

# Public Works *Digest*

*In this issue:*

## The Environment





## U.S. Army Installation Management Agency

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Address mail to:

U.S. Army Installation Management Agency  
2511 Jefferson Davis Highway  
Arlington, VA 22202-3926  
Attn: Editor, **Public Works Digest**  
Telephone: (202) 761-0022 DSN 763  
FAX: (202) 761-4169  
e-mail: alex.k.stakhiv@usace.army.mil

**Donald G. LaRocque**  
Public Works Program Manager,  
Installation Management Agency

**Alexandra K. Stakhiv**  
Managing Editor  
U.S. Army Corps of Engineers

**Layout:**  
Diane Dutra  
Corporate Visions, Inc.  
Washington, DC

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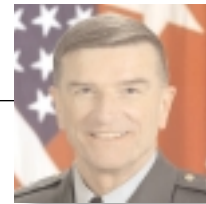
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## MESSAGE FROM THE DIRECTOR



**T**he Installation Management Agency is committed to preserving the environment through the development, implementation and enforcement of appropriate environmental standards. Our environmental stewardship can dramatically impact the Army's and IMA's goal of making our installations world-class facilities for Soldiers, civilians and families.

The Installation Management Agency's capabilities as a single agency to standardize environmental procedures and protections across all Army installations will be a key component of the Army's success in this arena. Many challenges remain, and funding today and in the future will impact the delivery of a common level of support at installations. IMA leaders at all levels will remain committed to ensuring we meet legal requirements and regulatory agreements, and to protect human and environmental health, at the minimum. We will endeavor to do more as the budget permits.

Environmental concerns have been among the most critical issues facing America and the Department of Defense for many years. Preserving and protecting the environment is highly important to the United States Army because of the vast quantities of land entrusted to it by the American people.

The Army, like much of the nation, has become increasingly aware of the need to protect and preserve the environment. We are much more attuned to the impacts that work, training and housing areas have on the environment. We understand the importance of the environment, and its relationship to the health and safety of today's Soldiers and families, and those of future generations.

We have seen many changes to the Army's approach to the environment at installations and training areas over the past few decades as we have learned about how our treatment of our tremendous natural resources today can impact those resources for many years. Our Army and installations have evolved and matured from thinking environmental considerations are something to be worried about outside our gates to active and open cooperation with surrounding communities and regulatory agencies. Installations such as Forts Bragg, Carson, Eustis and Lewis are actively engaged in partnerships to develop sustainable installations. Fort Riley established the Army's first comprehensive agreement for consultation with Native Americans on proposed installation actions that might affect their cultural heritage. As public awareness and concerns have matured over time, the Army's emphasis and effectiveness in training Soldiers about the importance of environmental protections have matured as well.

The Army has not always done a good job protecting the environment, and is now engaged in extensive cleanup efforts at many current and former installations and training areas. These efforts can involve cleaning up unexploded ordnance, old chemical training agents, fuel and other petroleum-based products, and other items that may pose threats to human health and the environment. While the Army has made significant headway in addressing its environmental obligations, the environmental cleanup and remediation effort will continue well into the future.

A relatively new challenge to Army efforts to balance environmental considerations and the continued use of military training areas is encroachment. Historically, Army training areas were established in remote areas buffered from development. Residential community expansion outside many training areas has resulted in that buffer being eroded or eliminated. This encroachment has often resulted in military training lands being the only major remaining open and natural terrain hosting endangered and threatened plant and animal species. Some surrounding communities and scientists have called for the Army to limit or eliminate training in these areas to protect threatened and endangered species.

The land entrusted to the Army by the nation was given to us for one major purpose – to prepare Soldiers to fight and win our nation's wars. We cannot simply stop training on these lands whenever an environmental concern arises.

What we can do – and have done – is learn to make training more compatible with environmental protection. This can be the result of placing some small areas off limits, or to restrict training in areas during critical stages of the growing or breeding life cycles of threatened species. It may be a matter of being more cautious and diligent in the way we use, handle and dispose of hazardous materials that pose potential threats to the environment. Or, it may involve partnerships with communities and non-governmental organizations where we cost share conservation easements or outright land purchases to minimize incompatible land use.

Army environmental and ecological experts, scientists, biologists and training area managers are at the forefront of the effort to find compatible ways to balance training and the environment.

We must continue to address the concerns of political, community and environmental leaders who question and challenge the Army's continued use of many training areas. The best way to do this is by demonstrating our honest commitment to being good stewards of the land.

Mission and garrison commanders must work together, and with the environmental experts, to find the most effective ways to maximize Soldier training while ensuring our natural and cultural resources are safeguarded and sustained for future generations. Anything short of a cooperative and collaborative effort to do this may cause the Army to lose critical Soldier training areas, and communities to lose critical natural resources.

Anders B. Aadland  
Major General, U.S. Army  
Director, Installation Management Agency



## Secretary of the Army Environmental Awards

by Margaret Schnebly

Preserving the environment while protecting the nation's freedom is a difficult balancing act, but this year's Secretary of the Army Environmental Award winners prove the effort creates successful environmental stewardship.

The Army's commitment to its environmental mission has allowed its men and women to save the endangered shortnose sturgeon population in Georgia; restore a World War II defense outpost in Alaska; maintain a pristine Hawaiian ecosystem; and ensure the nation's premier combat vehicle – the Stryker – is environmentally friendly. These are just a few of the accomplishments credited to the five installations, two teams, and two individuals recently confirmed as fiscal year 2003 Secretary of the Army Environmental Award winners.

This annual award is the Army's highest honor for outstanding environmental stewardship programs, which are on the forefront of Army efforts focused on endangered species protection, historic preservation, waste reduction, environmental restoration, pollution prevention and environmental excellence in weapons sys-

tem acquisition. Award winners stand out as leading examples of how the Army invests in environmental stewardship on the 16.7 million acres of land it manages while it trains and prepares America's Soldiers to fight the global war on terrorism.

Each year, Army environmental professionals from around the world compete for recognition in the categories of natural resources conservation, cultural resources management, environmental quality, pollution prevention, environmental restoration, and environmental excellence in weapons system acquisition.

Both military and non-military experts participate in judging panels for each award category. This year, award judges included representatives from the Environmental Protection Agency; the U.S. Fish and Wildlife Service; the Advisory Council on Historic Preservation; The Nature Conservatory; the U.S. Coast Guard; the U.S. Army Corps of Engineers; the U.S. Army Environmental Center; U.S. Army Office of the Director of Environmental Programs; the U.S. Army Center for Health Promotion and Preventative Medicine; and

the U.S. Army Assistant Secretary for Acquisition, Logistics and Technology's Environmental Support Office.

The Army invests in environmental programs to move beyond mere compliance with regulations and to sustain realistic training and testing capabilities in the most responsible ways possible. Environmental stewardship plays a crucial role in the Army's readiness mission, and these investments have resulted in the conservation and maintenance of some of the nation's most pristine and biologically diverse ecosystems, valued cultural sites and critical military training grounds. For details on fiscal 2003 Secretary of the Army Environmental Awards recipients, visit the U.S. Army Environmental Center's web site at <http://aec.army.mil/>.

POC is Neal Snyder, (410) 436-1655, e-mail: [neal.snyder@us.army.mil](mailto:neal.snyder@us.army.mil)

Margaret Schnebly is a Booz Allen Hamilton associate supporting the U.S. Army Environmental Center Public Affairs Office. **PWD**

## U.S. Army Garrison Alaska wins cultural resource program award

by Margaret Schnebly

The U.S. Army Garrison Alaska recently received a fiscal 2003 Army Environmental Award for Cultural Resources Management courtesy of the Secretary of the Army.

In three years, a staff of seven transformed U.S. Army Garrison Alaska cultural resources management from a \$60,000-a-year program to a comprehensive \$1.2 million effort. This growth reflects the program's focus on upholding the installation's environmental and military missions on more than one million acres of Alaskan terrain.

Garrison staff worked to inventory cul-

tural resources, develop means to manage them, and minimize the impact of cultural resources management requirements on military activities. The development and execution of formal plans for cultural resources management have allowed the program to:

- Conduct, publish and distribute seven historic studies.
- Survey 55,000 acres for cultural resources.
- Complete a historic building survey of more than 300 buildings.
- Develop curation capabilities with



Historic radio transmitter building on Ladd Army Air Field in Alaska.



# Kansas National Guard on cutting edge of environmental quality

by Margaret Schnebly

“Innovative” describes the Kansas Army National Guard’s approach to environmental quality.

Over the past few years, the Kansas Army National Guard has implemented new technologies and initiatives at its 90-plus facilities across the state including:

- High volume, low pressure paint guns that reduce air emissions and user fatigue caused by routine painting activities.
- A recycling program that collected more than 305,000 pounds of recyclable materials in two years and saved the Army almost \$70,000 in FY01.
- A series of small-scale erosion control

experiments to determine the most effective and efficient way to minimize erosion of firebreaks and training areas.

- A comprehensive spill prevention and response program.
- Distance learning training packages on topics including Occupational Safety and Health Administration Hazard Communications and Cultural, Pollution Prevention and Natural Resources Awareness.

These efforts recently helped win the Kansas Guard a fiscal 2003 Secretary of the Army Environmental Award for Environmental Quality. In addition to these innovative projects, the Kansas Guard is the

only military unit to serve on the EPA’s Region VII Pollution Prevention Roundtable, which serves as a forum to improve the effectiveness of and cooperation among pollution prevention programs in Iowa, Kansas, Missouri and Nebraska.

The Kansas Guard has supported providing statewide assistance for the development of new technologies that facilitate environmental research and education, waste management, and environmental compliance assessment and management. Cost savings from many of these initiatives have allowed commanders to allocate more funding for equipment and training, which increases readiness for crisis or emergency responses, thus better balancing environmental and military mission.

“As part of Region VII’s Pollution Prevention Roundtable, the Kansas Army National Guard has served in a unique capacity, offering a military perspective on critical environmental issues,” said Marguerite Duffy, the panel’s Environmental Protection Agency representative. “This, along with many other initiatives, has established its environmental quality program as a premier Army program.”

Approximately 6,500 Soldiers serve in the Kansas Army National Guard in over 90 armories and facilities across the state of Kansas.



*Prairie land protected by the Kansas Army National Guard (the hills in the distance are called Coronado Heights, which the Spanish explorer Francisco Vasquez de Coronado reached during his quest to find the supposed kingdom of Quivera, which turned out to be a small Indian village, in 1541).*

POC is Neal Snyder, (410) 436-1655, e-mail: neal.snyder@us.army.mil **PWD**

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the University of Alaska Museum.

- Help pioneer the implementation of the Army Alternate Procedures, which is a process that helps the Army more effectively maintain its historic buildings.
- Enhance relationships with regulatory Tribal Governments and organizations.

“Alaska has a cutting-edge program both in terms of compliance and steward-

ship,” said judging panel member David Guldenzopf, U.S. Army Environmental Center Cultural Resources Branch chief. “The magnitude of the program, the acres managed, the National List of Historic Sites, and tribal requirements define this award-winning installation.”

The U.S. Army presence in Alaska began in 1867, when the territory was acquired from Russia. Today, the garrison’s

mission is to provide the services, facilities, and infrastructure to support power projection and training to rapidly deploy Army forces from Alaska in the conduct of contingency operations within the Pacific theater and elsewhere as directed.

POC is Neal Snyder, (410) 436-1655, e-mail: neal.snyder@us.army.mil **PWD**



# Cleaning up Annette Island

by Drew Anderson and Jennifer Anderson

The Alaska District, U.S. Army Corps of Engineers, has won the 2003 Secretary of the Army Award in the Environmental Restoration Team category. The Alaska District received this award for environmental cleanup on Annette Island, the only autonomous Indian Reserve in Alaska. This project is part of the Defense Environment Restoration Program-Formerly Used Defense Sites (DERP-FUDS) program, which aims to reduce the risk to human health, safety and the environment from past military activities. This is the second year in a row that the Alaska District has received a Secretary of the Army Environmental Award.

Annette Island is located in southeast Alaska, approximately 900 miles southeast of Anchorage, Alaska, and 700 miles northwest of Seattle, Washington.

The land on Annette Island belongs to the U.S. Department of the Interior and is administered through the Bureau of Indian Affairs (BIA). BIA holds real property deeds in trust for the MIC, a group of Tsimshian Indians who migrated from Metlakatla, British Columbia, in 1887 seeking religious freedom. At present, the National Weather Service, U.S. Coast Guard, and the Federal Aviation Administration use and maintain minor operational facilities on Annette Island. The Department of Defense has no active facilities on the island.

The Annette Island team, which included personnel from the Alaska District and their contractor Jacobs Engineering, was honored for noteworthy accomplishments in the past two years. The team's successes are startling in light of the significant challenges they faced. Generally, these challenges fall into three categories: regulatory climate and sovereignty of the Annette Islands Reserve; multiple involved parties, each with its own organizational and mission constraints; and logistics of remote sites with unique environmental characteristics. Nonetheless, proactive planning, dynamic stakeholder involvement and management, and implementation of fresh ideas have consistently enhanced the performance of the team.

Innovations included establishing methods to track progress among the agencies, grouping sites into similar categories, and implementing new ideas to accomplish the activities cost-effectively and within the constraints of the respective programs. The team also developed a program management model to create a highly integrated team of government and contractor personnel that resulted in a savings of \$900,000 over two years and accelerated the cleanup schedule by at least five years. The team worked synergistically to resolve cleanup responsibility for over 115 sites. Another success has centered on hiring local residents and firms to accomplish the



Manually draining a pipeline in a sensitive wetland environment, Annette Island. (Photo by Robert Gatewood, Summer 2000)

work whenever possible.

To date, 1,700 tons of contaminated soil have been remediated, over 2,000 drums of waste have been removed, and 4 pounds of liquid mercury have been recovered and recycled from formerly used defense sites. Ten sites are included in the current closure process. Work at all of the sites should be complete within three years.

POC is Robert Johnston, Project Manager, Alaska District U.S. Army Corps of Engineers, (907) 753-5645, e-mail: Robert.A.Johnston@poa02.usace.army.mil.

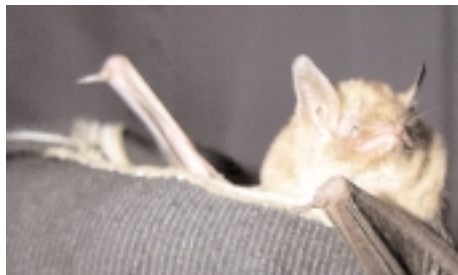
Drew Anderson and Jennifer Anderson are project engineers at Jacobs Engineering supporting the Alaska District through the Total Environmental Restoration Contract (TERC). PWD **PWD**

# Newport Depot Natural Resources Program recognized

by Margaret Schnebly

Newport Chemical Depot is not only home to a stockpile of chemical weapons, but also to an award-winning environmental program designed to protect its native ecosystem.

The Department of the Army recently awarded Newport Natural Resources Management Program with a fiscal 2003 Secretary of the Army Environmental Award for its efforts to successfully maintain its delicate and unique ecosystem. The depot's Integrated Natural Resources Management



An endangered bat found on Newport Chemical Depot, Indiana.

Plan, implemented in 1991 and revised in 2001, guides the program and its initiatives and uses a holistic approach. Over the past three years, the depot has developed and implemented several successful initiatives including:

- Installation of drainage systems on agricultural land to control the water table, which attracted local farmers and resulted in a \$1.3 million agricultural out-leasing program.
- A forest management program that ➤



# Taking an environmental approach to the Stryker vehicle

by Margaret Schnebly

The group of men and women credited with developing the nation's most innovative combat vehicle to date – the Stryker — took the 2003 Secretary of the Army Award for Environmental Excellence in Weapons System Acquisition.

The Brigade Combat Team (BCT) Program Management Office's primary goal has been to design a premier combat vehicle system. However, the team, based in Warren, Michigan, also understood the importance of considering the potential environmental impacts during manufacture, testing, operations and disposal of the vehicles.

Over the past few years, the team has focused on environmental concerns and pollution prevention opportunities, while managing program cost, performance and schedule. This emphasis on environmental stewardship earned the team its award.

In coordinating the environmental aspects for the entire Stryker program, the team reviewed hazardous materials used in vehicle operations and maintenance and studies of alternatives. Specifically, the team:

- Incorporated environmental analysis into the decision-making process to ensure that environmental initiatives and issues were considered and balanced with cost, performance and schedule.
- Eliminated hazardous materials use on

the Stryker family of vehicles that posed a risk to both human health and the environment by replacing them with more environmentally friendly alternative materials.

- Implemented an environmental management system to assist the team in managing, tracking, and resolving environmental issues associated with the Stryker vehicles.
- Incorporated process modifications and improvements to the Stryker engine processes.

