 budget; preparation of



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the FY04 budget; staffing new Hydrologic and Environmental Analysis Centers; organizing teams for studying the 10 potential marsh restoration sites, and moving the contracts for the 4 identified eco-restoration sites.

Ambassador Bremer's Jobs Program is the subject of discussion as well, since the MoWR is the only Ministry successfully employing so many unskilled workers. There is excitement, anticipation and some anxiety, since the 10 State Owned Enterprises (design and construction companies) belonging to the Ministry are concerned about privatization that is planned to begin on January 1. (Note: Subsequently, Ambassador Bremer deferred the implementation date for the Iraqi Governing Council.) The Interim Minister, Mohammed Dharey Al-Shybley, was a businessman and former Director General of a well-drilling SOE. He is exhorting his colleagues to take advantage of this period when there will be much need for construction and generous amounts of foreign assistance, to break away from the past, and to move to the future.

Soon I will be returning to the U.S. In the short span of four months, I have watched MoWR transform from a disoriented and demoralized workforce with no



Dr. Eugene Stakhiv meets with the Sheiks during a visit to the marshes.

offices to work in, to one with a vibrant future and great hopes for a revitalized democratic government. I think of the hundreds of thousands of Americans and Coalition partners who contributed to that transformation – every soldier who stood for hours in the broiling sun protecting the dams, barrages and government buildings, along with every Corps employee who selflessly volunteered to give a helping hand when it was most needed. I realize that the Corps has also found a new friend in

MoWR as an institution and in its people.

But the story doesn't end here, for I know there will be continuous contacts with Corps technical specialists over the next few years. Iraq has the potential of becoming the "California of the Middle East," and the Corps is helping MoWR to achieve that goal.

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2003 USACE Military Engineer of the Year

MAJ Regan P. McDonald is the USACE Military Engineer of the Year. He was also chosen as one of the top 10 candidates for the Federal Engineer of the Year.

In February 2003, he was deployed to Kuwait as an infrastructure reconstruction planner for post hostilities and went on to Baghdad, Iraq, immediately after the fall of the regime to provide emergency technical assistance to the Ministry of Water Resources. He served on the Coalition Provisional Authority (CPA) Advisory Team to the Iraqi Ministry of Water Resources



MAJ Regan P. McDonald

as the Deputy to the Senior Advisor.

MAJ McDonald is the Deputy Commander of the Detroit District, U.S. Army Corps of Engineers. As Chief of Staff, he supervises a diverse administrative and support staff making significant improvements in organization and efficiency. His responsibilities include oversight of an Area Office in Western Michigan, and supervision of the Information Management, Public Affairs, Logistics, Safety, Human Resources, and Equal Opportunity offices and interfacing with numerous local, State, Federal, and Canadian officials including U.S. Congressmen and Senators. **PWD**



Operation Iraqi Freedom – ERDC was there before and during operations

by Angela Dickson

On March 19, when President Bush gave the order for coalition forces to hit a compound where it was believed key Iraqi officials were meeting, Operation Iraqi Freedom began. However, military leaders had been planning the operational details of the campaign for months prior to the air strike, and the Engineer Research and Development Center (ERDC) played an important role in those plans. That role continues today as the U.S. Army Corps of Engineers and others undertake the task of rebuilding the country.

Before the war began, the ERDC provided airfield, bridge and infrastructure assessments, evaluated water control structures and port restoration requirements. The ERDC also worked directly with soldiers on the ground in surrounding countries to provide immediate technical assistance on problems they were encountering in the field. Some of those soldiers were ERDC team members who are also members of Army reserve units...

Engineer soldiers are some of the first on the ground in combat operations and some of the last to leave when the conflict is over. This was true for three ERDC team members who also serve as active Army reservists with the 412th Engineer Command (ENCOM). LTC Steve Pranger, from the Environmental Laboratory (EL), LTC Ray Moxley and CPT Travis Mann, both from Geotechnical and Structures Laboratory (GSL), deployed with facility engineer teams (FETs) in February 2003 to pave the way for coalition forces to enter northern Iraq through Turkey.

To support war planner requirements, the 412th ENCOM reorganized qualified and available engineer officers and noncommissioned officers into a FET module. Their expertise was used in support of combat planning for roadways, bridges, airfields, structures, blast analysis, industrial hazards, pipelines and utilities. "While we didn't actually end up in Turkey to support infrastructure development that would have become the base camp footprint and logistical tail for the 4th Infantry Division," Moxley said, "we did use the information and training to support soldiers who deployed into Turkey and

conducted the first night airborne combat operation since World War II."

In addition to his tour with the 412th ENCOM, Mann served a second tour to support Middle East efforts, this time in his civilian role with GSL. Mann was assigned to the USACE Afghanistan Area Office, which has primary responsibility for the construction of the Afghan National Army's infrastructure. There are approximately 35 Corps employees in the area office who rotate through the TAC (TransAtlantic Programs Center) House. The TAC House doubles as working and living quarters for USACE personnel in Kabul. Mann's mission was to deliver the ERDC-developed Automated Route Reconnaissance Kit (ARRK) and train Afghan engineers on its use.

"The Corps is coordinating with the U.S. Agency for International Development on prioritizing roads for upgrade and reconstruction," Mann said. "We are training the Afghans how to identify the roadways and use engineering data to come up with priorities along secondary roads in the country."

By training the locals how to use these systems, the Corps can minimize the number of U.S. forces required to conduct reconnaissance missions. At the same time, they are building a historical database from information collected to assist the Afghans with future construction efforts.

This deployment gave Mann an appreciation of the challenges associated with building a nation. "It was an eye opening experience. I saw a nation that has been on its knees for the past 23 years struggling to get back up and move forward. Wounds that deep take time to heal, but it was great to see

America being a part of that healing process."