A panel of non-military and military experts, including representatives from the Assistant Secretary of the Army, Acquisition, Logistics and Technology's Environmental Support Office, the U.S. Coast Guard, and the U.S. Army Environmental Center judged competitors for the Weapons System Acquisition award.

"This program truly went above and beyond environmental requirements to ensure the Stryker vehicles were free, not only of ozone depleting substances, but also of a host of materials that could be detrimental to the environment," said Peter Stemmiski, Director of the Assistant Secretary of the Army for Acquisition, Logistics

and Technology's Environmental Support Office and judging panel member. "No other nation has taken on such a challenge. The success of BCT's Environmental Management Team is a great example of the Army's commitment to incorporating environmental responsibility in its core military objectives."

The Stryker has become the centerpiece of the Brigade Combat Team. The Stryker family of vehicles consists of two vehicle variants – the Mobile Gun System and the Infantry Carrier Vehicle.

POC is Neal Snyder, (410) 436-1655, e-mail: neal.snyder@us.army.mil **PWD**



Stryker combat vehicle.

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planted native hardwoods on more than 60 acres of marginal farmland to enhance the biodiversity of the depot and improve the natural habitat of the area's native wildlife.

- A deer hunting program that provided the community with 400 recreation days and a harvest of 74 deer (this program was temporarily put on hold in FY02 as a result of post 9/11 security concerns).
- A Native Tallgrass Prairie Restoration Program that planted 128.8 acres of native grasses and forbs in an area identified as pre-settlement prairie.

- An outdoor recreation program that provided thousands of hours of wildlife watching, shed antler and mushroom hunting, nut and berry picking, as well as bicycling, walking and jogging opportunities for depot employees.

"I was extremely impressed with the way that Newport's Natural Resources Management Program really integrates all aspects of a quality conservation and Natural Resource program," said Bob Barnes, who participated in this year's judging panel on behalf of The Nature Conservancy. "This philosophy captures the essence of adaptive ecosystem management and produces a real win-win situation where mission effectiveness and workforce quality of life are reinforced by,

not compromised by, success in conservation programs."

The depot, which sits 70 miles west of Indianapolis, totals just over 7,000 acres. Its primary mission is to ensure the continued safe and secure storage and disposal of VX nerve agent, implement the Chemical Treaty Compliance Program, and administer the Chemical Stockpile Emergency Preparedness Program while training soldiers, maintaining required plant facilities, and ensuring environmental compliance.

POC is Neal Snyder, (410) 436-1655, e-mail: neal.snyder@us.army.mil **PWD**



# Anniston Army Depot wins for pollution prevention, environmental cleanup

by Margaret Schnebly

Significant strides in environmental restoration and pollution prevention earned a pair of fiscal 2003 Secretary of the Army Environmental Awards for Anniston Army Depot, Alabama. The depot has been working to erase a legacy of issues related to its industrial mission and role as storage facility for 7 percent of the nation's stockpile of chemical weapons through many initiatives.

Through its pollution prevention program, it has been able to greatly reduce hazardous and non-hazardous waste, while significantly lowering costs.

The program is led by an Environmental Quality Control Committee, made up of depot leadership and tenant organization representatives, as well as the pollution prevention staff and its working group. The program:

- Replaced a steam cleaning compound with a more environmentally friendly alternative, eliminating the use of 6,400 pounds of chemicals classified as part of the Toxic Release Inventory.
- Installed high volume, low pressure paint guns into painting operations that will save 35,000 gallons of paint and more than \$3.7 million per year.
- Recycled traditional recyclables, as well as petroleum products and batteries, and reduced solid waste by 16,500 tons.

"Anniston stood out as a leading program in this year's competition because of the broad range of environmental concerns the installation is addressing through various environmental initiatives and an effective environmental management system," said

Malcolm McLeod, who participated in the judging panel on behalf of the Corps of Engineers. "These initiatives, not only have proven beneficial to the environment, but have also produced a tremendous cost savings of approximately \$5 million - which are highly notable accomplishments."

The depot's Installation Restoration Program Partnering Team earned the cleanup award. The team used an aggressive approach to environmental restoration to account for soil and groundwater contamination challenges from the depot's combat vehicle maintenance and repair mission and chemical weapons storage and disposal.

The Partnering Team's structure and approach, along with coordination with community groups such as the Restoration Advisory Board, has proved a formula for success that is being replicated throughout the country on similar projects and has enabled the depot's restoration program to achieve many milestones, which include:

- Establishing base-wide standard operating procedures for land use controls which establishes responsibilities, defines land use restrictions, and identifies mechanisms for implementation.
- Partnering with local agencies including the Anniston Water Works and Sanitary Sewer Board to expand the Board's water treatment facility that is expected to be used for future Army restoration projects.
- Replacing three older and remote groundwater treatment facilities by constructing and operating a new centralized groundwater treatment plant that will treat contaminated groundwater and control migration of groundwater plumes.



Wayne Jones, wastewater treatment plant operator, adjusts the polymer pump at the depot's groundwater treatment plant used in Anniston installation restoration activities.

- Identifying and implementing state-of-the-art drilling techniques for the installation of monitoring wells.
- Performing an emergency removal action of more than 7,000 cubic yards of contaminated soil.

"Anniston achieved significant environmental restoration accomplishments considering its complex geology and its role in the Army's chemical weapons disposal mission," said judging panel member Dennis Druck, an environmental scientist with the U.S. Army Center for Health Promotion and Preventive Medicine. "Partnering with the regulatory agencies and other stakeholders streamlined decision making and allowed for fast track cleanup to include innovative technologies."

POC is Neal Snyder, (410) 436-1655, e-mail: neal.snyder@us.army.mil **PWD**

# Fort Stewart program director honored for aquatic conservation

by Margaret Schnebly

Saving endangered species is all in a day's work for Thomas Bryce. Just look to the shortnose sturgeon, an endangered species of fish, at Fort Stewart, Georgia. Bryce's efforts on behalf of the species, along with many other achievements have earned him a national award from the Department of the Army.

Bryce recently received a fiscal year 2003 Secretary of the Army Environmental Award for Natural Resources Conservation for his work as the U.S. Fish and Wildlife

Branch's Fisheries Management Program Director at Fort Stewart and Hunter Army Airfield.

In this role, Bryce organized the first river-basin specific, multi-agency team for recovering shortnose sturgeon— an approach that will serve as a model for other river basins to use in similar recovery initiatives. Bryce also led additional efforts to support shortnose sturgeon recovery, including the preparation and integration of the Shortnose Sturgeon





# Hawaii Guard environmentalist receives Secretary of Defense honor

by Margaret Schnebly

Successful ecosystem management of 7,200 acres in Hawaii recently earned Army environmental protection specialist Lt. Col. Ronald Swafford a fiscal 2003 Secretary of Defense Environmental Award for Environmental Quality.

Swafford earlier won the Secretary of the Army award in the same category.

Based at Fort Ruger, Hawaii, which is adjacent to the Diamond Head Crater in Honolulu on the island of Oahu, Swafford serves as the lead environmental protection specialist for the Hawaii Army National Guard. In this role, he oversees management of endangered species protection, invasive species, cultural resources and natural resources. In addition, he works to ensure Army compliance with environmental regulations.

During his tenure at Fort Ruger, Swafford developed a managerial reputation for encouraging the protection of environmental resources and reducing environmental impacts in a cost-effective manner. His

efforts have helped the Hawaii Guard achieve many program milestones, some of which include:

- A series of environmental service events for some 1,000 high school students across the state that focused on planting native plant species, which resulted in nearly 8,000 new plants in the Diamond Head area alone.
- A reduction in water pollution through the purchase of new wastewater processing technologies.
- Establishment of partnerships with state and federal agencies as well as local stakeholders.
- Update of the Guard's Solid Waste Management Plan and Hazardous Waste Management Plan, resulting in a 50 percent reduction in solid waste disposal in landfills.



*Lt. Col. Ronald Swafford, of the Hawaii Army National Guard, earned the fiscal 2003 Secretary of Defense Environmental Award for Environmental Quality.*

- Design and publication of an Environmental Awareness Training and Operations Manual to establish protocol for units to reduce fire and disturbance of Hawaiian ecosystems during training activities.

"Lt. Col. Swafford leads an extremely proactive environmental program that covers the environmental challenges facing the Army and the National Guard," said Lt. Col. Trent Moxley, who participated in this year's judging panel on behalf of Office of the Director for Environmental Programs. "His efforts have improved the environmental posture of the

Army National Guard in Hawaii and by extension, of all of Hawaii."

POC is Neal Snyder, (410) 436-1655, e-mail: neal.snyder@us.army.mil **PWD**

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Endangered Species Management Plan into the installation's 2001-2005 Integrated Natural Resource Management Plan; and the preparation of a biological assessment to ensure the Fort Stewart mission would "not likely adversely affect" the fish. The plan not only preserved their natural habitat, but also Fort Stewart's mission.

Many other initiatives that led to Bryce's win have helped put Fort Stewart at the cutting edge of natural resources management. Some of these initiatives were:

- An expanded sportfish management program, producing eight of the top 41 largemouth bass in the state of Georgia.
- An installation lake fish health survey to mitigate concerns surrounding the impacts of fish tissue contaminants on public waters.
- The first systematic inventory and assessment of the freshwater mollusk population in the Canoochee River

basin.

- One of the longest running and most successful Kid's Fishing Event programs in the state in which more than 2,000 children have caught nearly 3,500 fish.

"Bryce's highly creative and collaborative approach, particularly in freshwater issues, is one of the keys to making the conservation program at Fort Stewart so effective," noted Bob Barnes, of The Nature Conservancy, who participated in this year's judging panel. "Particularly noteworthy is his understanding of the critical role that partners, in the area and in the entire watershed, play in achieving excellence and his commitment to reaching 'outside the fence-line' to achieve excellence."

Bryce is responsible for the conservation and administrative oversight for the management of all aquatic resources at Fort Stewart and Hunter Army Airfield. He oversees 22 ponds and lakes covering 450 acres and monitors over 200 miles of coastal

"blackwater" streams and rivers.

He is an active member of several professional organizations, including the National Military Fish and Wildlife Association, the American Fisheries Society national and state chapters, and the Georgia Lake Society.

POC is Neal Snyder, (410) 436-1655, e-mail: neal.snyder@us.army.mil **PWD**



*Fort Stewart Fisheries Management Program Director Thomas Bryce discusses a bass with visitors to Fort Stewart.*



# Savannah Army Depot wins environmental merit award

by Kimberlee Turner

The Chief of Engineers Design and Environmental Awards, a program created by the U.S. Army Corps of Engineers to recognize excellence in design and environmental achievements, has honored Savannah Army Depot Activity with an Award of Merit. The Merit Award recognizes the multi-agency team for its design and implementation of an Ecological Risk Assessment on the Open Burning Ground.

The Ecological Risk Assessment Report, completed in July 2003, evaluated the level of contaminants in the soils, sediments and surface water to determine if it poses a concern to the natural habitat and species. The \$2 million assessment gathered hundreds of samples over four months and thoroughly analyzed the results.

The specially designed study used a variety of techniques to provide direct evidence whether or not the habitat and wildlife may be affected by past burning, demolition and disposal of ordnance materials at Savannah Army Depot. The study used two different techniques to analyze the contaminant levels in flying insects that are in the direct food chain for the endangered species, the Indiana bat. The study also analyzed lead in very small soil particles, which are eaten by birds and waterfowl to help digest their food. Both analyses determined that the Indiana bat and birds and waterfowl were not affected

by eating species in their food chain.

The results of the assessment indicated five small isolated areas estimated at a total of one acre of the 120-acre open burning ground may be impacted by lead and TNT contamination. This will reduce the estimated cleanup costs by \$40 to \$60 million and help protect the area habitat and species when the cleanup is completed.

Louisville District risk assessor, Elizabeth Ferguson said, "Based on our original design model, we thought the impact to the environment would be much greater. But after conducting the assessment, we found that the amount of explosives contaminated soils affecting the ecological system was actually at a very low risk."

The multi-agency partnership responsible for the design, plan and implementation of the Ecological Risk Assessment includes members of Savannah Army Depot Activity, U.S. Army Corps of Engineers, Louisville District, U.S. Fish and Wildlife Service, USEPA, Illinois EPA, Illinois Department of Natural Resources, U.S. Army Center for Health Promotion and Preventive Medicine, and the contractor, MWH Americas, Inc.



John Frank and Chris Enfinger collect fish samples from a slough adjacent to the Open Burning Ground for metals analysis using a boat-mounted electrofishing unit.

The Savannah Army Depot Activity is a 13,062-acre Army installation located on the eastern bank of the Mississippi River in Carroll and Jo Davies Counties. The facility was used in 1917 to proof and test cannons and stored ordnance and loaded shells and bombs. The depot was identified for closure under the Base Realignment and Closure Act in 1995 and officially closed on March 18, 2000.

POC is Kimberlee Turner, (502) 315-6835, e-mail: Kimberlee.B.Turner@rl102.usace.army.mil

Kimberlee Turner works in Environmental Public Affairs, Program and Project Management, Louisville District. **PWD**

## Army Recognizes GFPR BIC Implementation Team

Acting Secretary of the Army Les Brownlee commended three Army staff members in March for their success in implementing the Guaranteed Fixed Price Remediation (GFPR) Business Initiative Council (BIC) initiative.

Brownlee recognized the accomplishments of Maj. Paul B. Olsen, of the office of the Assistant Chief of Staff for Installation Management (ACSIM), Janet Kim, of the U.S. Army Environmental Center Environ-

mental Cleanup Division, and Shawn Holsinger, formerly of the ACSIM office and the U.S. Army Training and Doctrine Command (TRADOC), as he presented Olson's award March 11 at the Pentagon.

Kim received her certificate from BIC Executive Director Donald Tison



GFPR Olsen:  
Maj. Paul Olsen



GFPR Holsinger:  
Shawn Holsinger



GFPR Kim:  
Janet Kim



# Environmental leader receives Army's highest civilian honorary award

Many of the Army's environmental accomplishments over the past two decades, especially when it comes to the successful cleanup of hazardous waste sites, can be linked to one Dr. Robert J. York. The Army honored York and his valuable contributions March 12 with its highest civilian honorary award: the U.S. Army Decoration for Exceptional Civilian Service. Acting Secretary Brownlee presented the honor to York at the Secretary of the Army Awards Ceremony at the Pentagon. Many of York's friends, family, and colleagues from his tenure at the U.S. Army Toxic and Hazardous Materials Agency and its successor, the U.S. Army Environmental Center (USAEC), on Aberdeen Proving Ground, Maryland, attended the ceremony.

"This award is well deserved," said Randall Cerar, chief of the Environmental Cleanup Division at USAEC. Cerar worked for York for more than six years during his USAEC career and was on hand at the ceremony. "He is definitely someone I would model myself after. He has integrity and honesty and commitment to doing the right thing for the Army. He definitely deserves this award."

York, a resident of Joppatowne, Maryland, pioneered the design for the Army's first hazardous waste cleanup program, which EPA used as a model during the creation of the Superfund. He managed the Army's first large-scale cleanup of a haz-

ardous waste site under the Comprehensive Environmental Response, Compensation, and Liability Act; and he initiated DoD's first Installation Restoration Incineration Program to thermally decontaminate soil. York's overall contributions to the Army's environmental cleanup programs have helped clean 82 percent of the 12,000 sites identified for environmental restoration across the nation. In addition, he recently built a new USAEC program to provide environmental support to Army training and range operations.

"I am honored and humbled to receive this award," said York. "I'd be remiss if I didn't thank the colleagues, mentors, friends, and family members who supported me throughout my career. I could not have won this award without their support."

Born in Danville, Pennsylvania, York graduated from Bucknell University in 1964 with a degree in biology. He holds a doctorate in inorganic chemistry from the University of Massachusetts (1969). After leaving active duty in 1980, York began a civilian service career at Aberdeen Proving Ground, Maryland, where he was a project manager for Army environmental restorations surveys and projects for the U.S. Army Toxic and Hazardous Materials



*Dr. Robert York, chief of the U.S. Army Environmental Center Training Support Division, meets with environmental specialist Billy Ray Scott. York received the U.S. Army Decoration for Exceptional Civilian Service from acting Secretary of the Army Les Brownlee at a Pentagon ceremony March 12.*

Agency. After the agency became USAEC, he served as Environmental Restoration Division chief. He held that post until 2001, when he became chief of the newly established Training Support Division. He has long been recognized as a leader in promoting the Federal Women's Program and was recognized in 2001 by APG Federal Women's Program as the Most Supportive Supervisor. Some of his previous honors include the Meritorious Civilian Service Award, the U.S. Army Meritorious Service Medal, the U.S. Army Commendation Medal, and 17 performance awards.

*POC is Cassandra Tomarchio, (410) 436-1660, e-mail: [cassandra.tomarchio@aec.apgea.army.mil](mailto:cassandra.tomarchio@aec.apgea.army.mil) PWD*

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March 8. Holsinger will receive his award in front of Air Force staff. All received certificates of commendation signed by Tison, G8 (Deputy Chief of Staff for Programs) for the Army.

A form of performance-based contracting, GFPR shifts financial responsibility to the contractor while Army retains environmental liability and remediation oversight. Tison's office reports a \$32.9 million cost avoidance to date, and projects a \$280 million cost avoidance for

fiscal years 2004-2009.

Olsen championed the GFPR initiative through the Army and Department of Defense staffs, gaining Secretary of Defense approval November 12, 2002.

With this approval, the Army established the GFPR BIC implementation team including Kim, who became the Base Realignment and Closure GFPR subject matter expert and the execution agent for the initiative, and Holsinger, whose extensive experience working active-installation TRADOC GFPRs were instrumental to the success of the initiative.

Today, GFPR serves as one method in the Assistant Chief of Staff for Installation Management's performance-based contracting initiative for environmental remediation.

The Department of Defense BIC works to improve efficiency of DoD business operations by identifying and implementing business reforms and allocating savings to higher priority efforts.

*POC is Jean Skillman, (410) 436-1657, e-mail: [jean.skillman@aec.apgea.army.mil](mailto:jean.skillman@aec.apgea.army.mil) PWD*



## Remediation not always possible at Redstone Arsenal

by Verdelle Lambert

You can't remediate what you can't find, and when contaminants are dispersed in complex hydrogeological settings like karst, the task can be overwhelming.

That's the challenge facing Savannah District and its contractor, Shaw Environmental, Inc., at Operable Unit 10 (OU-10), the worst of 18 Operable Units EPA has identified for remediation at Redstone Arsenal.

The EPA Superfund site is a 38,000-acre facility near Huntsville, Alabama. It sits atop a thick sequence of carbonate rocks called karst, which, through weathering, have formed more than 13,000 sinkholes, 20 enterable caves, and 424 springs.

During World War II, the military manufactured conventional, chemical and incendiary munitions at Redstone. From 1949 to 1996 the Army developed rocket propellants (perchlorate) at OU-10, which is a 1,980-acre area within Redstone. Standard investigations conducted there from 1998 through 2001 indicated the presence of extensive perchlorate and trichloroethene (TCE) plumes and solvent-based DNAPLs<sup>1</sup> in the soil and water at levels that make the groundwater unacceptable for drinking water.

"The mission of the Installation Restoration Program at Redstone Arsenal is to ensure that the facility is available for military and civilian uses with regard to human and ecological health," said John Blandamer, Redstone Arsenal technical lead. "We will determine which areas are contaminated, whether they present a risk to human health or the environment and, if they do, clean them up to safe levels for their intended use."

Over the last two years, Shaw Environmental has conducted a holistic investigation to find out where the contaminants are, how they move from one place to another within the bedrock, and where they may move in the future. The results will help identify remedial alternatives and determine the lateral and vertical limits of remediation, according to Wes Smith, Savannah District's project geologist. It will take Shaw Environmental a year or so to fully interpret the data. Early results

show that the DNAPLs have formed a complex set of mingled plumes at various depths and "compartments" within the karst groundwater flow system. There is evidence that the compartments are hydraulically interconnected in a very dynamic fashion, allowing contaminants to travel long distances in a very short time. Evidence of highly dynamic groundwater-surface water interaction also exists.

"These DNAPLs are really hard to find in the subsurface and really hard to remediate," said Thomas F. Zondlo, senior hydrogeologist with Shaw Environmental. "The groundwater plume concentrations that form when water passes over the DNAPLs are easier to locate. But unless you get rid of the source material, the DNAPL itself, you're never going to walk away. It's going to be a very expensive, long-term proposition. What you want to do is remediate the DNAPLs, and what we have found from this investigation is that it's probably going to be impossible to locate all of the DNAPLs, which means it's going to be pretty much technically impossible to remediate some portions of the site. That's called TI, technical impracticability."

The data indicate that any karst cavity, open fracture, or joint in a rock could be migrating or storing DNAPLs. In fact, investigators found more sources in areas where they thought they had located all of the DNAPLs.

And there were more surprises.

"Normally, you'd think that DNAPLs would move straight down under gravity because they're heavier than water," said Zondlo. "But we found that the DNAPLs moved long distances laterally from the site. They went down and hit some rock

### KARST "TOOLBOX"

Although the tools that were used in this study are becoming common place, at the time they were applied in the project, they were novel and really opened up a world of information to the project, according to Thomas F. Zondlo, senior hydrogeologist with Shaw Environmental.

Some tools and results:

**FLUORESCENCE SCANNING.** Did not prove useful in detecting DNAPLs; delay required in screening rock cores; did confirm petroleum hydrocarbons (naturally occurring). Minimal cost.



**REACTIVE RIBBON LINER SURVEYS.** Useful in detecting DNAPLs above the water table but success in detecting DNAPLs in the bedrock was inconclusive—primarily for logistical reasons, not because of the technology.



**BOREHOLE IMAGE PROCESSING SYSTEM (BIPS).** Proved useful in identifying fractures and voids that should be targeted for further investigation. Optical televiewer used to gather a detailed 3D, 360 degree digital image of the borehole to inventory features controlling flow and transport of contaminants. Cheaper, faster.



**HYDROPHYSICAL LOGGING (HPL).** Literally indicates where the flow intervals are within a hole and the features controlling the flow. Can be accomplished within a day.



**PACKER TESTING.** Total of 77 tests conducted to document hydraulic parameters in the deeper bedrock and to collect samples from selected intervals. Was slower and more costly than other methods. Pump limitations.



**PACKER SAMPLING.** Done at selected intervals; was a valuable tool for determining placement of monitoring wells.



**OTHER METHODS EMPLOYED.** Thermal infrared (TIR) flyover survey, to determine the location of springs; dye trace studies, to determine the flow paths and transport rates of the groundwater; reflection seismic studies, to determine the bedrock structure; Direct Push Technology (DPT), to identify TCE and Perchlorate source areas; and deep bedrock wells, cored to a depth up to 275 feet for deeper subsurface characterization.

units or features that were horizontally oriented and stair-stepped off 1500 to 1800 feet from the source areas following the slope or surface that it hit. That was a real finding."

"Based on what we found out here, we will be able to demonstrate to the regulators— EPA and the Alabama Department of Environmental Management (ADEM)— that although we can remediate some places, it's impracticable to



# SMS provides blueprint for Sustainable Fort Bragg

by Lynda Pfau

**S**ustainable Fort Bragg. The Right Way...The Green Way...All The Way.' The phrase is the official policy for Sustainable Fort Bragg as established by the newly adopted Sustainability Management System (SMS).

"'The Right Way' is obeying environmental laws," said Fort Bragg SMS Representative Dave Heins, chief, Environmental Sustainability Division. "'The Green Way' is practicing pollution prevention, and 'All The Way' is continual improvement."

Heins explains the purpose and strategic importance of the SMS by comparing it to the basic principles of management utilized by Army leaders at all levels: Plan-Do-Check-Act-Continual Improvement. An SMS provides a structure for leaders to evaluate their activities and determine those actions that have a significant impact on the environment in the same way they conduct a military operation. By applying this structure to the Sustainability Program, we have fully integrated the management process into all major processes on the installation.

"Building a sustainable installation where today's activities and procedures will not eliminate or jeopardize the ability of the installation to meet the mission in the future is our ultimate goal," said Heins. "Our goal is to have an installation capable of supporting the training of soldiers well into the next century. Sustainability is not just an environmental program, it is everyone's responsibility to regularly evaluate their impact on the environment, and the



SMS formalizes the process."

The Strategic Sustainability Plan (SSP) provides the means by which a sustainable installation can be achieved. Integrated into the Installation Strategic Planning document, the SSP outlines the goals needed to achieve sustainability as well as the means and measure to achieve those goals. The SMS allows all activities to follow an established standard for evaluating their processes with a goal of recovering our valuable resources.

"Fort Bragg leads the Army in protecting, sustaining, and enhancing the environment so our soldiers and units can do real-world training to support the mission," said Col. Al Aycock, Garrison Commander, Fort Bragg. "To protect our ability to train, everyone working, living or training on Fort Bragg needs to prevent pollu-

tion, conserve natural and cultural resources, and protect the environment on a daily basis."

Sustainable Fort Bragg, established in 2001, set much of the groundwork required by the SMS, including establishment of installation goals, setting objectives to attain the goals and building metrics by which to measure achievement levels. As the SMS development process continues, directorates and activities throughout the installation will identify and

map core processes that have a significant impact on the environment, whether that impact is positive or negative.

Goal teams developed back in 2001 are reconvening to develop flow charts of processes associated with their specific goal, said Heins.

"This process will help the installation prioritize projects, identify benefits and threats, and inject sustainable practices throughout all levels of activities on Fort Bragg."

*POC is Christine Hull, (910) 432-8873396-3341, ext. 361, e-mail: hullcg@bragg.army.mil*

*Lynda Pfau is an environmental resource coordinator in the Environmental Compliance Branch at Fort Bragg, NC. PWD*

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remediate in other cases," said Juana Torres-Perez, the district's technical manager for Redstone. "We would also have to convince the regulators that the areas we cannot remediate do not pose a human health risk." Because OU-10 is near the property boundary line, there is the potential for contaminants to migrate off-site into the community.

The district will first submit a written report of their findings to the regulators and then begin the feasibility study, where the different alternatives for remediation will be presented. At that point, the regulators will decide the best treatment for areas that can be remediated.

The district will investigate all 18 operable units at Redstone Arsenal.

*POC is Wes Smith, U.S. Army Corps of Engineers, Savannah District. Contact him at Redstone Arsenal: (256) 876-9479, e-mail carl.smith@redstone.army.mil Verdelle Lambert is a public affairs specialist, U.S. Army Corps of Engineers, Savannah District.*

<sup>1</sup> Dense Nonaqueous Phase Liquid—a liquid that is denser than water and does not dissolve or mix easily in water. PWD



## Fort Stewart partners with Native American-owned business

by Stephen Kandul

The medical hold barracks project at Fort Stewart, Georgia, was completed on 22 March 2004. Chickasaw Nation Industries, Inc. (CNI) delivered this project exactly on time, as contracted under the terms of a 12-month operation lease. Occupants began moving in on the day after completion, 23 March.

The 19 relocatable buildings house 16 Soldiers each and provide laundry and basic cooking areas for the occupants. The buildings and all their facilities are fully compliant with the Americans with Disabilities Act to all current housing stan-



A four-person bunk room for the Soldiers.

dards, including wheelchair access. Located in an area adjacent to the Fort Stewart hospital facilities, these barracks are being used to house Soldiers who are on limited duty resulting from some medical condition and/or wounds.

The modular buildings were leased under the provisions of an urgent project directed by the Fort Stewart Directorate of Public Works in cooperation with the Huntsville District, U.S. Army Corps of Engineers, the Installation Management Agency, the Office of the Assistant Chief of Staff for Installation Management, and the resident Army Contracting Agency. They meet the needs of Soldiers with medical problems during the current surge of mobilization and demobilization activity at Fort Stewart.

This project represents a successful venture between the U.S. Army and a unique



Mitchell Wasson of DPW accepts the keys to the barracks from Richard Laden, CNI Project Administrator, while Willie Barnett of ACA DOC looks on.

corporation, CNI, a Native American-owned business.

POC is Stephen Kandul, (912) 767-8420, e-mail: [Stephen.kandul@us.army.mil](mailto:Stephen.kandul@us.army.mil)

Stephen Kandul is the Director of Contracting, Fort Stewart, Georgia. **PWD**

## Erosion control work underway in Fort Huachuca's Summit Basin

by Joan Vasey

Contractors from the Electronic Proving Ground (EPG) are currently at work on a project that both recycles wood pallets and scrap lumber, and assists with erosion control.

Work is underway at Summit Basin on Fort Huachuca approximately one-half mile past the Seventh Street stoplight on the south range near the Buffalo Soldier Trail. EPG contract personnel are spreading wood mulch from ground-up pallets and scrap lumber to stabilize the banks of a water detention basin there. The basin is the newest of four constructed by the city

of Sierra Vista on Fort Huachuca to capture and hold water temporarily. Through temporary detention of runoff, the basin allows the water to percolate slowly into the ground to help recharge the Upper San Pedro River sub watershed.

The erosion-control project is designed to stabilize the banks and reduce sedimentation down the drainage in order to comply with the Clean Water Act, according to Tom Cochran, chief of the Environmental and Natural Resources Division, Directorate of Installation Support. The material being used is wood mulch from old pallets

collected and processed into mulch on post.

It was too expensive to haul the pallets to a recycle plant, according to Rob Bridges, project manager. "The erosion control project allows the installation to recycle and reuse the pallets in an effective manner," he said.

"When the rain hits the intertwined mass (of the spread mulch), it diffuses rather than going in to channels and eroding the banks. It also will keep the ground moist for plant growth," Cochran explained.

POC is John Roberts, (520) 533-1867, e-mail: [john.eldon.roberts@us.army.mil](mailto:john.eldon.roberts@us.army.mil) **PWD**



# City, installation, aquifer win through detention basin projects

by Joan Vasey

Over the next 60 days, contract vehicles will load and haul soil from Woodcutter Basin on Fort Huachuca to Copper Sky Subdivision at the intersection of Avenida Cochise and Coronado Drive. This latest remove-and-haul operation began January 12 off the Buffalo Soldier Trail south of the veteran's cemetery and will increase the water holding capacity of the Woodcutter Basin detention basin, with potential to increase recharge in the San Pedro aquifer.

According to Mike Shaughnessey, realty specialist, Directorate of Installation Support, the city of Sierra Vista has been removing soil from Woodcutter Basin and other fort locations three to five times a year for approximately 20 years, under a real estate agreement between the city and the installation.

"The city acquired roadway and drainage easements when construction of Buffalo Soldier Trail was completed. However, there was too much fill to remove and store. Ready access to the material as needed is economical for the city and a win-win situation for both them and us. Removal of the fill is another example of the strong cooperation between the city of Sierra Vista and Fort Huachuca," Shaughnessey stated.

When the Woodcutter Detention Basin was planned about 20 years ago, only a fraction of the fill material was removed, Shaughnessey explained. More material has been removed over the years, and the plan is to keep removing material until the recharge basin reaches the water retention capacity and dimensions in the original design plan.

According to Shaughnessey, installation engineers have identified areas on the installation where detention basins could effectively capture water and slow runoff to allow water to help recharge the aquifer, adding that fill removal is costly.

"By allowing the city to remove fill or to contract out fill removal on an as-needed basis rather than pay to remove the fill and to store for various projects, everyone

wins," he explained.

"Over the past 15-plus years the city of Sierra Vista has removed soil and fill material out of basins on the installation from three to five times a year for various projects off the installation," Shaughnessey said.

According to Alan Humphrey, senior engineer for the City of Sierra Vista, the city and installation have worked cooperatively to develop detention and retention basins both on and off the installation. Detention basins slow runoff, but do not store it. Water captured in retention basins will store and hold water.

Completed projects include: a drainage basin near Seventh Street in Coyote Wash; Summit Detention Basin south of Avenida Cochise; and Busby Retention Basin near Busby Drive.

In the near future, the city will remove about 25,000 yards of dirt from Woodcutter Detention Basin to create a detention basin on Country Club Wash on Fort Huachuca north and opposite the Country Club housing subdivision. Some of the funding will come from a grant from the Upper San Pedro Partnership, a consortium of 20 agencies who have banded together in a concerted effort to protect and revitalize the San Pedro River.

"The excavation of Woodcutter Detention Basin will help the installation, the city and the environment," Humphrey said.

"Removing material increases the detention capacity of the basin, which increases the potential recharge of the aquifer. Increasing the detention capacity of the basin also increases the level of flood protection to residents downstream.

"The material being removed is being put to beneficial use as well," Humphrey explained.

"Part of it will be used to construct detention basins on Fort Huachuca at the Country Club Wash and on South Garden Wash. It's as if we are getting double the potential recharge from each cubic yard of



*The City of Sierra Vista and Fort Huachuca have been working cooperatively on recharge basin projects to help capture precipitation runoff to recharge the Upper San Pedro Watershed for protection of the San Pedro River (photo by John Roberts)*

material. Local developers are also removing material at no cost to the city or the installation for constructing residential housing. There are very few projects that have so many benefits—recharge, flood control and development of new residential subdivisions," he emphasized.

Fort Huachuca has identified another potential detention basin project in South Garden Wash between Country Club and Woodcutter's Basins. The development of this basin will be another cooperative effort between the city and the installation, Humphrey stated. The city is working on and will turn over its project design to the Fort Huachuca personnel who will be involved in the construction process.