LTC Robert Knowles from the Topographic Engineering Center (TEC) also noticed how much of this remedial assistance was necessary during his tour with the 416th ENCOM. "The lack of operating infrastructure in a country as potentially rich as Iraq was a surprise to me," he said. "There is still a lot to do if Iraq is going to have an operating nation state."

Knowles deployed to Kuwait with the 416th in early 2003 with fellow TEC personnel MAJ Rick Ramsey, MAJ Daniel Oimoen and CPT Sam Hunter from the Construction Engineering Research Laboratory.

While overseas, the soldiers worked 18 or more hours a day, assisting in the design of 17 base camps, constructing two Patriot mis-



Dr. Ghassan Al-Chaar from the Construction Engineering Research Laboratory talks with local Iraqis.

sile battery sites and a theater distribution center for all supplies and materials arriving in theater, maintaining supply routes, and designing and constructing guard towers, sun-safe structures and wash sites. "It was a constant stream of activity, but I enjoyed it," Hunter said. "The trick was to get as much done as you could and get it done right."

While most of their days were full of activity, the soldiers found time to discover commonalities with the locals. "The



Conditions were harsh and dangerous for coalition forces and contractors working in Northern Iraq. Scenes like this were common occurrences.



Bridge damage information was relayed to the ERDC researchers, who assessed the damage to determine if bridges were capable of sustaining traffic of advancing coalition forces.

majority of Iraqis are just like us. “They want their children to have an education and they just want to make a living,” Hunter said. “The Iraqi people know we are bolstering their economy and they want to be free. They want what we have—basic freedom, but what people do not understand is we are not just talking about speech, press and such. They want the freedom to be safe, safe from the fear they have felt for so long.”

ERDC Public Affairs Specialist Wayne Stroupe noticed this desire to improve during his deployment in late 2003. “It seems like all you see on TV are the attacks on our troops. But there are a lot of good things going on,” he said. “Ninety-nine percent of the Iraqis I met were friendly and cooperative. They are just worried about how they’ll take care of their families, how they can make a better life for their kids.” Stroupe deployed in support of activities in the Southern Area Office of Task Force Restore Iraqi Oil (RIO) at Basrah, Iraq. Task Force RIO’s mission is to rebuild Iraqi oil production facilities to pre-war levels.

During Operation Iraqi Freedom, ERDC heroes could be found on the homefront as well. They were sitting at computer terminals, pouring over mounds of data and images sent in from the battlefields of Iraq. They were answering pagers and cell phones in the middle of the night, coming back to work after only a few hours sleep to set up secure video links to answer critical questions for soldiers in the field. They worked week-

ends to conduct video teleconferences (VTC), called morale VTCs, to connect soldiers in Iraq and Afghanistan with their families in the states.

You may never know who they are, but the Army is proud of the service they rendered, and continue to give, to coalition forces. ERDC heroes faced some tough issues, before and during military operations, and provided quick and accurate solutions that directly affected U.S. and coalition success in Iraq.

For example, on April 1, U.S. Special Forces seized the Hadithah Dam on the Euphrates River, taking away a potential weapon (flooding by dam breach) from the Iraqi arsenal. The U.S. Central Command’s decision to seize the dam was based on information provided by the ERDC.

TEC personnel played a significant role by providing geospatial information products and services to numerous Army and Department of Defense (DoD) elements. Terrain Analysis and Water Resource Programs are unique within Army and DoD and helped our forces locate potential sites for water wells. Analysts produced urban tactical planners (UTPs) for strategic Iraqi cities to support military operations. The UTPs provided commanders with up-to-date imagery, which described features that affect urban operations, such as buildings, terrain features, bridges, lines of communication, key cultural features and landmarks.

TEC personnel also procured and quickly

disseminated national and commercial imagery in response to numerous daily requests from field commanders for information critical to the success of land combat operations, such as identifying optimal para-trooper drop zones and bed down locations.

Combining all Corps of Engineers R&D operations into one organization, ERDC is one of the most diverse engineering and scientific research organizations in the world. The experience, knowledge and expertise of its engineers, scientists and support personnel allow the ERDC to provide quality solutions to the complex challenges facing our nation and the rest of the world.

LTC Moxley summed it up: “The bottom line is if I never serve another day, I have never been more proud to be part of a team of U.S. Army engineers that when called, went; when asked, did; and when things turned out differently than anticipated, did as asked. Did I want to go? Heck, no. Was I glad I did? Without question. ESSAYONS!!”

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Angela Dickson is a public affairs specialist with the Engineer Research and Development Center.

(Deborah Quimby, Jackie Bryant, and Wayne Stroupe, ERDC Public Affairs Specialists, and Jamie Leach, Editor, ERDC-Information Technology Center, also contributed to this article.) **PWD**



FEST-A team expands to project management

by Grant Sattler

The Combined Joint Task Force-7 Forward Engineer Support Team-Augmentation on Logistical Staging Area (LSA) Anaconda is helping transform this former Iraqi airbase into an efficient logistical hub for the U.S. military presence in Iraq.

The six-member FEST-A, the third rotation of personnel from the U.S. Army Corps of Engineers Europe District to serve the CJTF-7 in Iraq, is transitional in the types of duties it has been performing. Initially assessing war-damaged, neglected, or looted facilities for repair estimates, the team is now largely engaged in project management, primarily for work to be done on or in the vicinity of LSA Anaconda.

This type of work is normally the purview of a Corps of Engineers Resident Office, explained FEST-A Team Leader CPT Derek Ulehla. With more than 40 active projects, the team is busy supporting LSA Anaconda in the role of a Resident Office in addition to the normal FEST mission. That will continue until mid-January when a Resident Office will be formally established, Ulehla said. The FEST-A will fall under the Resident Office at LSA Anaconda.

"We anticipate as the remaining FEST supporting all of CJTF-7 that all of the upper end, technical engineering work, will come to us," Ulehla said.