While work is under way in Woodcutter's Basin, heavy equipment will operate from 7:00 a.m. to 3:00 p.m., Monday through Friday. For security purposes, the access control gate will be staffed during hauling operations. Dust abatement mitigation will also occur during the hours of operation, according to Shaughnessey,

*POC is John Roberts, (520) 533-1867, e-mail: john.eldon.roberts@us.army.mil*

*Joan Vasey is a media relations specialist in the Public Affairs Office, USAIC & Fort Huachuca.*

**PWD**



# Fort Wainwright takes proactive approach to minimize impact of environmental regulations to military mission

by Eric Dick and Barry Durbrow

As part of the U.S. Army's transformation into a more effective and responsive fighting force, the 172nd Infantry Brigade positioned at Fort Wainwright, Alaska, (FWA) will be converted into one of the Army's new Stryker Brigade Combat Teams (SBCT). To plan for the interim and future needs of the SBCT and its supporting units, the U.S. Army Garrison Alaska (USAG-AK) will be embarking on a variety of construction projects over the next several years.

Some of these projects have the potential to impact regional air quality due to the modification of existing or addition of new air emission sources and may require an Air Quality Construction Permit prior to the start of construction under the Environmental Protection Agency's (EPA) New Source Review Program (NSR) Program {40 CFR 52.21; 18 AAC 50.310}. Compliance with these regulations and the inherent permitting process can require the applicant to submit a minimum of one year of site-specific ambient air monitoring data.

To minimize the impact on construction projects associated with the SBCT transformation, the USAG-AK proactively established an air quality database that could be used should monitoring be identified as a requirement. The FWA Air Monitoring Project (FWAMP) was conducted from February 3, 2003 to February 2, 2004.

FWA is located in Interior Alaska, approximately 120 miles south of the Arctic Circle and east of Fairbanks. The installation includes over 900,000 acres of training lands that extend through the arctic and sub-arctic environment of Alaska. Air quality within the region complies with the National Ambient Air Quality Standards (NAAQS) for all criteria pollutants except carbon monoxide (CO). Areas that exceed the NAAQS are designated non-attainment by the EPA.

CO violations in the Fairbanks area occur as a result of the formation of strong and persistent temperature inversions dur-

ing the arctic winter. The temperature inversions trap CO emissions at ground level and impede dispersion of this pollutant.

A portion of the Main Post area of FWA is situated within the Fairbanks North Star Borough CO non-attainment area. The attainment status of the area where an air emission source is being permitted determines, in part, what the permitting requirements are. As part of this permitting process, the applicant is often required to establish an air quality monitoring network to sample background concentrations of specific pollutants prior to construction (i.e., preconstruction monitoring). The network typically operates for a minimum of one year and this can result in significant delays to construction, particularly at northern installations, like Fort Wainwright, which already experience short construction seasons.

The FWAMP included air monitoring for sulfur dioxide (SO<sub>2</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), and particulate matter less than 10 microns (PM<sub>10</sub>) at two stations sited in the vicinity of FWA's coal-fired Central Heat and Power Plant (CHPP). The CHPP accounts for

greater than 97% of the aggregate air emissions from source operations at FWA. The locations of the stations were determined via air dispersion modeling, which utilized stack source testing data and 5 years of meteorological data retrieved from the National Weather Service at the Fairbanks International Airport.

Additionally, site-specific meteorological data were measured at one site, as required, during the course of the monitoring project. Sampling was conducted in accordance with the FWAMP Quality Assurance Project Plan (QAPP), which was approved by the Alaska Department of Environmental Conservation prior to start up of the monitoring network. The QAPP establishes the rationale for the project design and the quality control and quality assurance (QA/QC) procedures utilized to ensure the data are representative of the area and meet NSR project data quality requirements. The QA/QC procedures are specifically designed to maintain the project Data Quality Objectives (DQOs) identified in the QAAP and were established for accuracy, precision, data completeness, and method detection limit or resolution.

During the period of the monitor-

Pollutant	Averaging Period	Concentration						
		NAAQS	North			South		
			1st	2nd	Annual	1st	2nd	Annual
SO <sub>2</sub>	3-hr	500 ppb	186.4	166.2	NA	47.4	46.5	NA
	24-hr	140 ppb	106.7	47.0	NA	29.5	20.2	NA
	Annual	30 ppb	NA	NA	5.6	NA	NA	3.0
CO	1-hr	35 ppm	5.15	4.92	NA	4.71	4.63	NA
	8-hr	9 ppm	3.85	3.41	NA	3.77	3.48	NA
NO <sub>2</sub>	Annual	53 ppb	NA	NA	11.1	NA	NA	9.7
PM <sub>10</sub>	24-hr	150 mg/m <sup>3</sup>	77.35	71.19	NA	99.95	85.86	NA
	Annual	50 mg/m <sup>3</sup>	NA	NA	21.29	NA	NA	15.5

**Table.** First and second high concentrations over the period 3 February 2003 to 2 February 2004, averaged to the time scale of the applicable NAAQS; concentrations are expressed in either parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter (mg/m<sup>3</sup>).

NA = not applicable





# 417<sup>TH</sup> Base Support Battalion nature walk

by Gerda Koss

The 417th Base Support Battalion, Directorate of Public Works, Environmental Management Office, together with the 7th Army Training Support Center, Kitzingen, Germany, present the Nature Walk at Klosterforst local training area each year. It is an educational excursion into the world of local amphibians, birds, forest ecology, water protection, etc. for German and American school children and adults. This year will be the eighth Nature Walk event in a row since it was first established in 1997. The event is a symbol of environmental awareness, responsibility and stewardship.

The Nature Walk at the Klosterforst training area advances our mission to preserve wildlife habitats and species representing diversity of life at the local training area by protecting the lands, ponds and wetlands they need to survive.

Every year approximately 700 to 800 school children and adults participate in 417th BSB'S Nature Walk. It consists of eight stations with a wildlife theme. Examples are a hunter's hut, wild rabbits, forest ecology, bats and birds, water police, amphibians, and a shepherd.

Military training areas are some of the few locations left in Germany resisting the needs of forest industry. They remain as they were many years ago, still offering a refuge for many endangered species and

wildlife. In fact, some endangered species survive only on our military training areas.

The 417th Base Support Battalion, Directorate of Public Works, Environmental Management Office, (EMO) together with the Umweltstation Wuerzburg, a part of the Environmental Office of the City of Wuerzburg, present the Earth Day celebration in Wuerzburg, Germany, once a year. Earth Day is a part of the annually celebrated Earth Week celebration promoting the annual Army environmental theme.

Earth Day was first celebrated on 22 April 1970 and has become an international event demonstrating concern and mobilizing support for the environment. The largest grassroots movement in U.S. history, it involves more than 20 million Americans; it created what has become the environmental movement.

The first German/American Earth Day in the 417th BSB was celebrated in 1991. Every year approximately 150 to 200 German and American elementary school children from our community attend the Earth Day celebration. It is comprised of 10 to 15 earth-friendly stations manned and guided by EMO and Umweltstation personnel and



Gerhard Heimbucher from the Umweltstation, Wuerzburg, talks about recycling.

volunteers. Stations include wood crafting, protected species, birds, local geology, recycling, tasting and smelling herbs, conserving energy, potting plants, and paper making.

Earth Day and Nature Walk contribute to a better understanding and environmentally-friendly mentality for our children and future generations in a fun atmosphere.

POC is Gerda Koss, DSN 351-458, e-mail: Gerda.Koss@cmtymail.98asg.army.mil

Gerda Koss is the chief, Environmental Management Office, DPW, 417th Base Support Battalion, Kitzingen, Germany. PWD

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ing project, pollutant levels were below the applicable, time-averaged NAAQS. See the table for the highest and average concentrations measured during the monitoring year.

In general, CO levels were highest during the winter due to poor dispersion of automobile exhaust, the primary source of CO emissions in Fairbanks. The high CO concentrations shown in the table all occurred during the winter. The SO<sub>2</sub> levels were elevated during the summer months as a result of stack downwash from the CHPP, the primary source of SO<sub>2</sub> emissions on post.

All DQOs were maintained throughout the monitoring period. Data capture was greater than 97% for all parameters. DQOs were evaluated continuously on-site and also during the five required external audits. Additionally, wind direction data throughout the project confirmed that both stations were ideally sited to measure the existing background air quality as it is influenced from local area sources and the CHPP.

The FWAMP effectively established an air quality database that satisfies the requirements of preconstruction monitoring under the EPA's NSR Program. Successfully meeting the air monitoring

requirement in advance of the need to use the data helps minimize the impact to the military mission due to the time-consuming process of getting air quality permitting for projects that are part of the SBCT transformation and demonstrates USAG-Alaska's commitment to environmental quality.

POC is Kate Siftar, 907 353-6249, e-mail kate.siftar@us.army.mil

Eric Dick and Barry Durbrow are environmental protection specialists with the U.S. Army Garrison Alaska PWD



# Performance-based contracting puts Leavenworth cleanup on fast track

by Jean Skillman

Putting 19 cleanup sites in a pilot performance-based contracting (PBC) program landed the environmental restoration program at Fort Leavenworth, Kansas, on the fast track to beating the 2014 goal set by the Defense Environmental Cleanup Program.

The sites joined the PBC pilot study in 2001. Of the nine sites identified in the first contracting phase, four are near completion, three have a remedy in place and two are in an interim remedial action period.

"This is tremendous progress," said Richard Wilms, Fort Leavenworth's restoration program manager. "We weren't even close at the rate we had been moving."

The Leavenworth cleanup program had been stuck in the investigation phase and had been unable to move forward to the remediation phase, Wilms explained. "We knew what needed to be done, but couldn't move forward because of the way the money was budgeted under the old contracting method," said Wilms. "Now that we are using PBC, the contractor is paid when milestones are reached, which enables us to have the flexibility to work several sites at once and keep things moving."

The Army's commitment to using PBC is part of the president's management agenda and is part of a larger government-wide initiative. "Performance-based contracting is not new, but the government-wide push

[toward] using PBC is," said Michael Hoffman, director of the Center for Contracting at The Performance Institute, a think tank based in Arlington, Virginia.

According to a July 2003 Office of Federal Procurement Policy (OFPP) report, performance-based contracting is now the preferred method for acquiring services for the government. The House Committee on Government reported \$135 billion is spent annually on government services – the largest single category of federal spending. The Army's cleanup program reported a \$32.9 million in cost savings to date through the use of PBCs, with a potential \$280 million in additional cost avoidance through fiscal 2009.

Under a PBC, the Army states the desired end result, and it's up to the contractor to take the necessary steps to get there. Contractors must still seek approval from the Army and regulators before implementing final cleanup remedies, and the Army still has the ultimate responsibility for the cleanup of its installations.

"PBC focuses on achieving results while continuing to emphasize safety and protection of the environment," said Janet Kim, an environmental engineer at the U.S. Army Environmental Center and the Army's technical coordinator for PBC implementation. "Using this type of contracting mechanism significantly increases schedule and budget certainty. Contractors are really incentivized to develop and implement an effective and efficient approach to achieving regulatory closure."

The joint cleanup effort partners the Environmental Protection Agency, Kansas Department of Health and Environment, Army Corps of Engineers and the installation management team with the cleanup contractor, Arcadis Geraghty & Miller. Arcadis has agreed to complete the work at Fort Leavenworth for a fixed price and on a set schedule.

The PBC approach chosen for Fort Leavenworth is called Guaranteed Fixed Price Remediation (GFPR). Unlike some other kinds of fixed-price agreements, GFPR contracts shift more responsibility for the

financial risks and meeting deadlines from the Army to the contractor.

"We've been using the GFPR method for over a decade in the private sector and know its value and worth when implemented correctly," said Lee Ann Smith, program manager for Arcadis. "It gives us the freedom to think of a better, cheaper and faster way to complete the cleanup."

The structural changes in the GFPR contract also give the contractor the ability to respond immediately to regulatory requests for additional fieldwork or modifications. There is no longer a need to stop and wait for the terms of the contract to catch up.

"Now when we encounter the unexpected, we can just take care of it," said Wilms, who coordinates the efforts with the installation, Corps of Engineers and regulators. "Under the old contracting method we would have to stop what we were doing and request a modification that could trigger a month's worth of paperwork. Now if the EPA says, 'Add another well,' Arcadis adds another well."

As the work is moving more quickly, so is the paperwork.

"While it is good that cleanup is happening at a much faster rate ... the Army and their contractors need to realize that we [the regulators] are working on other sites as well," said David Garrett, EPA Region 7 project manager. "In the beginning, we had to work through some issues as we learned to work as a team and respect each other's workloads."

Kim said the Army is committed to working with the installations, regulators and communities when considering options for performance-based contracting.

"We're very sensitive to the fact that regulatory agencies may have resource limitations on how quickly they can review our documents," said Kim. "We try hard to work closely with our regulators to develop workable review schedules. However, because the contractors are incentivized to get the work done, they're going to push, and push hard, to keep things moving at a good clip." ▶



Vials used for groundwater samples are collected at Fort Leavenworth, Kansas, for laboratory analysis. Volatile organic compounds are analyzed on a regular basis and the results help determine the effectiveness of the remediation.



# To burn or bury?

by Greg Vallery

Caserma Ederle, located in Vicenza, Italy, is currently pursuing a design for a "Waste-to-Energy" (WTE) plant that would be able to convert 3,000 tons per year of municipal solid waste into steam energy needs for the installation. The concept of WTE is certainly not a new one and has been implemented in hundreds of locations throughout the world. Caserma Ederle has a situation where WTE makes sense. The WTE plant will not only be a sound environmental solution for recovery of the solid waste, but is projected to do so with an economic payback in less than five years.

Typical factors that make a WTE plant appealing are high waste disposal and energy costs. Caserma Ederle not only has these two factors, but also has a centralized boiler and steam distribution system so that a large portion of the infrastructure and maintenance costs have already occurred.

WTE plants are typically constructed on a very large scale to service large municipalities. The benefits of a large central plant are lower costs per waste handling capacity, but offset by the transportation of the waste and possibly the transportation of the recovered energy back to a user. At Caserma Ederle, the economic benefits will be from the tipping fees at the landfill, which are \$0.06/lb and over \$350,000 per year, transportation costs for the wastes estimated at \$150,000 per year, and the deferred costs for the purchase and transportation of fuel oil estimated at \$200,000 per year. Operational costs of the WTE

plant are estimated at \$200,000 per year and the capital costs are estimated at \$2,000,000. This provides for a simple economic payback in four years.

Environmental benefits are more diverse and are only realized when the total situation is evaluated. The environmental "pros and cons" of waste combustion as compared to landfills have been argued by environmental professionals, politicians, groups and the public for quite some time.

The primary debate compares the risk from air pollutants emitted from a WTE plant versus the risks from air and groundwater contamination from a landfill. The reality is that the public health risks from either the landfill or the WTE plant are zero if operated in accordance with established laws and regulations. Certainly, no one can guarantee that a landfill will never emit leachate or landfill gas that contains hazardous components, nor can the guarantee be made that the WTE plant will be in compliance with the air emission standards 100% of the time.

A "total process" risk analysis is really needed that evaluates the total situation. The missing risk and indirect environmental benefits for the situation at Caserma Ederle should include the reduction of waste transportation on public roadways (benefits include reduced fuel consumption, air pollution, traffic and associated safety accidents, road maintenance and repair) and direct reduction of fuel consumed at the boiler plant (benefits include a reduction of oil produced, refined, trans-

ported and reduction of associated air pollution and safety accidents). A landfill cannot provide any of those "total process" benefits unless it is at the source of waste generation.

Other negatives that the landfill may also incur are the unknown liabilities if actions are required to clean-up environmental contamination.

For Caserma Ederle, the economics and the environmental benefits led to the decision that an on-site WTE plant should be designed. The design will include the specific drawings and specifications as well as a more detailed analysis on both the economic and environmental impacts.

Not to be left out of the situation are the outside "stakeholders." The intent will be to include the environmental regulators; Vicenza municipality, which currently provides waste disposal services; and university personnel so that the concerns and benefits are established. Once the comprehensive impacts are established, a public marketing campaign will be established to reduce or alleviate concerns and fears and to generate outside support for the project.

Caserma Ederle is in the initial phases of design and will use previous experiences and expertise to overcome problems that other WTE plants have experienced. The goal is to make this mutually beneficial to all parties involved and to use this as a model for other smaller WTE plants.

POC is Greg Vallery, DSN 634-7166,

e-mail: [Gregory.vallery@setaf.army.mil](mailto:Gregory.vallery@setaf.army.mil) **PWD**

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According to Wilms, manager of Fort Leavenworth's restoration program for more than 14 years, good communication is key to working as a team and respecting the needs of all parties involved.

"GFPR requires a tremendous effort from everyone involved in the process," said Wilms. "The reward is the ability to watch the progress of sites moving towards final remedy."

Kim, who recently received an Army

Business Initiative Council award for her work on GFPR, agreed. "While performance-based contracting isn't a new tool, its use in the Army's cleanup program is a dramatic change. One of the the biggest challenges in implementation of the PBC concept is educating all the stakeholders on what PBC really is and the significant benefits that this contracting tool brings to the table."

In 2002, 25 percent of Department of Defense contracts were performance-based, compared to 9.6 percent of the

Army Installation Restoration Program contracts in 2003.

The Army plans to use performance-based approaches to write at least half of its cleanup contracts by the end of fiscal 2005 and 80 percent by the end of fiscal 2007.

POC is Jean Skillman, (410) 436-1657, e-mail:

[jean.skillman@aec.apgea.army.mil](mailto:jean.skillman@aec.apgea.army.mil)

Jean Skillman works for USAEC Public Affairs/Booz Allen Hamilton. **PWD**



# Fort Sam Houston combines ESPC with UMCS to upgrade infrastructure

by William Core

A revolutionary approach occurred in the procurement of projects that resulted in a reduction of energy use and modernization of aged heating, ventilation, and air conditioning (HVAC) plants. At Fort Sam Houston, we used a contract called the Energy Savings Performance Contract to produce \$20M in projects that modernized and upgraded an aged infrastructure of HVAC throughout the post. These projects were financed using both straight financing and shared savings.

What does it take to run a successful program? The first and most important element is command support. No matter how good a program is it won't get off the ground without the support of the people that hold the purse strings. Secondly, it takes a project manager with a passion for success. At Fort Sam Houston, we are blessed with both.

Our prime partner in the program is Johnson Controls (JCI). Since controls are an integral part of energy savings, JCI brings a wealth of expertise to the table.

We have also developed our own unique, state-of-the-art control system, or Utility Monitoring Control System (UMCS). This is the other end of a successful ESPC program. The advantage is we have no proprietary software—it's all ours. This is an important element in that we are able to add as many buildings' controls to the system as necessary at very low cost.

We have discovered other benefits of a UMCS, to include the ability to track actual improvements in energy use. A very necessary aspect when dealing in shared savings because actual readings are more beneficial to the government than estimated

savings from a model. The biggest advantage of the UMCS is the ability to accurately diagnose most issues before they become problems. A fully operational UMCS center can identify a problem and correct it (often from a remote keyboard) before the customer is even aware that a problem exists.

The ability to remotely correct problems is increasingly important as labor costs rise. To send a mechanic on site at \$40/hr shop rate to diagnose a problem, obtain the necessary parts, and install them on the system is labor-intensive and typically, an all day occurrence. With a fully operational UMCS, most diagnoses take a matter of minutes, thereby reducing actual repair time to a minimum. The UMCS allows HVAC systems to stay in their most efficient operating state.

Our success stories to date are impressive. We replaced two 600-ton chillers. Our energy consumption efficiencies were so great that not only are we maintaining 300 tons less in chiller capacity, but we have yet to run the second chiller at more than 15%.



Each bank of photovoltaic panels is individually fused. Eight panels connected in a series deliver up to 400 volts DC.



Technician shown checking the tracking module. Sun-tracking sensors detect concentrated sunlight reflected from the rims of the parabola.

We duplicated this success with chillers at a brigade command and control facility. Here we also installed a photovoltaic array that supplies enough electricity to power the HVAC for the building. Another new feature in this building is a sun-tracking solar water heater used to supply reheated water to the AC system. When this system makes more hot water than we need, we use a hot water loop that supplies eight barracks as the hot water tank. With this approach, we have reduced boiler usage by 70%.

Having said all this, we must remember that the bottom line in HVAC is to provide a comfortable place for our soldiers and civilians to live and work. Here in South Texas we take this requirement to heart and welcome any technology that will aid in providing the best possible environment. The marriage of ESPC and UMCS provides us with the tools to make this happen.

For more information on the Fort Sam Houston Programs, please contact Gene Rodriguez, (210) 295-4778; Ray Mendoza, (210) 295-4707; Daryl Branham, (210) 295-4715, or Jose Calderon, (210) 221-4915.

William Core works in the Fort Sam Houston Public Works Office. **PWD**



# Army forestry helps Fort A. P. Hill support mission at no cost

by Rebecca Ralston

Many people are aware that the Army actively manages its forests for endangered species, fire control, and watershed protection. However, few people may be aware that one of the greatest benefits of the Army's Forestry Program is enhancement of realistic training.

In 2003, the government contracted the building of a three-lane maneuver corridor on a forested range at Fort A.P. Hill, Virginia. Installation foresters, from the Environmental and Natural Resources Management Office of the DPW, worked closely with military trainers and range control officers to create a mechanized maneuver corridor through the use of innovative timber harvest techniques. Harvests were designed to support both mounted and dismounted movement including the current family of combat vehicles (Stryker, Bradley, M1, etc.) and considered tactical vehicle maneuverability and concealment needs. A wide range of harvest prescriptions were used to create maneuver lanes, forested tactical concealment islands, and other forest treatments to provide realistic training while protecting natural resources. Foresters coordinated with loggers to ensure the desired outcome was achieved while utilizing Global Positioning Systems (GPS), Global Information System (GIS), and other new technology to foster communication among all interested parties. Rather than increasing the price of the contract to cover tree removal, installation foresters were able to organize the timber sale that yielded over \$250,000 of proceeds. Proceeds from the sale were then used to fund future natural resource and mission support activities.

Fort A.P. Hill is just one example of how forestry activities on installations across the country are saving Army money every day. From Fort Drum, New York, to Fort Lewis, Washington, to Fort Stewart, Georgia, proceeds obtained from the sale of timber and other forest products are used to cover the expenses related to forest

management.

The primary objective of these forest management activities is to support the military mission by enhancing training access to land, increasing training realism, and improving training flexibility. Additionally, the Army Forestry Program supports conservation compliance and executes natural resources stewardship in the context of maintaining biodiversity. Through separate but mutually beneficial agendas, these two driving forces direct Army forestry's creation and maintenance of sustainable training lands.

The Army manages a total of over 1.4 million acres of forestland, and in any given year, there are between 50 and 65 Army installations that incur expenses and/or generate revenue from forestry management. Each has professional foresters on site or accessible through the U.S. Army Corps of Engineers, the U.S. Forest Service (USFS), or the U.S. Army Environmental Center. Each installation's Integrated Natural Resources Management Plan (INRMP) provides the framework for natural resource and forest management. Besides providing mission support, successful operation of an installation forestry program is an integral part of threatened and endangered species management, wildlife management, and wildland fire control.

In fiscal year 2003, Army forestry expenses were over \$15.5 million, and were completely paid by over \$17.8 million in timber sale proceeds. As mandated by 10 US Code 2665, after covering expenses, 40 percent of net proceeds were given to the installation host states to be used for roads and schools. Last year, over \$1.5 million was paid to the states.

Many installations used the opportunity to foster public relations, such as Fort McClellan, where the Alabama National Guard adjutant general recently visited Calhoun County to present local officials with a check for over \$63,000. Any remaining balance is transferred to the Department of Defense Forestry Reserve Account

for possible use on additional natural resource projects during the next fiscal year.

The net proceeds from Fort A.P. Hill's 2003 maneuver corridor project timber sales were deposited in the Forestry Reserve Account, and, in turn, the installation has requested \$225,000 from the account for 2004 in order to continue support of their forestry program.

In the end, the Army saved almost \$16.3 million last year, while simultaneously improving training capability, maintaining ecosystem integrity, and giving back to local communities. Army's active management of forests truly creates a win-win for the mission and the community!

POC is Rebecca Ralston, (410) 436-1563, DSN 584, e-mail: [rebecca.ralston@us.army.mil](mailto:rebecca.ralston@us.army.mil)

Rebecca Ralston works for USAEC/Booz Allen Hamilton in the Natural Resources Branch. **PWD**

## Call for Articles

The July/August 2004 issue of the *Public Works Digest* will feature **facilities engineering** on Army installations.

Please submit all articles to [alex.k.stakhiv@usace.army.mil](mailto:alex.k.stakhiv@usace.army.mil) with POC (name, title, office) and author (name, phone, e-mail) information no later than June 25, 2004.



## Modularity to drive DPW business

by Donald G. LaRocque

The Army is going to grow “temporarily” by 30,000 Soldiers over the next couple of years. As a part of this, about 15,000 military positions are being converted from Table of Distribution and Allowances (TDA) Military Occupational Specialties (MOSs) into warfighting MOSs. The Installation Management Agency’s TDA military is “paying” for about 4,000 spaces of this bill. Plus, the writing on the wall for the Integrated Global Presence and Basing Strategy (IGPBS) is that significant numbers of units could be potentially restationed (from overseas) to the U.S.

These changes will have a huge impact on our installations over the next few years as we, engineers, scramble to get the right facilities in the right places for our Soldiers, families, DA Civilians and contractor support. Modularity, combined with the IGPBS initiative, will be the prime driver in much of our DPW business for the next few years—including Army Family Housing and Environmental operations.

In increasing its combat brigades from 33 to 43 (with a possible further expansion to 48), the Army is building enhanced combat capabilities to create a deeper rotation pool for sustaining the global war on terrorism and decreasing immediate reliance on the National Guard for combat units. (We will still have combat units in the Reserve and National Guard). Moving from division- (larger) to brigade-level (smaller) stand-alone units will also enable us to deploy more rapidly. Furthermore, by modularizing the design of our units, we will increase the ease with which we can rearrange and integrate them in Joint Services operations and Multi-National operations.

The reorganization of Army formations will allow us to become more expeditious. Thus, our intent in creating a modular Army is to

- Make us more responsive to regional combatant commander needs.
- Allow us to better employ joint capabilities.

- Facilitate force packaging and rapid deployment.
  - Help us to fight self-contained units in non-linear, non-contiguous battle space.
- We are establishing brigade units of action as the basic maneuver module for our Army’s forces.

The Chief of Staff of the Army has ordered the standup of the first Unit of Action this July, with full conversion of the Third Infantry Division to a Unit of Employment (UEX), four heavy units of action (UAs), an Aviation UA, and a Sustainment UA. The UEX and Sustainment and Aviation UAs have not yet been fully defined, but that will be done soon.

The Third Infantry Division was chosen as the first division to be transformed, since it was the first to redeploy from Operation Iraqi Freedom (OIF). This selection also allows for the maximum amount of time for transformation (reorganizing, equipping, manning and training) prior to the next rotation, and leveraging the lessons learned and the combat experience from OIF

The 101st Airborne Division at Fort Campbell and the 10th Mountain Division at Fort Drum will follow suit later this year. An assessment of existing facilities at Fort Stewart, the first to convert to the UA organization, has been completed, and actions are underway to procure and install temporary relocatable facilities to meet the need. Initial installation capability and capacity assessments at Forts Campbell and Drum indicate that there are a significant number of existing facilities that may be repaired and used to accommodate the force structure increases, although temporary, relocatable facilities will be needed there also. Final assessments are ongoing. Installations are also assessing the impact on the Soldier and family support requirements.

To meet the July 2004 operational date for the 3rd Infantry Division, temporary facilities will be purchased with other than Military Construction (MILCON) appropriations. Funding for billeting 960 Soldiers and for furnishings will be OMA; funding for headquarters/admin space ➤

*Here is the guidance recently developed regarding temporary facilities for these units. Please use it as you work the temporary requirements for your areas. We will keep you posted on any new developments.*

### Facility Planning Guidance

- \* Normal accompanied/unaccompanied rates apply.
- No installation has significant excess facility capacity available to accommodate these brigades.
- The event can occur regardless of facility availability.
- Unaccompanied personnel will be housed at current the PP standard for the installation – 1+1 at Fort Stewart, (single-man rooms), 2+2 at Forts Drum and Campbell, etc.
- Temporary unit operations facilities may be at 50% of the Army standard— ± 5,000 sf/temporary facility acceptable (<\$250K)
- Unaccompanied dining accommodated by longer meal times and bussing to DFACs.
- NEPA documentation needs to be as comprehensive as the installation can define it.
- Annual and weekend training will not be compromised.
- Options presented will be caveated as (note that each option must include *Service Costs*):
  - No construction. Requires interim, austere space-use policies.
  - Interim— temporary relocatables/OMA renovations per standards above.
  - Permanent— MILCON permanent construction. (This is the bulk of the checklist data.)



# ODEP establishes Army Sustainability Working Group

by Douglas A. Warnock, Georgette Myers and G. Daniel Hypes

The Office of the Director Environmental Programs (ODEP), a directorate of the Assistant Chief of Staff for Installation Management (ACSIM), has established the Army Sustainability Working Group (ASWG). Col. Timothy Rensema, chief of the ODEP Sustainability Division, chaired the first meeting on 5 February 2004.

What is Sustainability? From the very beginning of environmental awareness, America protected its environment by complying with existing environmental laws, a method known as compliance-based environmental protection. The Army, as part of the American society, used the same method. While a compliance-based environmental program has served the Army quite well, it is no longer considered sufficient for the maintenance of long-term installation viability. Installations must have thousands of acres of training lands, plentiful and clean drinking water, and energy to fuel its buildings and vehicles. So, what makes an installation sustainable? To answer that question, let us examine some of the definitions of sustainability.

Theodore Roosevelt said in 1910, "I recognize the right and duty of this generation

to develop and use the natural resources of our land; but I do not recognize the right to waste them, or to rob, by wasteful use, the generations that come after us."

*Our Common Future*, issued in 1987, defined sustainable development as "satisfying present needs without compromising the ability of future generations to meet their needs."

Paul Hawken, in *The Ecology of Commerce*, defines sustainability as "an economic state where the demands placed on the environment by people and commerce can be met without reducing the capacity of the environment to provide for future generations."<sup>1</sup>

EPA defines "sustainability" as the ability to achieve economic prosperity while protecting the natural systems of the planet, and providing a higher quality of life for its people. Individuals, communities and institutions are developing and implementing sustainability practices within these three areas:

1. Planning & Practices: Programs and tools that anticipate new problems; assist in long-range, integrated planning; help educate a new generation of leadership; and promote the integration of social,

- economic and environmental policies.
2. Scientific Tools and Technology: Programs and tools that use underlying scientific and engineering knowledge to support the development of sustainability tools and techniques.
3. Measuring Progress: Programs and tools that provide a science-based foundation for monitoring and assessing trends in the environment and support decision-making in government, businesses and communities.

How is the Army translating these definitions and elements into Army doctrine? "Installation sustainability moves us beyond simply solving today's problems. A sustainable Army is one that wins today's battles while laying the foundation for our future success. It connects today to tomorrow with sound business and environmental practices...Sustainability enables today's Army to empower the Future Force."

There appears to be no "approved" Army definition for sustainability. Fort Bragg uses this definition, which is representative of those used at other installations and at HQDA: "Sustainability is conducting our operations and missions today in a manner that will not prevent or pre-

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and motor pools will come from lease receipts. Site preparation and utilities infrastructure is considered new construction and so, must be funded by MILCON. All new permanent construction will be included in future year MCA programs.

By 2010, all brigades are expected to be in some form of modular configuration. That really does not give us adequate time to get proper facilities in place, but we still need to make it happen and happen well. The modularity tasker many of you are working on has given us a head start in defining the correct mix of permanent facility requirements, because

the one constant here is that the units will look almost alike wherever they are.

Environmental planning work needs to begin immediately. I've heard from some environmental offices that they "know nothing about modularity." By now, every DPW on every maneuver post should be fully aware of this effort and should have his whole team working together and leaning forward to ensure success.

A planning charrette is currently being conducted at Fort Stewart to develop permanent facility requirements. Until all requirements are validated, no specific program data will be available.

Here's how we currently stand on the milestones for Army modularity support at Fort Stewart—

The 10 USC 2803 has been approved by the Acting Secretary of the Army and sent to Congress. The Reprogramming Proposal was approved by congress in early May. The 10 USC 2667 has been approved by Congress as well, and the Environmental Assessment is complete. The award for temporary, relocatable facilities was made in May.

POC is William Sugg, (703) 602-1502, e-mail: William.sugg@hqda.army.mil

Donald G. LaRocque is the Public Works Program Manager for the Installation Management Agency. **PWD**



clude our ability to conduct necessary operations and missions 25 or 30 years from now — and will not affect the ability of our surrounding communities to be healthy places to live and work in the future.”