Europe District will fill the positions in the Resident Office at LSA Anaconda, with MAJ Kenneth "Al" Reed from Europe District slated to become the Resident Engineer by mid-January, Ulehla said.

"The biggest challenge we're having down here is going from a FEST to getting million dollar projects built," Ulehla

said. "We found we were good at assessments, but it's certainly a challenge taking it the next step and getting things constructed."

In addition to team leader Ulehla, the FEST-A is comprised of senior civilian/master planner Ron Mott, planner/project manager Hunter Dandridge, civil engineer/project manager Bryton Johnson, environmental specialist/project manager Tammie Stouter, and AutoCADD technician/planner/project manager Derrick Walker, who joins the team from New York District.

Ulehla said the team is not doing many

directly supports the warfighter and 60 percent is construction on LSA Anaconda.

Ulehla said the CJTF-7 FEST-A has used its ability to engage Stateside engineers extensively, made possible by the TeleEngineering Communications Equipment - Deployable (TCE-D). "We've been using the heck out of 'reach back.' Probably as much as any office, or team, out there," Ulehla said. "Warren Neiden, Mobile District, takes the work we send him and farms it out to one of ten base development teams, or to Europe District."

Typical of the shift in work emphasis, FEST-A architect Hunter Dandridge from

Europe District's Installation Support Branch, has worked on assessments and as a project manager.

His largest assessment was for two dozen buildings on the border with Saudi Arabia which are to be used by the Iraqi border guard. Dandridge assessed the looted buildings to develop a scope of work and work up a cost estimate using reach back. The buildings included administrative space, barracks, and inspection facilities.

His largest project management job presently is the renovation of one wing of a bomb-damaged hospital on LSA Anacon-

da, he said. The 30th Medical Brigade will be erecting a modular hospital as a separate project on the site once the other wings are demolished. The remaining renovated wing will be used for administrative and logistical space.

"It's critical because the combat surgical hospital is in tents now with only 40 beds and a patient population of 15,000 soldiers. They are also using field generators, so they need a permanent facility," Dandridge said. "They want a building adequate



This section of the existing Iraqi air force hospital on Balad Southeast, now Logistical Staging Area Anaconda, will be renovated to serve as administrative space and medical logistical storage for a modular hospital to be built as a separate project.

Photo by Grant Sattler.

more assessments and has concentrated more on statements of work. About 75 percent of their current active projects are carried over from the previous team, he said. "In some cases, they completed the DD Form 1391 and the project is now being started," Ulehla said.

Work can come directly from the Divisions, CJTF-7, or 130th Engineer Brigade taskings, or the FEST-A members can find projects of interest themselves, Ulehla said. Of that work he estimates 40 percent



Forward Engineer Support Team project manager Hunter Dandridge looks at a ventilation system cover on the roof of the wing of a former Iraqi air force hospital to be renovated. Behind are bomb-damaged wings which will be razed to make room for a modular hospital to serve troops on Logistical Staging Area Anaconda.

Photo by Grant Sattler.

to support a growing population.”

Bryton Johnson is a project manager in the environmental branch at Europe District. Johnson deployed to Turkey in April for a month for the planned push into Iraq from the north, returned to Germany, and then deployed to Iraq in July with a multi-district Tiger Team engaged in master planning for the enduring bases in Iraq, working at Al Taji north of Baghdad. He joined the FEST-A in October after a two-week stint with Iraqi engineers working on a base for the New Iraqi Army.

Johnson said his major projects on LSA Anaconda are construction of a warehouse for medical supplies, building a theater postal distribution facility, and construction of an 800,000 square foot concrete parking apron for both the Air Force and Army. The warehouse is mechanically complicated because of refrigeration for blood sup-

plies and security for narcotics, he said.

Ulehla said the biggest challenge for the FEST-A has been the Central Distribution Center project because of efforts to get the project funded and built.

The CDC is a large asphalt parking lot where the convoys will come in and download their supplies which will be broken out and distributed to the units, he said. Close to \$8 million was approved for the horizontal construction project, but the challenge has been to get a contractor as all bids have come in too high.

Stouter's major projects include a water treatment plant, a waste water treatment plant, fuel bunkers, and a wash rack. In addition to these environmental-related projects, she has made a number of environmental recommendations to the Facility Engineer Team, or FET. The FET, belonging to the 416th Engineer Com-

mand, U.S. Army Reserve, is mobilized to run LSA Anaconda base camp as the Directorate of Public Works and Master Planning.

Balad Southeast, now LSA Anaconda, was constructed by a Yugoslavian firm in the early 1980s. “You can tell there have been a lot of [maintenance] workarounds, although the quality of the original construction seems reasonable,” Ulehla said. “You can see that repairs haven’t been done, or the right materials were never available. It appears the embargo hit this place pretty hard.”

Due to the population of the base, around 15,000 soldiers and airmen, most people are housed in tents. Living conditions for troops, without plumbing or hot water, are less than comfortable, Dandridge said. “I give credit to them for keeping their morale high, and they put their lives on the line every day,” he said. “They are really doing a good job.”

“I’m glad to be able to support the cause of rebuilding Iraq,” Dandridge said. “I feel really good about being here to make a difference. I could be comfortable sitting in my office. But it’s the experience of a lifetime being over here.”

Johnson agrees that being a part of the FEST is good experience. “I get exposed to a lot of projects I wouldn’t get exposed to in the States or in Germany,” he said. “I’m on the traffic safety board here [for example], providing input to them from reach back,... there are a lot of different types of projects.”

“I like being able to serve the soldier,” he said. “We do that in Germany, but this is much more direct and has a much faster impact, I think, putting life support together.”

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Restoring life to former Iraqi airbase

by Grant Sattler

Fuel is the lifeblood of any modern military installation.

Bringing the fuel distribution system back to life at the former Iraqi airbase known as Balad Southeast, site of Logistical Staging Area (LSA) Anaconda, is the aim of a \$4.5 million contract proposal developed by the Forward Engineer Support Team - Augmentation there.

Environmental specialist Tammie Stouter, a member of Combined Joint Task Force - 7 FES-T-A, has been working with MAJ Daniel Lamb, from the Support Operations Plans section of Headquarters, Headquarters Company, 3rd Combat Support Command, to get the looted fuel bunkers on the installation and a bulk fuel storage point outside the wire, back in operation.

Lamb, a full-time officer from the Iowa National Guard, is coordinating the needs of the user for the project.

Each of the nine independent fuel bunkers has three large tanks and a smaller tank for a total fuel capacity of more than 105,000 gallons each, for almost a million gallons capacity for fuel storage on LSA Anaconda, the major said.

About seven miles away is a bulk storage facility where refineries would deliver fuel, and the Iraqi Air Force would load to truck it onto the base.

There are a dozen soil-covered, concrete-encased steel tanks set up in two sections, each with a capacity of approximately 132,000 gallons, for 1.5 million gallons storage. The tanks are in good shape, Lamb said. However, there was considerable loss to the pumping systems from looters.

Stouter said Coalition Forces found as-built drawings and design diagrams on the base that have been especially helpful in determining the functioning of the systems. "The fuel distribution system was built by Yugoslavians in the early 1980's," Stouter said. "But all the documentation is in English. I'm really surprised that under the previous regime that they would want to have anything in English."

The fuel bunkers are essentially fuel storage and filtration systems housed in bomb

resistant shelters. Each bunker provided fuel to a set of four large concrete aircraft hangers linked by short taxiways to the runway.

The fuel bunker systems were designed to feed fuel directly inside the hangers, allowing fighter aircraft to be refueled from hydrants using hoses and pump carts that would be brought inside the shelters. U.S. Army aviation, however, does not follow the practice of refueling inside enclosed spaces for safety reasons, Lamb said.

The large fuel bunkers are most readily distinguished from concrete hangars and aircraft and equipment revetments by the presence of multiple lightning rods.

Despite some looting, the pumping and filtration systems on the base are still largely intact. "It's still in good condition, but you can see where they've tried to take the lights, here and there a pump is missing, or an electric motor," Stouter said. "We can still get parts for it."

Lamb said the tanks were made in Yugoslavia, but many of the other components are of German and French manufacture.

Stouter, who has worked on projects for the Defense Energy Support Command in Europe, said, "We've used some of these same brands in fuel systems in Germany."

Nevertheless, Stouter said there are differences in facilities in Germany and those in Iraq, particularly involving life safety standards.

Improvements to the life safety aspects of the fuel bunkers are part of the plan, she said. "We're having them install a fire suppression system. There is one here, but we are not sure it is a viable system."

Additionally, the ventilation and exhaust systems will be tested and upgraded, if necessary, to meet current Stateside standards. "In some areas there were no pumps to circulate fresh air, just vents, so that's something we really have to address," she said.

Some wiring of the electronically monitored, gauged, and switched systems has been looted, but wiring diagrams are still on hand



to make their repair easier, Stouter said.

Because looters did not break the integrity of the fuel distribution system's piping, it is quite possible that the fuel in the bunkers will be useable to Coalition forces.

"There's fuel in all of these tanks," Stouter said. "We're not sure exactly how much, but we believe they were filled fairly close to the beginning of the war."

Lamb said the fuel is good, but the Army will have to treat it.

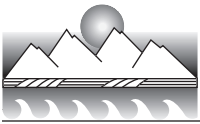
"From the initial testing here on post, the fuel tested out as JP-8, good for ground and aviation use. It has not been deemed suitable, it's just tested out as JP-8. It will have to be filtered and tested again," he said. The bottom-drawn fuel sample failed the particulates test because it had been sitting for a while.

The sample off post tested as Jet A-1, Lamb said, which is strictly aviation fuel. And even though it is believed to have been stored for years, it tested fine, he said.

"We can inject it to make it JP-8 by adding fuel system icing inhibitor, corrosive inhibitor, and static dissipater," he said, adding that the capability to do so is in theater.

Stouter said, "The only fuel we expect we can't use is what's in the lines from [the fuel bunkers] to the hangars." She said the plan is to drain and cap the lines, and possibly provide that fuel to surrounding Iraqi villages as heating fuel.

Outside each of the fuel bunkers are two upload points and two download points for tanker trucks, Lamb said. The system allowed the Iraqis to not only fill the bunkers, but to move fuel from one fuel bunker to another. In addition, there is a point for upload of off-grade fuel. "The system is set up very well. It circulates [fuel] continuously and it stays within the system, taking the bottom fuel and whatever gets taken off by the filter separators is dumped off in, for lack of a better term, a slop tank," Lamb said. That fuel could be used for heating or other low-



Radiation safety at Redstone Arsenal

by Kim Gillespie

Radiation safety may not invoke the kind of exciting images associated with Army helicopters and missiles, but it is a crucial part of our military and its high-tech work. In the past, the use of radium in small amounts was not considered a risk to health or the environment, but with increasing knowledge and experience, risk standards have become more stringent. More stringent standards mean many previously used materials and equipment at installations must be reassessed.

Keith Rose, Radiation Safety Officer for the U.S. Army Aviation and Missile Command, and his co-worker, fellow health physicist Jean Moore of Science Applications International Corporation, and Safety Specialist Bobby Taylor, U.S. Army Garrison-Redstone, are responsible for protecting health, safety and the environment from radioactive materials.

Recently at Redstone, Rose, Taylor and Moore found themselves on “tank” patrol because radium paint was used to highlight gauge numbers and dials used on early generation military equipment—in this case, the dials used to guide tank turrets and oil temperature and pressure gauges. The paint composition was radium salts with a phosphor added and it glowed in the dark.