Sustainability within the United States Army started with the U.S. Army Forces Command (FORSCOM). Environmental officials at Fort Bragg launched the installation sustainability program in the summer of 1999. The first task was to develop the Phase I Baseline Document, March 2001, which documented the Environmental Footprint of Fort Bragg. The next step was to plan and conduct the Army's first executive level environmental sustainability conference in April 2001. The major document from this conference was the Fort Bragg Integrated Strategic Environmental Plan, June 2001, which documented the 25-year sustainability goals and identified the membership of the teams responsible for working the goals.

Fort Bragg continued to refine the sustainability goals and procedures and published the Fort Bragg Integrated Strategic Sustainability Plan in May 2003. These and many other Fort Bragg documents may be downloaded from the Internet at URL: <http://www.bragg.army.mil/Sustainability>.

The Installation Management Agency (IMA) continues to provide training to the field and is assisting six more installations in taking the first steps in beginning their sustainability journeys: Forts Campbell, Carson, Hood, Lewis, McPherson and Monroe. Each held initial sustainability conferences to involve the local stakeholders in the installation sustainability process and developed installation sustainability plans to document their 25-year sustainability goals.

The Army is committed to bringing about new solutions to the environmental challenges faced in military range operations. To accomplish this effort, the Army created another sustainability program within the Army G-3, known as the Sustainable Range Program (SRP). Tom Macia briefed it at the Army-wide DPW Training Workshop in Washington, DC, in December 2003.

The goal of the SRP is to balance the need to support training at active ranges with the need to use the resource in an

environmentally acceptable manner. The Army SRP recognizes an active partnership among the tactical commanders who need the ranges for realistic training, the garrison commanders who run the ranges and the G-3 who is responsible for training. The management of the Army's sustainable ranges is accomplished through the Environmental Management Systems (EMS) currently being developed at installations.

The SRP provides the Army's range operations and modernization managers with the capabilities that will enable the Army to execute collective, individual and institutional home station training. SRPs assist mission commanders in addressing encroachment concerns such as urban encroachment, radio bandwidth, airspace, bird hazards, marine range issues, range residue, status of the regulatory process (i.e., the Range Rule vs. CERCLA/RCRA), formerly used defense sites (FUDS) and closed-site cleanup, redevelopment of transferred ranges, unexploded ordnance (UXO) issues, cleanup of non-ordnance/explosive (OE) debris, control of contaminant releases, cleanup of existing contamination, noise, dust and air quality, community outreach, endangered species and long-term health and environmental risk assessment.

Why does the Army need an HQ-level sustainability working group? The reason is quite simple — the Army currently has no coordinated approach to sustainability. Each sustainability effort within the Army is working in isolation from all the others. The purpose of the working group is to build upon the programs begun by FORSCOM and installations and to provide strategic advice in integrating the concept of sustainability and/or sustainable design into all appropriate Army policies, procedures and publications, thereby instilling the sustainability ethic across all Army functional areas.

The ASWG will be comprised of representatives from HQDA-level organizations, to include: OACSIM (Installations & Environment), Facilities and Housing Directorate (OACSIM), Plans and Operations Division (OACSIM), Office of the Director or Environmental Programs (OACSIM), Installation Management Agency, Office of the Chief of Engineers, Office of

the Director of the Army National Guard, and the Army Environmental Center. The working group may add additional members when needed.

As an advisory body to the Army on sustainability and related issues, objectives of the ASWG include but are not limited to:

1. Obtaining understanding and support from all Army functional areas regarding Army sustainability.
2. Developing an Army Sustainability Policy memo signed by the ASA(I&E) and/or ACSIM.
3. Developing the “Installation Sustainability Big Picture” in coordination with the Director of Environmental Programs.
4. Integrating installation master planning, management systems (e.g., EMS) and sustainable installation concepts into Army regulations to begin to institutionalize the concepts.
5. Developing Army initiatives that will support installation sustainability.
6. Identifying all stakeholders and ensuring a collaborative approach to Army sustainability efforts.
7. Developing performance measures and indicators for installation sustainability.
8. Providing input to the development of the HQDA sustainability website.

Sustainability within the US Army is not widely understood as a concept. To be successful in establishing sustainable installations for the next 25 to 50 years, the U.S. Army must engage all members of the Army family. The Army Sustainability Working Group is one attempt to do just that.

<sup>1</sup> Paul Hawken, *The Ecology of Commerce*, (New York, 1993), p. 139.

POC is Douglas A. Warnock,  
(703) 601-1573, e-mail:  
[douglas.warnock@hqda.army.mil](mailto:douglas.warnock@hqda.army.mil)

Douglas A. Warnock is an environmental protection specialist, Sustainability Division, Office of the Director of Environmental Policy, OACSIM; Georgette Myers is an environmental program manager, Environmental and Natural Resources Branch, Operations Division, IMA; and G. Daniel Hypes is an environmental protection specialist, Sustainability Division, Office of the Director of Environmental Policy, OACSIM. **PWD**





# Council on Environmental Quality puts modernizing NEPA on front burner

by Brian Feeney

“When NEPA was passed in 1969, it would be two years before Texas Instruments would introduce the first scientific calculator and another six years before Steve Jobs would finish his work on a computer circuit board they called the Apple I computer,” began Ray Clark. Clark, the former Associate Director of the Council of Environmental Quality (CEQ), facilitated a series of NEPA regional roundtables.

The November 13 and 14, 2003 meeting in Conshohocken, Pennsylvania, brought together NEPA experts from government, industry, academia, and public interest organizations to discuss how to modernize NEPA in response to changing national needs and in light of 34 years of compliance experience. The discussion that developed over the course of this meeting was revealing of those aspects of the national dialogue on NEPA that are prone to sharp disagreement and those for which consensus exists.

The roundtable meetings came on the heels of a report released by CEQ in September which proposed new guidance and changes to CEQ regulations and agency procedures for implementing NEPA. The roundtable panels addressed six areas identified as most in need of modernization in the report. These six areas include federal and intergovernmental cooperation, environmental assessments, categorical exclusions, technology and information management and security, adaptive management and monitoring, and programmatic analysis and tiering.

The roundtables were followed by a public comment period, and CEQ will synthesize both the roundtable discussions and public comments, and post summaries on the CEQ Web site. The roundtable discussions and public comments will then be used to establish which of the recommendations in the CEQ report should be implemented and the priority of the recommendations. The result is likely to con-



Brian Feeney

sist of recommendations for new pilot programs and pilot studies, development of new guidance, and even entirely new program elements such as having an independent facilitator conduct the scoping process.

## **Federal and Intergovernmental Collaboration**

In the ensuing discussion on federal and intergovernmental collaboration, many of the panel participants staked out opposing positions over the degree to which inviting full public and inter-agency collaboration in the NEPA process is a virtue or the reason for its vulnerability to attack. Lucy Swartz, a NEPA expert working for a consulting firm, said that, “Collaboration among the lead and cooperating agencies might be asking too much in some situations. A cooperating agency that staunchly opposes a project can bog things down with late reviews. There has to be a way for the lead agency to leave them behind if necessary.” Dennis Duffy, a consultant who represents industry added that, “Collaboration can be taken so far as to allow NEPA to be a club in the hands of an opposing agency. Don’t assume that you can always reach consensus with enough process.”

“To the contrary,” answered Janine Bauer, a public interest lawyer specializing in NEPA. “A sponsoring agency can’t be allowed to discount opponents, including citizens and non-government organizations in the name of avoiding undue delay.” She continued, “I don’t like to hear people around the table say, ‘We need to get our projects started faster, and NEPA needs to be modernized to do this.’” Diana Mendez, an industry consultant, added that; “The Army Corps of Engineers has a project, the protection of aquatic ecosystems, the public has a project too, to safeguard their quality of life. These are as important as any project of any sponsoring agency.”

## **Environmental Assessments**

The panelists began the discussion of environmental assessments (EAs) by pointing out that EAs were originally meant to be 20 pages long on average, and environmental impact statements (EISs) 150 pages. Several of the panelists said that that the advent of 400 and 500-page EAs is due to the perceived need of agencies to make their EAs litigation-proof and because each of the reviewing agencies wants its resource fully addressed.

Sharon Buccino, representing the Natural Resources Defense Council, said that the problem with some EAs is not that they are too long, but they are too short. Agencies, such as the Bureau of Land Management, often use a checklist to approve EAs rather than a completely new analysis of environmental impacts despite guidance that discourages the practice. The group appeared to reach a consensus that EAs should be long enough to provide transparency for the decisions made and no longer.

## **Categorical Exclusions**

Clark opened the discussion by pointing out that, in practice, categorical exclusions (CXs) have become mini EAs or even EISs. Bob Dreher, Deputy Executive



Experts from government, industry, academia, and public interest organizations discussed how to modernize NEPA at the Eastern Roundtable meeting in Conshohocken, Pennsylvania, last November.

Director of the Georgetown Environmental Law & Policy Institute, said that at times the effect has been to use records of environmental consideration to avoid public participation. He added that the cumulative impacts of a lot of CX projects in any one ecosystem should be accounted for in a tiered Programmatic EIS.

Fred Scatena, an earth science professor from the University of Pennsylvania added that a commonly available GIS database of natural resources would be useful for tracking the cumulative effect of CX projects in potentially impacted areas. Sharon Buccino, representing the NRDC, added that post-implementation monitoring of CX projects to ensure the absence of impacts would build public trust, and inherently controversial actions, such as logging public lands, should not be placed on the CX list.

### **Technical Information and Management Security**

The discussion of technical information and management security was most notable for its lack of controversy. The CEQ's September report identified the potential of new information technologies to make the NEPA process more efficient and to enhance public participation, while acknowledging that sensitive information would need to be safeguarded. Panelists

agreed that sensitive information warrants protection, but the level of detail needed to write good NEPA documents usually does not require that degree of specificity. The panelists agreed that their biggest problem in this area is the difficulty they experience in accessing old NEPA documents, many of which contain useful descriptive information and analysis techniques for current documents. The panelists all agreed that NEPA document retention practices need to catch up to currently available digital technology, and the universe of existing documents should be a shared resource.

### **Adaptive Management and Monitoring**

Most of the panelists shared the view that adaptive management and monitoring is the area of NEPA most fertile for innovation, but many of them expressed concern that innovations could have a punitive effect on the sponsoring agency. While most of the panelists agreed that post-mitigation monitoring and adjustments to attain the desired mitigation effects is the best way to use the NEPA process as a true planning tool, Clark pointed out that this could result in a sponsoring agency having to write a supplemental EIS based on indications that a mitigation technique was not working as planned, and in need of further design and implementation. He said that

this might be considered a punitive result, as the lead agency would have to commit more resources to the mitigation.

Several of the panelists emphasized the need to bring NEPA into the modern age by integrating NEPA with Environmental Management Systems (EMS) such as ISO 14000. EMS was identified as the best way to compensate for NEPA's weakest element, post-project follow-up. Dreher said that ISO 14000 provides exactly the kind of pre-project and post-project monitoring and methodology for post-project adaptation that NEPA needs. He added that ISO 14000 can transform NEPA from "an unhealthy attempt at prediction in advance to a living document with a role in the post-project phase."

### **Programmatic Analysis and Tiering**

The panelists appeared to agree that programmatic analysis and tiering is an underused NEPA resource. Clark pointed out that only 75 programmatic EISs have been written since 1987, but that many fisheries and forest management EISs are programmatic in all but name. A representative of the Audubon Society said that programmatic analysis and tiering of NEPA documents has a lot of unrealized potential for streamlining the NEPA process. The programmatic EIS serves as an umbrella document and provides guidance for all of the individual projects in the same program. Many panelists expressed a desire to have CEQ actively encourage programmatic EISs and tiering and provide further guidance.

Other concerns raised at the forum included the importance of providing agency personnel with adequate NEPA training, the importance of giving stakeholders a role in shaping projects, and ensuring that agency management and personnel view NEPA as a planning tool rather than a mere compliance exercise. The CEQ report and more information on the roundtables can be found at <http://ceq.eh.doe.gov/ntf/>.

*Brian B. Feeney, Ph.D., is a regulatory specialist at Horne Engineering Services in Bel Air, Maryland, and supports the U.S. Army Environmental Center's NEPA library. PWD*



# European Commission's "Natura 2000" Initiative – no "show stopper" for the US Army in Europe

by Wolfgang Grimm

In 1998, the EU directive was incorporated into German law. Based on this law, the German States were tasked to nominate areas to the German federal government, who reported these sites to the EU for inclusion into the "Natura 2000" network.

The site selection was to be based strictly on scientific criteria. Current site use was not considered and military training areas, or other areas used for defense purposes, were not excluded. On the contrary, military land use with professional and sound management of natural resources has developed these lands into areas of incredibly high ecological value. This made them prime candidates for nomination as "Natura 2000" sites.

The following breaks down the total areas of U.S. Army-controlled lands in Germany:

Total Army Europe footprint: 64,534 ha  
Total Army Europe land designated under "Natura 2000": 36,368 ha  
% of total Army Europe footprint designated: 56%

US Army, Europe (USAREUR) training areas only:

Total Army Europe training lands: 52,400 ha  
Total Army Europe training lands designated: 36,055 ha  
% of Army Europe training lands designated: 69%

Since the EU "Natura 2000" directives were adopted without exceptions or allowances for the requirements of military training, the U.S. Army in Europe still maintains some concern that the designation of military areas could have a significant impact on the continued use. While the present use of a nominated area may continue unrestricted, unless the overall ecological value is degraded, there was further concern that future modifications, like the construction of a new, or the extension of an existing firing range might be significantly delayed, or in the worst case,

stopped.

To this date, two major and critical construction projects within "Natura 2000" sites on U.S. Army-controlled lands in Germany were conducted successfully. One project is the Efficient Basing Project at Grafenwöhr major training area in Bavaria; the second project is the construction of a communication facility, close to the City of Darmstadt in the German State of Hessen.

The German Federal Nature Protection Act establishes the legal requirement to perform an environmental impact assessment and to define measures designed to compensate for any negative impacts of the project on flora and fauna species habitats prior to beginning construction. The results of the impact assessment and subsequent compensation measures form the basis for the regulating authorities to approve the project, or to define provisions under which the project can be executed.

The following actions were critical to obtain project approval without delaying execution:

*Close coordination with the Operations (G3) and Integrated Training Area Management (ITAM) community.* The U.S. Army Installation Management Agency, Europe Region (IMA-E) and Operations/ITAM have established excellent working relationships and maintain an open and effective line of coordination.

*Availability of data.* Most of the data required for the impact assessments of construction projects were readily available due to the threatened and endangered species surveys, which IMA-E Base Support Battalions (BSBs) had performed during recent years.

*Contracts in place.* Where additional natural resources data was required, the BSBs had contracts in place enabling a contractor to collect data without delay.

*Excellent working relationship with regulators at all levels.* During regular US/German Environmental Working Groups meet-

ings at Federal and State levels all environmental issues were discussed in an open and cooperative manner. These established working relationships have been the key to the project approval processes with minimized bureaucratic hurdles and obtaining required approvals within the shortest time.

The European Union's "Natura 2000" initiative does complicate construction permit procedures, but it does not stop project execution. Due to its proactive conservation program, IMA-E has a wealth of threatened and endangered species data already available and applicable for "Natura 2000" impact assessments and potential compensation measures. This data, compiled in the BSB's Integrated Natural Resources Management Plans (INRMP), will be the basis for future FFH management plans which must be developed and implemented in the near future in cooperation with Operations/ITAM and the German Federal Forest Service.

IMA-E will continue to use the INRMPs to manage and conserve resources to the maximum extent possible. Our position is to maintain good stewardship of our training area environments while complying with host nation legislation, including "Natura 2000." However, it is critical we retain the flexibility to adjust to changing training requirements. The German federal and state governments, acknowledging IMA-E's investments and achievements in environmental protection, have expressed their continued support in coping with the "Natura 2000" challenge.

POC is Wolfgang Grimm, DSN 370-7699, 011-49-6221-57-7699, e-mail:

Wolfgang.Grimm@ima-e.army.mil

Wolfgang Grimm is a forester in the IMA-E Environmental Branch, Engineer Division, Heidelberg, Germany. **PWD**



# Optimized approach for concurrent conventional munitions and RCWM response action

by Jerry L. Hodgson

Conventional munitions response activities began at the Jeep/Demolition Range (J/D Range), one area of concern at the former Lowry Bombing and Gunnery Range (FLBGR), in January 2001. Between January 2001 and March 2002, many inert recovered chemical warfare materiel (RCWM) training aids were recovered. In March 2002, remnants from Chemical Agent Identification Sets (CAIS) were found. The CAIS remnants elevated concerns of finding live agent; therefore, the J/D Range transitioned to an RCWM site in May 2002.

RCWM response operations are very costly and require a much longer schedule than conventional munitions response. At the FLBGR, the rate of development near the J/D Range has accelerated, and will soon overtake the area. Therefore, an innovative approach to the site response was determined appropriate to effectively manage and reduce the hazards associated with the simultaneous presence of CAIS, conventional munitions, and rapid residential development.