The tanks have long been retired from “active duty,” but were later used for training activities. Approximately thirty tanks occupied Test Area 3 at Redstone. Rose, Moore and Taylor had to search the tanks for gauges and

assess the radioactive emissions. “The risk posed was very low, but our job is to ensure every precaution is taken,” said Rose. Only three dials were found that still contained radium, and these were removed, stored and secured while awaiting disposal through the proper authorities.

The “tank patrol” operation was nothing unusual—it followed the same process used for other radiation safety issues: survey and inspect. In the case of the radium paint, Rose, Taylor and Moore used radiation detection instruments to read the level of radiation. “The instruments serve as our protection by alerting us to potential danger,” said Rose.

Taylor, who recently attended the two-week Radiation Safety Officer Training course conducted by Rose and Moore, said the most important thing he took away from the safety course was the measurement and protection aspect. “Learning how to monitor for your protection and others is the key to radiation safety,” he said.

But Taylor also praised the on-the-job training he received. “I had not been involved with radiation safety before I took the course, and having Keith and Jean take me into the field and show me how they do this type of survey and inspection was extremely valuable,” explained Taylor. “I will be handling the Garrison’s radiation safety issues now, so I’m extremely lucky to have such experienced professionals at AMCOM to consult with.”

The radium found in the paint of the tank dials is just one of many radiation safety issues posed by old equipment on installations.

Moore cited another example of an old high-speed camera used for photographing early missile firings. The technology was early ‘50s and the piece of equipment had been warehoused. When the equipment was being removed for disposal, it set-off the alarm for the radiation monitoring equipment it was required to pass through.

According to Moore, although the piece of equipment was identified as a camera part, no one knew why it contained radioactive material. “After researching the internet and calling around, I came to the conclusion the radioactive material was used as a static eliminator,”



Bobby Taylor, U.S. Army Garrison Redstone Safety Office, Keith Rose, Aviation and Missile Command Safety Office, and Jean Moore, Science Applications International Corporation, search an old tank looking for old gauges containing radioactive material radium at Redstone Arsenal’s Test Area 3 vehicle targets.

she noted.

Equipment that has been stored for long periods is a radiation safety issue that many installations have in common. “Most of the time, no one has been in contact with this stuff in years. It’s our job to ensure these items don’t pose any type of risk to humans or the environment before they are excessed and removed,” Rose said.

While radioactive materials and old equipment pose one type of risk, new equipment presents a whole new challenge. “In the case of the radium paint used for the tank dials, the problem was resolved by using a different material that has insignificant radiation emissions. Nowadays, we know when any type of equipment contains radioactive material and we must account for it at all times. This is not only a safety issue, but a significant security issue since 9/11 because of the potential construction of dirty bombs,” explained Rose.

Technology continues to advance and the use of radioactive materials is becoming more prevalent. But the basics of radiation safety remain much the same-- monitoring, inventories, surveys, inspections and documentation. “Just like with any other hazard, we’ve just become more knowledgeable about the effects of radiation and how to better protect ourselves and the environment,” concluded Rose.

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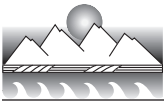
Kim Gillespie is the public affairs officer for Redstone Arsenal. PWD

(continued from previous page)

grade purposes, he said.

Once the repair project is awarded to go through each of the systems, replace any missing parts and check for leaks, work is anticipated to be completed within six months, Stouter said. The contract also will call for the assessment of the Al Asad bulk storage and five bunkers there for possible repair under a separate contract.

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Fort Drum's Cultural Resources Program uses state-of-the-art technology to search underground

by Karen J. Freeman

The Cultural Resources Management Program on Fort Drum is leading the way among military installations by using state-of-the-art technology to discover and define archeological sites on Fort Drum.

Based on geophysical science, remote sensing technology allows for archeological discovery based on features rather than artifacts found in the ground below the earth's surface, and is substantially less invasive and damaging than digging more traditional test pits. As a result, geophysical or "remote sensing" surveys are becoming techniques applied more regularly in archeological investigations.

The remote sensing equipment typically used in archeological investigations includes three components: ground penetrating radar, a magnetometer and a resistance meter. Ground penetrating radar equipment uses an electromagnetic wave to detect different features below the surface, said Dr. Laurie Rush, archeologist and manager of Fort Drum's Cultural Resources Management (CRM) Program.

"The GPR sends an electromagnetic wave into the ground and then measures, in nanoseconds, the variations in the speed of the wave as it encounters changes in the composition of the ground," explained Rush. "As the wave is transmitted and received by the GPR antenna, data are downloaded directly into a computer also connected to the GPR."

The second component, a resistance meter, uses an electric current to measure changes in the ability of the soil to conduct electricity; a property affected by compactness and water content of the soil. For example, in the case of burial sites, soil filled back into a grave is typically looser than undisturbed soil surrounding the site and therefore offers less resistance to electric current.

Lastly, the magnetometer is used to detect changes in the earth's magnetic field caused by metal objects or any feature in ground that has been affected by a heating



Ground penetrating radar being used by Fort Drum's cultural resources staff to locate burial sites at Sackets Harbor (NY) Military Cemetery. Photo courtesy of Fort Drum

episode, such as fired clay features.

Used in tandem, the three pieces of equipment can assist in discovery of potential sites as well as define parameters of a site with minimal ground disturbance.

Although remote sensing technology has been used in other scientific applications for nearly 30 years, it has been in only the last six years or so that its usage has become popular in the field of archeology in the United States.

Fort Drum recently loaned the collective expertise of its cultural resources staff to the Village of Sackets Harbor, NY, located about 30 miles west of Fort Drum. A military cemetery on village property contains the remains of approximately 150 soldiers, including BG Zebulon M. Pike, namesake of Pike's Peak in Colorado, who was killed in action during the War of 1812.