Approximately 30% of the J/D Range was cleared using conventional munitions

response prior to the transition. During these activities, all RCWM training aids and CAIS remnants were found in trenches or were related to large metallic anomalous areas. The following approach was developed:

1. Identify areas in which RCWM-related items had been found during earlier response activities.
2. Geophysically map the J/D Range and employ geophysical discrimination techniques to identify trenches and CAIS container (pig)-size or greater anomalies.
3. Address these areas using RCWM response operations.
4. Address the remainder of the site using conventional munitions response operations.

By incorporating geophysical surveys and geophysical discrimination into the response process, nearly 75 grids (70 acres) have been RCWM-cleared without requiring RCWM operations. In grids containing RCWM excavation targets identified by geophysics, the very-costly and time-consuming RCWM operations have been focused toward specific locations, as opposed to the entire grid area. Tens of millions of dollars have been saved due to this effort.

Concurrently, conventional munitions response activities are being performed in non-RCWM contaminated areas of the J/D Range. Performing the conventional munitions response while RCWM operations are ongoing allows the U.S. Army Corps of Engineers

to take advantage of the rapid response time associated with having U.S. Army Technical Escort Unit personnel onsite, should additional RCWM training aids be discovered and require identification.

POC is Jerry L. Hodgson, (402) 221-7709, e-mail: [jerry.l.hodgson@usace.army.mil](mailto:jerry.l.hodgson@usace.army.mil)

Jerry L. Hodgson, P.E., is the project manager for the Military Munitions Response actions at the Former Lowry Bombing and Gunnery Range, Colorado. **PWD**



Geophysical discrimination platform (complete platform)



Collecting geophysical data at jeep/demolition range.



# Protocols for managing fires on munitions-contaminated land

by Jerry L. Hodgson

Wildland firefighting and controlled burns on munitions-contaminated land are emerging issues in the munitions response field. Management of fires on these properties typically requires a great deal of interagency coordination and cross-training, so firefighters understand the unexploded ordnance (UXO)-related hazards and protocols, and UXO personnel understand the fire-related hazards and protocols of the area. In this success story, a number of governmental agencies worked together to resolve wildland fire management issues at Camp Hale, Colorado, resulting in the safe and expeditious extinguishing of one fire, and preparation for potential fire-related events in the future.

The U.S. Army Corps of Engineers, Omaha District (Corps), in partnership with the Colorado Department of Public Health and Environment (CDPHE) and U.S. Forest Service (USFS), are performing munitions response activities at Camp Hale, Colorado, under the Formerly Used Defense Site (FUDS) program. Camp Hale is a 135,000-acre site, located in the

mountains of Colorado, which was used for military training from 1942 through 1966. The site spans three National Forests, and has several large areas with potential munitions hazards. In 2002, the State of Colorado experienced exceptionally dry conditions, resulting in extreme fire danger across the state.

A small lightning fire within the Camp Hale boundaries, adjacent to a known munitions-contaminated area, escalated the need for fire response protocols at the site and support of the USFS, to safely address fires within potential munitions-contaminated areas. The USFS is the primary agency that responds to fires across the majority of Camp Hale.

First, UXO fire hazard maps were established for each area of the site based on the currently-known potential for munitions hazards. These maps, at a glance, provide firefighters immediate feedback regarding the potential for UXO hazards when a fire situation is encountered. Working together, USACE, CDPHE, and USFS classified each area as



either “red,” “orange,” “yellow,” or “green”, based on anticipated munitions hazards.

Second, munitions safety training was provided to firefighting personnel who are likely to respond in the Camp Hale area. The training was provided to alert firefighters to the potential hazards associated with UXO in the area. Additionally, the fire hazard maps, with the associated fire response restrictions for each area, were provided.

POC is Jerry L. Hodgson, (402) 221-7709, e-mail: [jerry.l.hodgson@usace.army.mil](mailto:jerry.l.hodgson@usace.army.mil)

PWD

## Army loses technology champion

His many friends in the DPW community are saddened by the January death of Mr. Franklin Cooper, who was with the Fort Jackson, South Carolina, Directorate of Logistics and Engineering. Mr. Cooper was an innovator who, through his association with the USACE research and development community, helped place Fort Jackson at the very forefront of technology advocates among DoD installations. In the process, he provided many critical opportunities to demonstrate technologies, helping to validate them for Army-wide use.



Frank Cooper with the NOVA Award, for which he was a co-recipient in 2002.

### IDS E-News

The Installation Design Standards Electronic Newsletter (IDS E-News) provides official updates on Army standards directly from the web. Register your e-mail subscription at

<https://secureapp2.hqda.pentagon.mil/acsimnews/>

from the sidebar tab  
**Subscriber Information.**



# New Facility Design Teams established

by John Scharl

The Army facilities standardization process has established three Facility Design Teams (FDT) to develop the Army standards and standard designs for operational readiness training complexes, consolidated fire/police/safety facilities and deployment facilities.

The Army's objective is to establish Army standards for each of these critical facilities that installation commanders must follow. All command levels are responsible to ensure that facility requirements in the approved Army Standard are included in their design and construction.

The newly formed FDTs will develop the minimum mandatory Army standards and these standards will be the basis for the standard designs for construction of these facilities on Army installations worldwide.

The Facilities Design Teams are:

### **Deployment Facilities**

Army Proponent is the Director for Force Projection and Distribution; the ACSIM POC is the Director of Plans and Operations, the USACE Center of Standardization is the Savannah District. Army standard scheduled to be completed 1st Quarter of FY 05.

### **Operational Readiness Training Complexes**

Army Proponent is the Office Deputy Chief of Staff G3; the ACSIM POC is Director of Plans and Operations, the USACE Center of Standardization is the Savannah District. Army standard scheduled to be completed 2nd Quarter of FY 05.

### **Consolidated Fire/Police/Safety Facilities**

Army Proponents are the Offices of Army Safety and the Provost Marshal; the ACSIM POC is the Facilities Policy Division, the USACE Center of Standardiza-

tion is the Huntsville District.

Army standard scheduled to be completed 3rd Quarter of FY 05.

The Army standards for these facilities, when approved by Army's Facilities Standardization Committee, will be incorporated into the Army Installation Design Standards (IDS) and made available on the IDS web page. Subscribers to the IDS e-newsletter will receive notification by e-mail when these standards are approved. To be a subscriber to the IDS e-newsletter, register at <https://secureapp2.hqda.pentagon.mil/acsi/mnews/>.

POC is John Scharl, (703) 601-0700, e-mail: [john.scharl@hqda.army.mil](mailto:john.scharl@hqda.army.mil)

John Scharl works on the Facilities Engineering Team, Facilities Policy Division, OACSIM. **PWD**

# Service Analysis Teams help shape the future of garrison services

IMA Strategic Communications Team

Development of the Common Levels of Support (CLS) program continues as the final sessions of Phase I of Service Analysis Teams (SATs) meet the second week in May 2004, at the Hilton Hotel in Alexandria, Virginia. These sessions include Substance Abuse and Military Personnel. Together they comprise the first phase of SAT meetings that began in January 2004.

In total, the SATs covered the following major service areas which reside in the Army Baseline Service Standards: Information Technology, Transportation, Conservation, Compliance, Maintenance, Engineering, Safety, Judge Advocate General, Equal Employment Opportunity, Review & Inspections, Fire & EMS, Recreation, Supply, Command Services, Army Community Services, Food, Laun-

dry, Continuing Education, Public Affairs, Religious Support, Substance Abuse, and Military Personnel. When complete, the Service Analysis Teams will have created the framework for the CLS program, a method for ensuring the delivery of high-quality base operations support services within the funds allocated to the Agency.

Why use CLS? Consistency and predictability. Army Baseline Standards (ABS) are now included in the installation status report (ISR) and the resource requirements for funding these standards. In some cases, ABS/ISR requirements are not always fully funded. Thus, the need arises for ensuring consistency and predictability of programs and services when funding falls short. CLS will eliminate past inconsistencies in service delivery and program availability at Army installations. Soldiers, civilians and



Mr. Steve Keefer, SAT Project Mgr. (left) and Mr. Siddarth Obri, SAT Facilitator (center) discuss Safety issues with Mr. Emanuel Irvin, Chairperson of the Safety SAT and representative from the IMA Southeast Region Office.

family members deserve consistent, high quality programs and services at every installation. CLS will also allow the distribution of resources to provide quality programs in a consistent and equitable



# Technology Standards Group update

by Philip R. Columbus

The Technology Standards Group (TSG), which supports the Installation Design Standards, is refining the processes and procedures it will use to assist installations in integrating new technologies and component systems into our facilities.

## Charter

The TSG submitted its draft charter to the Army Facilities Standardization Subcommittee (AFSSC) on 2 April 2004. The subcommittee members are conducting staff reviews and we anticipate having the final document ready for the next meeting of the AFSSC on 6 July 2004 and the Army Facilities Standardization Committee by 20 July 2004. A key element of the revised charter enables the TSG to recommend more intensive study of technologies and concepts.

Furthermore, the TSG may recommend pilot projects to demonstrate technologies and concepts.

## Applied Technology Research Studies

The TSG will be initiating a program



Philip R. Columbus

to determine the applied technology facilities research priorities for the Army. Our goal is the development of a 1-n list of technology research for Army and outside laboratory research projects. Furthermore, the TSG wants the process to be driven by the needs of our installations. Therefore, the TSG is looking to have extensive IMA participation. The TSG will endeavor to involve installation level personnel in the process.

## Technology Web Pages

The Installation Design Standards web pages are still under development but are functioning. Our current plans call for a rollout of the TSG pages in the fall of the year. The new TSG website will serve as a repository of TSG data available to everyone. The site will contain information on the technology ideas submitted, the status of the ideas and the final outcome of the TSG evaluations. The web site will also serve as the real-time submission point for ideas. On the web site, individuals will be able to enter their ideas and suggestions and monitor their progress. Search and analysis tools will also be available to assist users in finding the latest ideas and recommendations.

The Technology Standards Group encourages everyone to submit ideas and suggestions.

POC is Philip R. Columbus, (703) 604-2470, e-mail: Philip.Columbus@hqda.army.mil.

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

(continued from previous page)

manner, while also enhancing an installation's ability to project power and support families.

CLS works by dividing each ABS into discrete component segments called Service Support Programs (SSPs). When funding is not available at 100% of the baseline service, the highest priority SSPs will be fully funded and provided, while the lowest will not be funded or provided. This ensures that what we do, we will do well!

Of the SAT sessions to date, participants from installations, regions, MACOMs and headquarters have worked successfully to prioritize the SSPs and establish performance metrics and percent of cost each SSP unit derives from the overall ABS. A large part of the success is attributed to the cross-section of experience and high level of participation

from team members. Many of the attendees expressed a greater understanding of the CLS concept, enabling them to return to their respective installations, regions and MACOM offices to share the concept and outcome with others.

"This was a great start for a new way of doing business. I'm walking away with more fidelity on the process itself," commented Emanuel Irvin of the Southeast Region Office and Chairperson of the Safety SAT.

HQ-IMA will begin implementing CLS in fiscal year 2005. We will publish the Army decisions on funded and unfunded SSPs and distribute funds to Army garrisons accordingly. Garrison commanders and region directors will have the opportunity to adjust for local mission, geography and demography.

One of the more recent SAT sessions completed was for Army Community Services and Continuing Education, both

held on April 19-23. Representatives provided the information in the analysis phase of these programs, which contain a wide spectrum of application for our installation communities.

Army Community Services, like many of the preceding base operation support services being evaluated in the SAT process, has a direct impact upon improving Army morale, readiness, recruitment and retention. The same can be said for Education Services. The remaining CLS – SATs (Substance Abuse & Military Personnel) will be completed as the *Digest* goes to print. The final product will be one that contributes significantly toward unit stability and continuity, and provides predictability to Soldiers and their families.

POC is Robert H. Alton, (703) 602-5469 DSN 332, e-mail: robert.alton@hqda.army.mil PWD



# Energy Savings Performance Contracting (ESPC) and legislation

by David Williams

On 30 September 2003, the legislative authority for Energy Savings Performance Contracting (ESPC), 42 U.S.C. 8287, expired. Originally, part of the Energy Bill, ESPC legislation was removed on 12 February 2004. Since that time, there have been great efforts by the Department of Energy (DOE) and energy service companies to get the sunset provision repealed and the ESPC legislation attached to another bill. As of 30 April 2004, DOE has been unsuccessful. However, they continue to work toward getting reauthorization.

There have been many questions about how the Army's ESPC program should proceed in the absence of enabling legisla-

tion. On 15 April 2004, the Army released a policy memorandum, which provides ESPC program guidance. The point of that memorandum is, simply, in the absence of enabling legislation, no new task orders or delivery orders are authorized. The Army cannot accept the risk associated with continuing to do work without appropriate legislation. Furthermore, the Army cannot encourage or direct energy service companies to develop or refine new ESPC project proposals.

The impact of the legislation expiring is significant. ESPCs are key to the Army's efforts to meet energy usage reduction goals set by Executive Order (E.O.) 13123. The Army does not have sufficient appro-

priated funds to invest in energy saving projects to meet its goals. ESPCs allow the Army to partner with the private sector to obtain technical and financial assistance to do a host of energy conservation measures that it otherwise wouldn't be able to do. Over the history of the Federal ESPC Program, energy services companies have invested approximately \$500 million dollars in energy projects.

POC is David Williams, (703) 601-0372, e-mail: david.williams@hqda.army.mil

David Williams is on the Utilities and Privatization Team, Facilities Policy Division, OACSIM. **PWD**

# Request for waiver to the Army Installation Design Standards

by Larry Black

The Army Installation Design Standards (IDS) have both a letter and a spirit, that is to say, an *explicit text* as well as an *implied intent*. It is anticipated, however, that strict application of the text will not always achieve the desired intent. It is for this reason the standards include a procedure whereby a request for waiver may be submitted for due consideration.

A request for waiver may be sent through channels (see diagram) to the Assistant Chief of Staff for Installation Management, ATTN: DAIM-FDF, 600 Army Pentagon, Washington, DC 20310-0600.

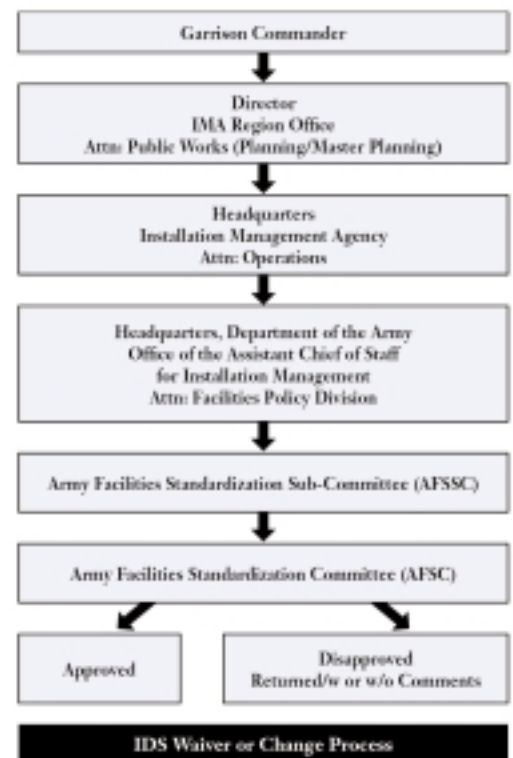
Requests for waiver will be considered at quarterly meetings by the Army Facilities Standardization Committee (AFSC), which consists of the Assistant Chief of Staff for Installation Management, the Director of the Installation Management Agency, and the Director of Military Programs. Based on the findings and recom-

mendations of the Army Facilities Standardization Subcommittee (AFSSC), the AFSC will approve or disapprove the request for waiver with or without comments, conditions, or requirements. A request submittal should provide a clear and concise explanation of the reasons justifying the waiver, including the proposed alternative and the consequences of adherence to the IDS text.

The complete IDS waiver process is described in the IDS, Chapter One, paragraph 1.6 ([http://www.mantech-mec.com/army\\_ids/](http://www.mantech-mec.com/army_ids/)).

POC is Larry Black, (703) 602-4591, e-mail: larry.black@hqda.army.mil

Larry Black is the program manager and leader for the Army Installation Design Standards Team, Facilities Policy Division, OACSIM. **PWD**







# 2004 Kushnick and Macy Awards winners announced

by Dolores Miranda

The work has been done, and the winners have been selected. It was refreshing to receive nominations reflective of the important work being performed by so many individuals dedicated to supporting the progress of the U.S. Army, and our civilians and military service members. We are pleased to announce the winners.