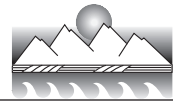
Pike's remains were moved, along with those of numerous other soldiers, in 1909

when the cemetery was relocated across the street from its previous location in Madison Barracks. Because of poor weather conditions, workers hastened to complete the job and many burial sites were left unmarked.

Although a monument dedicated to Pike stands in an area believed to be in close proximity to his actual burial site, historians from Colorado as well as local officials have expressed interest in finding the exact location of Pike's remains.

When the village requested Fort Drum's assistance to help locate the burial site, Rush recognized the ethical issues and sensitivity surrounding the possible disturbance of the dead entailed by digging. To minimize any such disruption, she recommended using the less-invasive remote sensing technology rather than traditional excavations.

"Remote sensing equipment is especially useful where cemeteries are con-



cerned,” Rush explained. “Digging is a damaging process, and remote sensing technology can provide a great deal of information without disturbing any human remains.”

In September, Rush’s crew marked a 20-meter by 20-meter grid in the cemetery and began surveying the area using the ground penetrating radar. Data from the GPR were automatically fed into a computer, which then generated a three-dimensional contour map of the ground down to depths of about 9 to 12 feet. A resistance meter recorded the changing resistivity of the soil, the results of which were downloaded to create a two-dimensional map of anomalies, which was then compared with GPR data.

After careful data analysis generated by the remote sensing equipment and the cumulative research of local historians, Rush is 80-90 percent certain that her team has located Pike’s burial site. In early November, Rush presented her team’s findings to village board members in Sackets Harbor, who will decide what next step, if any, to take in this process.

Remote sensing technology has proved equally useful in numerous archeological

applications on Fort Drum.

Currently, the cultural resources program is using the equipment in cooperation with the National Park Service Student Conservation Association Diversity Intern Program to determine accurate boundaries of five cemeteries located on post. Defining the cemetery parameters has led to other important discoveries.

“Our NPS intern, Ayeisha Kirby, has already discovered a series of unmarked graves in the Gates Cemetery in association with SGT William Anderson, a U.S. Colored Troops Civil War veteran,” said Rush. “We suspected that his was the only marked grave in the midst of an African-American community, and it looks like we were right.”

The equipment will also be used to develop a ruins map for the Fort Drum’s LeRay Mansion Historic District and to determine the extent of an early-1800s brick kiln site discovered on Fort Drum in July.

“The discovery of the brick kiln is especially exciting, since the kiln location does not appear on any map,” said Rush. “It seems it was used on a short-term basis to form brick for buildings in the Village of

LeRaysville, including the LeRay Mansion.”

The beauty of remote sensing equipment is the variety of application outside of the field of archeology in which it can be used on Fort Drum, continued Rush. For instance, the equipment can be used by the Environmental Division to locate underground fuel tanks, or, the Operations & Maintenance Division can monitor deterioration in the concrete at Fort Drum’s airfield.

Fort Drum is one of only a few Army installations known to be using remote sensing technology and is perhaps the first installation to own a complete set of the equipment. With tight budgets, the cost of the equipment, approximately \$75,000 for the three components, is prohibitive for many installations. The non-invasive method of discovery however is intrinsically valuable, especially when used in the discovery of human remains and subsequent site protection.

Rush was able to acquire Fort Drum’s remote sensing equipment through an agreement with the chief of Fort Drum’s Environmental Division who used year-end dollars to purchase the technology in 2002. Over the last year, six full-time staff members have trained on the equipment. On occasion, the cultural resources staff has taken the equipment to local colleges and universities for student training exercises.

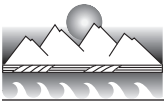
Questions about the use of remote sensing technology in archeological applications on military installations may be directed to Dr. Laurie Rush, federal archeologist and manager of Fort Drum’s Cultural Resources Management Program, telephone: 315-772-4165; e-mail: rushl@drum.army.mil.

Karen J. Freeman is a Public Relations Specialist, Adecco Technical, Environmental Division, Public Works, Fort Drum, NY. PWD



Remote sensing equipment being used to survey Sackets Harbor (NY) Military Cemetery in a search for the grave of BG Zebulon M. Pike.

Photo courtesy of Fort Drum



Cleanup begins at Camp Edwards

by Kristina Curley

The transition from investigation to cleanup at Camp Edwards, Massachusetts, began November 21 when bulldozers began removing 25,000 tons of contaminated or potentially contaminated soil from the former munitions burning and detonation site known as Demolition Area 1.

The removal and treatment of Demolition Area 1 soil, designed to eliminate a

using temperature of 500 to 900 degrees Fahrenheit began in November.

"This is why we are here -- to clean up the contamination found by our investigations and protect public health and the environment," said Program Manager Kent "Hap" Gonser. "Our work at Demolition Area 1 is a major step toward fulfilling that commitment."

The Groundwater Study Program

contamination on and emanating from the installation. The program also concentrated on defining the sources of the groundwater contaminants.

In December 2002, with the extent of contamination nearly defined in several areas of investigation, the U.S. Army Environmental Center (USAEC) was tapped to oversee and bring its expertise in environmental cleanup to the Groundwater Study Program. In May 2003, USAEC appointed Gonser to lead the program's transition to cleanup.

Efforts to begin remedial activities at Camp Edwards have accelerated under USAEC and Gonser's guidance. The soil remediation at Demolition Area 1 is just one of several soil and groundwater cleanup actions proposed by the Groundwater Study Program over the past year.

Work is underway on designing a system to treat contaminated groundwater from Demolition Area 1. Additional soil removals are planned, through summer, at two former defense contractor testing and training ranges and at targets in the installation's impact area. An examination of potential groundwater treatment options at the former testing ranges also is underway.

All of these cleanups are being performed as Rapid Response Actions. These are designed to accelerate the reduction or elimination of contaminants while work to fully define contamination and select final remediation solutions continues.

"It is exciting to achieve the crucial goal of the investigation by beginning cleanup," Gonser said. "We recognize this is just the start and will continue to look for opportunities where we can reduce or eliminate contamination on an accelerated basis to speed up the restoration work at Camp Edwards."

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Kristina S. Curley works in Public Affairs, Impact Area Groundwater Study Program. **PWD**



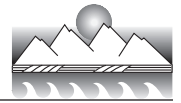
An excavator begins soil removal at Camp Edwards, Massachusetts.

continuing source of groundwater contamination, is the first large-scale cleanup action conducted by the Impact Area Groundwater Study Program and one of the largest soil cleanup efforts ever undertaken on an active installation.

The project is removing soil contaminated with explosives constituents from a 4.5-acre area to depths ranging from one to more than eight feet. Treatment of the soil with a low temperature thermal desorption system that destroys contaminants

began looking into potential contamination on Camp Edwards' ranges and training areas in 1996. The investigation at the Army National Guard installation, located on the upper 15,000 acres of the Massachusetts Military Reservation on Cape Cod, later expanded to include remediation of groundwater contamination and its sources.

Until early 2003, the Groundwater Study Program's efforts focused on identifying and delineating areas of groundwater



History uncovered at Redstone Arsenal cemeteries

by Kelley Lane

Often when a community and its inhabitants have died, the stories of their lives go with them. They leave behind the carefully placed monuments at cemeteries as proof of their existence. These carved stone spires say little -- names, dates and the occasional inscription. They only hint at the lives they represent. Redstone is full of such hints at the past.

Long before the Army took up residence, the area that would become Redstone Arsenal was made up of small communities of various sizes and origins. People were born here. They lived their lives here. They died here. Over the years, one or two graves became small family and community cemeteries. The oldest recorded date goes back to 1820. There are about 48 of these cemeteries scattered across

Redstone. While the number may raise the eyebrows, volunteer John Rankin says that is not an unusual amount, given the size of the Arsenal.

"We have over 50 square miles of Arsenal property and that's less than one cemetery per square mile," Rankin said. "If you look at a plot of Madison County, that's not unusual to have at least one cemetery per square mile. That's not an unusual density at all. It's about average."

The Environmental Office is responsible for the welfare of these graveyards. Besides ensuring that the grounds are maintained, the staff tries to research the history behind the families and individuals interred here. Public records are perused to find clues to the bigger stories behind the two or three lines etched in stone. When a

living descendant is available, they conduct interviews to fill in the gaps in information. The long-term goal is to put together a report or resource for information about the cemeteries and their residents, but completion of such a goal is not expected for another two years or so, because of the amount of work that must go into every entry. The research is still an ongoing process.

The people buried on Redstone may be quiet, but they are not silent. Each tells a story. Some are inspirational tales of free black farmers who raised their families in prosperity alongside white plantations. Others speak of Revolutionary War soldiers, who settled here to enjoy the freedom



Beverly Curry listens as Phyllis Montgomery tells the story of Schatzi, her beloved dog, buried in Redstone's pet cemetery.

Photo by Kelley Lane

they had fought so hard for. Some are strange and almost funny. Other graves hint at mysteries.

One cemetery at Redstone is still in use. It is the pet cemetery. There, people pay loving tribute to the animals that were a part of their lives. The grave markers range in age and style. Some are simple wooden plaques. Others are carved stones bearing names, dates and occasionally, the story of an animal's life.

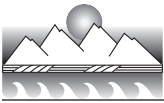
The presence of these former residents of Redstone speaks to the richness of history in the Redstone and Huntsville community. They are silent reminders of the roots of this community. Uncovering the history of these people and pets is a great commitment, and one the Environmental Office takes seriously. If you are the descendant of or have information about a person or a pet interred on the Arsenal, please call Beverly Curry at (256) 955-6971 or e-mail her at beverly.curry@redstone.army.mil.

Kelley Lane is a Redstone Rocket staff writer at Redstone Arsenal.

POC is Kim Gillespie, (256) 876-5302, e-mail: kim.c.gillespie@us.army.mil **PWD**



Lacy Cemetery, 75-1, Redstone Arsenal, Madison Co., AL, May 1, 2003. Box crypt of Prudence Kasandrea Howell in background; stone for Jane S. Davies mysteriously buried.



Fort Drum foresters host silviculturists and ACSIM for installation tour

by Karen J. Freeman

Fort Drum Forest Management Program, Natural Resources Branch, Environmental Division, Public Works hosted a group of 48 silviculturists from across the United States and around the world Saturday, October 25.

They were on a tour highlighting Fort Drum's silviculture. Tour participants represented academia, along with public and private sector silviculturists.

Silviculture is the theory and practice of controlling the establishment, composition, character and growth of forest stands to satisfy specific objectives. Fort Drum manages 46,191 acres of forestland to satisfy mission requirements for the military as well as recreational requirements for both the Fort Drum community and general public.

"Fort Drum has a unique program as compared to more traditional areas of forest management, such as in the private and industrial sectors," said Paul Zang, manager, Fort Drum Forest Management Program. "Our primary management objective is to serve the United States military mission."

Fort Drum training lands are used not only by the U.S. Army's 10th Mountain Division and other Army units, but also the Air Force, Marines, Navy, Army Reserves, National Guard and non-U.S. forces.

Serving that management objective can pose many challenges, but this forestry tour clearly demonstrated the success with which Fort Drum foresters have created and maintained the variety of training terrain required by the military mission, while at the same time preserving the integrity of the installation's forests and vegetation.

The tour took place in the southeastern quadrant of Fort Drum's 99,418-acre training area and stopped at several locations to demonstrate various forest management initiatives. The first stop featured uneven-aged management of high quality sugar maple trees. A second location featured pine and oak management with prescribed fire.

The final location highlighted a training corridor, commonly referred to as Fort

Drum's Cross Country Maneuver Corridor, in which the Forest Management Program focuses vegetation manipulation in areas to most benefit training. A variety of forest types was present within the training corridor, therefore multiple forest management options were executed to create maneuver lanes, firing points and landing zones.

Fort Drum hosted the tour as a prelude to the Society of American Foresters (SAF) National Convention that took place the following week in Buffalo.

For the conference, the Forest Management Program created a video presentation and a photographic exhibit highlighting Fort Drum's vast natural resources.

Additionally, forester Jason Wagner presented a paper entitled "Use of Natural Resource Management Units (NRMUs) for Forest Management on Fort Drum" at the convention. In 2002, the Fort Drum Natural Resources Branch completed a long-term undertaking that delineated all Fort Drum acreage into an accurate land cover classification based on the Federal Geographic Data Committee's National Vegetation Classification Standard. Overall, more than 18,000 NRMUs were delineated and digitized to form a large-scale planning tool that will facilitate integration of all program elements involved in ecosystem management efforts on Fort Drum.

Following the SAF convention, the Forest Management Program was honored to host Major General Larry J. Lust, Assistant Chief of Staff for Installation Management (ACSIM) and Mr. Bill Woodson, Natural Resources Manager, Department



Paul Zang, manager of Fort Drum's Forest Management Program, addresses a group of silviculturists during a recent tour of Fort Drum. The tour was a prelude to the Society of American Foresters National Convention that took place in Buffalo during October.

Photo by PFC Anthony J. White, Fort Drum Public Affairs



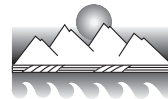
(Left to right) Bill Woodson, Natural Resources Manager (ODEP), Paul Zang and Jason Wagner, Fort Drum foresters, and MG Lust, ACSIM, during a recent tour highlighting Fort Drum silviculture.

Photo by Richard LeClerc, Chief-Natural Resources Branch

of the Army, Office of the Director for Environmental Programs, both of whom visited Fort Drum on October 30. MG Larry Lust and Bill Woodson were briefed by Zang and Tom Lent, Fort Drum's Integrated Training Area Management Coordinator, during a luncheon and then taken on a tour of Fort Drum's garrison and an abbreviated silviculture tour.

"It was a great opportunity to show MG Lust, who has a degree in forestry, and Mr. Woodson, who is a forester, forest management on Fort Drum," said Zang.

POC is Paul Zang, Manager, Forest Management Program, Fort Drum, 315-772-3170. **PWWD**



UXO Technology Test Site Program wins national award

by Michael Dillaplain

The Army's Standardized Unexploded Ordnance (UXO) Technology Demonstration Sites Program was awarded the Strategic Environmental Research and Development Program (SERDP) Project of the Year Award in the UXO category on December 2 in Washington, D.C.

It is a collaborative effort spearheaded by the U.S. Army Environmental Center headquartered at Aberdeen Proving Ground, in cooperation with the U.S. Army Aberdeen Test Center, the U.S. Army Corps of Engineers, the U.S. Army Environmental Quality Technology Program, the Environmental Security Technology Certification Program and SERDP.

Each year, the SERDP honors programs in five environmental categories with its Project of the Year Award. The selected projects are exemplary research and development efforts resulting in significant technological impact on the Department of Defense environmental programs.

"This program meets a major challenge to DoD's UXO program by developing standards of testing widely recognized and acceptable to regulators and the rest of the UXO community" said Jeffery Marqusee, SERDP's technical director. "The technology demonstration sites will play a major role in developing and transferring new UXO detection and discrimination technologies in the future."

For decades, soldiers and weapons developers have gone to ranges and training areas to train with and test bombs, projectiles, grenades and other munitions. A portion of these munitions did not function as designed, becoming what is known as UXO. Over the years, UXO has accumulated from these activities at an estimated 1,700 formerly used defense sites, 25 base realignment and closure sites and a number of active installations covering millions of acres.

One major barrier to cleaning up these sites to a condition consistent with their



A team tests a prospective UXO detecting system on the Standardized UXO Technology Demonstration Site on Yuma Proving Ground, Ariz. USAEC file photo.

intended use is the lack of adequate technology to reliably detect UXO and discriminate between the UXO and non-hazardous materials common to the ranges and test areas. Failure to discriminate between UXO and non-hazardous materials such as shrapnel, target parts or munitions parts result in a high percentage of false alarms that add significantly to the amount of required excavation, driving up the costs and time required to clean up a site. Even modest advances in technologies may save the Army millions of dollars in clean-up costs.

The Standardized Unexploded Ord-

nance Technology Demonstration Sites Program is designed to help promote the development of these technologies. It maintains two technology demonstration sites; one at Aberdeen Proving Ground, MD, and the other at Yuma Proving Ground, AZ. The program provides realistic standardized technology demonstration sites, protocols and targets for technology testing and performance. A standardized, automated scoring process has been developed to document the performance of UXO detection and discrimination sensor and platform systems. This removes subjective evaluation and allows for objective performance comparisons between system platforms across varied test conditions.

"The award is the culmination of a lot of hard collaborative work by a team formed from members of many different agencies," said Mr. George Robitaille, Program Manager for the project.

For additional information about the project, please visit the web site at <http://www.uxotest-sites.org> or contact the USAEC Public Affairs Office at (410) 436-2556, usaecpao@aec.apgea.army.mil

Michael Dillaplain is a Booz Allen Hamilton specialist supporting the USAEC Technology Branch.

PWD

Call for Articles

The March/April issue of the *Public Works Digest* will feature **Housing Issues**

Please e-mail all articles to alex.k.stakhiv@hq02.usace.army.mil no later than February 27, 2004.



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