The winner of the 2003 William H. Kushnick Award is Mr. Gregory A. Mr. Wert, a human resources specialist, Training Management Division, Civilian Human Resource Agency, Aberdeen Proving Ground, Maryland. Wert made outstanding contributions to marketing and training on Army-wide automated human resources systems and tools.

Thousands of Defense Civilian Personnel Data System (DCPDS) users throughout DOD have been trained using his innovative training materials, videos and job aids. Mr. Wert's contributions were particularly significant during the deployment of DCPDS as well as during the migration to the Oracle 11i system. His efforts in establishing and leading the DCPDS Charter Team resulted in the standardization of automated processing, development of solutions to DCPDS processing problems and sharing of informa-

tion and ideas for improving personnel action processing throughout the Department of Army. His efforts resulted in increased productivity and efficiency in the processing of personnel actions. Mr. Wert's dedication to duty, unselfish commitment to excellence, and superb achievements are recognized throughout the Army and the Department of Defense.

The winner of the 2003 John W. Macy, Jr. Award is Col. Christopher G. Essig, Garrison Commander, Fort Myer Military Community, Fort Myer, Virginia. Through his leadership, Col. Essig established the National Capital Region Department of Defense Fire and Emergency Services Team comprised of representatives from the Army, Navy, Air Force, and Marines to provide surrounding military installation fire departments with the capability to better support themselves within their military community. Due to his advocacy and mentorship of the National Capital Region Interservice Family Center Committee (NCRI-FCC), the group's plans for the Fort Myer FAC were nominated as a best practice in 2003. He had EEO Policy letters translated into eight different languages to ensure the community's non-appropriated fund

employees, who spoke English as a second language, were made fully aware of their rights as employees. He developed an additional EEO Counselors Training Workshop (24 hours) for all collateral duty EEO Counselors; first of this type conducted in the Army.

Col. Essig also developed the first annual Multi-Cultural Day to provide a better understanding of other cultures within the Fort Myer Military Community. Due to his leadership and guidance, the government workforce of over 1,000 personnel won 2 A-76 competitions while maintaining and improving workforce morale and productivity. His genuine care for Soldiers, civilians, family members, and the local community is evidenced by the many contributions that he has made to improving readiness, quality of life, and community relations.

Congratulations to the winners! These prestigious awards will be presented at the annual Kushnick and Macy Awards Banquet scheduled for 20 May 2004 at the Fort McNair Officer's Club.

POC is Dolores Miranda, (703) 325-6641 DSN 221, e-mail: Dolores.Miranda@us.army.mil **PWD**

# Conserve water by xeriscaping residential lawns

by Paul Loechl

With the onset of warmer weather and landscaping season in full swing, conserving your installation's water becomes ever more challenging as residents begin watering their lawns. One way to reduce water usage is to encourage xeriscaping at family housing. Xeriscapes are low water use landscapes that can be maintained on about half the water needed to keep up traditional landscapes while still providing lush green lawns and color.

The 1992 Energy Policy Act (EPAct) requires that federal agencies implement all energy and water conservation measures with life-cycle cost paybacks of less than 10



In a xeriscape, plants are matched to areas where they will consume the least water.

years. Executive Order 13123 (Greening the Government through Efficient Energy Management) mandated the establishment of water and energy conservation goals for all federal agencies. As a result, the Department of Energy released documents that include guidance for water conservation. The Army (ACSIM) has released a directive for implementing these water efficiency goals. Installations are required to establish best management practices and prepare water management plans.

As part of its plan, Fort Sam Houston, Texas, asked the Construction Engineering Research Laboratory (CERL) to pre- ➤



## New PWTB to ascertain renovation waste

by Stephen Cospers and Angela Dickson

Solid wastes resulting from construction and demolition projects have been the subject of numerous discussions over the years. However, little has been written about such wastes from remodeling or renovation perspectives. A new public works technical bulletin (PWTB) now outlines the types of wastes generated from three different Army renovation projects and describes methods for predicting this information for future projects.

Many Army construction projects involve remodeling or renovation of existing buildings to serve a new function, and the resultant waste can significantly contribute to an installation's total solid waste stream. Such waste is generally less than demolition projects, but exact quantities are not known due to the diverse nature of these projects—from interior cosmetic changes to re-roofing to a complete building overhaul.

The three projects chosen for the study included a large, multi-wing building converted to modern office space and a completely stripped and rebuilt barracks, both at Fort Bragg and a family housing duplex at Fort Campbell, stripped and reconfigured, with minimal structural changes. These projects were chosen because of



*The barracks upgrade project at Fort Bragg involved removing the entire building to the concrete structure and rebuilding to improve living conditions and enhance soldier retention.*

their representation of typical projects across the Army.

The goal of the study was to calculate, in detail, the types of waste materials these projects generate. This information would allow project managers to plan work with a focus on recycling.

The data presented in the report was generated through “quantity take offs” based on construction specifications and

drawings. Materials removed were verified in the field.

Not only will this data be useful to installation solid waste managers for their solid waste planning, but will aid construction contracting personnel due to Assistant Chief for Installation Management policy requiring a waste management plan for all construction projects. The Combined Services Solid Waste & Recycling Work Group is currently revising the solid waste diversion Measure of Merit that will include a separate goal for construction and demolition waste.

POC is Stephen Cospers, (217) 398-5569, [stephen.d.cospers@erdc.usace.army.mil](mailto:stephen.d.cospers@erdc.usace.army.mil)

*Stephen Cospers is an environmental engineer and Angela Dickson is a public affairs specialist at the Engineer Research and Development Center, Construction Engineering Research Laboratory* **PWD**

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pare step-by-step guidance to help its residents practice water conservation through xeriscaping techniques. The result is a comprehensive, easy-to-understand handbook called “Green Living and Water Conservation.” Fort Sam provided copies to residents and to installation grounds staff. They also keep copies in the natural and cultural resources office.

This handbook is being adapted as a

Public Works Technical Bulletin and will be available on the web at <http://www.hnd.usace.army.mil/techinfo> in the near future. Although it was prepared for Fort Sam Houston, the basic concepts for xeriscaping can be applied to any geographic region. The plant list in the original guidebook is specific to Central-southern Texas, although this information can easily be obtained for any region.

*For questions about xeriscaping and other water-conserving measures, please contact Paul Loechl at CERL, (217) 352-6511, ext. 7443, e-mail: [Paul.M.Loechl@erdc.usace.army.mil](mailto:Paul.M.Loechl@erdc.usace.army.mil).*

*Paul Loechl is a project manager in the Land and Heritage Conservation Branch at CERL.* **PWD**



## ARMS™: visualizing the big picture

by Tad Britt and Angela Dickson

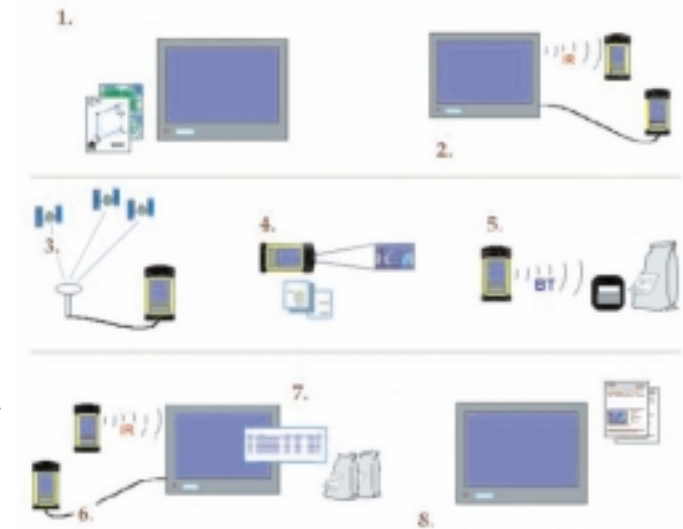
Environmental management and land use practices are often competing for the same resources. Therefore, the need for georeferenced data to reconcile such issues is crucial. While existing commercial off-the-shelf tools are available for natural and cultural resources data collection needs, they are typically stand-alone technologies having limited functionality and integration capabilities, and conventional methods can be costly and inefficient. The answer? ARMS™: a handheld ruggedized computer that integrates a geographic information system data recordation program with high-resolution digital instrumentation.

Significantly improving data collection, reliability and integration, ARMS™ integrates diverse and complex geospatial data in a user-friendly environment. It is an innovative business process designed to study and resolve a wide variety of environmental issues. ARMS™ contains a series of pre-loaded digital forms organized in a logical, progressive manner that can be customized and used for all types of routine and complex environmental baseline surveys. It offers flexibility as the user can select and pre-load software applications

and configure hardware tailored for the specific type and level of investigation.

A key feature of this unit is a single pushbutton that activates a number of automated and time-saving measurements at once—a “snapshot” with a time stamp that is simultaneously applied to the entire data set. The operator aims the unit at the target and presses the record button.

ARMS™ captures a digital image, obtains GPS positioning, elevation, and other metric attributes and then stores the data in a database with a time stamp and unique I.D. attached. Because the data is collected digitally, it allows for immediate verification of the quality and usefulness of the data. Finally, the collected data is downloaded from the field unit to the tablet PC.



Field observations and other data can be manually entered onto project-specific, customized forms, which are pre-loaded on ARMS™ as required.

One application of ARMS™ as an environmental management tool was successfully tested at Fort Irwin in March 2004 to complete an archaeology inventory. The application allowed archeologists to systematically collect field data, verify it while in the field and make rapid assessments for management purposes.

This ability to share accurate, geo-

referenced data across multiple platforms while addressing different environmental and management requirements will significantly improve real-time decision-making capabilities. The cost savings associated with the ARMS™ approach significantly reduces the time and redundancy of preparing reports over conventional hard copy methods.

The ARMS™ technology demonstrates an innovative, programmatic approach to understanding, anticipating and solving environmental management and sustainability issues throughout the life-cycle of the project. Additional uses have been addressed in the areas of environmental baseline surveys, cleanup, site monitoring and site characterization.

POC is Tad Britt, (217) 352-6511 (ext. 7550), e-mail: John.T.Britt@erdc.usace.army.mil.

Tad Britt is a senior researcher/project manager and Angela Dickson is a public affairs specialist with the Engineer Research and Development Center, Construction Engineering Research Laboratory. **PWD**



# Fort Hood utility systems model will predict performance

by Jim McKenzie and Dave Bowersock

At the request of the Fort Hood Directorate of Public Works (DPW), the U.S. Army Corps of Engineers, Fort Worth District (COE), conducted a study of several Fort Hood utility systems. The purpose of the study was to collect sufficient information about the utilities to construct a model of each which would enable DPW and COE engineers and planners to reliably predict utility system performance under a variety of proposed and future conditions. Under optimal conditions, the model user should be able to predict the effect of new construction on the existing system, determine effects of operational changes, and identify potential problems before they become emergencies.

The COE conducted comprehensive analyses on the electrical, water, wastewater and stormwater systems. This article presents information on the water and wastewater systems.

## Water System

The COE's activities for the Fort Hood water system study included:

- Calculating water demands for all facilities.
- Flow testing at selected fire hydrants.
- Evaluating pumping/metering station operations.
- Reviewing existing contracts with inde-

pendent water district.

- Analyzing the hydraulic system network under existing conditions.
- Analyzing the system water quality.
- Analyzing system performance under proposed new construction conditions.

The COE used a calibrated model to conduct static and extended period simulation under a variety of conditions. MIKE NET produces both tabular and graphic data, enabling the user to tailor data output to meet specific requirements. Figure 1 is a typical MIKE NET display.

Here are some of the recommendations made by the COE to the DPW based on the results of its water model studies:

- Inspect the pipe sections connecting South Fort Hood with West Fort Hood - metered head losses were significantly higher than model losses.
- Remove one of the booster pump stations from service - it appears to have little influence on downstream pressures and also creates a water loop in a section of the system which was recently expanded.
- Remove one of the elevated storage tanks from service to improve water quality in the area - although there was water movement through the tank, the model showed that its hydraulic residence time

was lower than for the other system tanks pressure and that fire flow conditions could still be met without it.

- Conduct a review of the piping system at North Fort Hood (NFH), located approximately 20 miles from the main post - many of the lines are old and have been valved off, but the COE could find little documentation to support its model assumptions.
- Replace the older pipes in the NFH system to permit higher system pressure - the model identified inadequate fire protection pressures for some of the facilities.

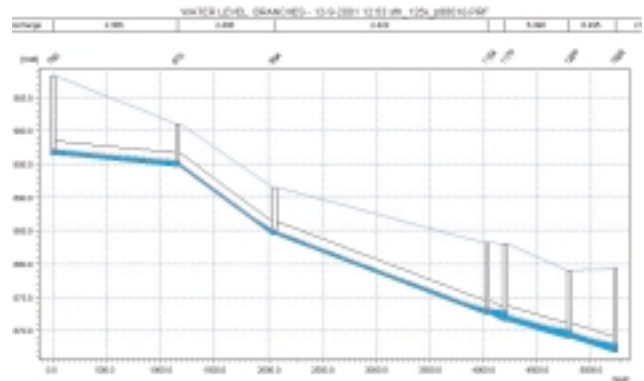
## Wastewater System

While this article addresses only model construction and use, the COE's activities for the wastewater system analysis included calculating flows from all facilities, measuring flow at selected manholes, evaluating lift station capacity, evaluating metering stations, reviewing on-site wastewater disposal systems, reviewing existing contracts with wastewater treatment entity, performing a system analysis, and conducting a limited flow monitoring study to determine wet weather and dry weather flows.

The COE used a calibrated model to evaluate system performance under existing and future conditions when additional construction would contribute to the



MIKE NET.



MOUSE



## DOE releases new version of EnergyPlus

On April 12, 2004, the U.S. Department of Energy released a new major version of the EnergyPlus building energy simulation program. A few of the major new features in this release include:

- Displacement ventilation.
- Bi-directional daylighting for complex fenestration (light shelves, roof monitors), radiosity calculation of interior light interreflection, optically complicated glazings (prismatic or holographic glass), and dynamic shading controls (movable slats, electrochromic glazing-

transmittance).

- Latent capacity degradation on cooling coils.
- Demand-controlled ventilation.
- Building integrated PV and solar thermal systems.
- HVAC system diagramming.
- Environmental impacts (greenhouse and precursor gases, criteria pollutants, water, nuclear waste) from electricity and other fuel use many new custom report options and formats including a standardized building utility performance report with annual and end-use reporting of energy,

water, and on-site generation.

- Significant improvements in speed.

See [www.energyplus.gov/features.html](http://www.energyplus.gov/features.html) for a complete list of new features added in this and previous versions. DOE makes EnergyPlus available at no cost via web download through the EnergyPlus web site ([www.energyplus.gov](http://www.energyplus.gov)). Since EnergyPlus was first released in April 2001, DOE reports that more than 22,000 copies of EnergyPlus have been registered and downloaded. **PWD**

## Searchable NEPA repository now online

*U.S. Army Environmental Center*

Many years' worth of Army experience with the National Environmental Policy Act (NEPA) is now available online.

The Army NEPA Online Repository or "NEPA Online," holds examples of environmental assessments, findings of no significant impacts, environmental impact statements, records of decision and other NEPA documents prepared by the Army since the adoption of section 651 of Title 32 of the Code of

Federal Regulations, "Environmental Effects of Army Actions," in 2002.

The repository exists to provide source and environmental resource information to help Army environmental professionals understand and comply with NEPA and its accompanying regulations. Section 651 requires the U.S. Army Environmental Center to develop and maintain this online NEPA repository.

NEPA Online also contains NEPA-

related documents from other services and agencies, and offers the opportunity for users to add their own documents.

Users can browse the library or search by text, keyword, installation or state.

For more information or to become a user, contact the U.S. Army Environmental Center at 1-800-872-3845.

POC is Neal Snyder, (410) 436-1655, e-mail: [neal.snyder@us.army.mil](mailto:neal.snyder@us.army.mil) **PWD**

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wastewater load. Like MIKE NET, MOUSE produces both tabular and graphic data, enabling the user to tailor data output to meet specific requirements. Figure 2 is a typical MOUSE display.

Recommendations made by the COE to the DPW based on the results of its wastewater model and system studies include:

- Begin a program to document operation of on-site treatment and disposal systems, especially those which has no automatic chlorine control or flow measurement instrumentation.
- Begin an information management sys-

tem to regularly and accurately update the wastewater utility maps.

- Begin a system metering program to measure flows from various areas and to insure system integrity.
- Begin a system maintenance program to identify and repair potential problems before they occur, this could probably be integrated into a Capacity, Management, Operation, and Maintenance (CMOM) program.
- The wastewater system was designed for a larger population, resulting in a system that is oversized. The major trunk lines experience scouring velocities at least once per day; the smaller branches seldom do.

- Although the standard construction procedure is to replace existing deteriorated pipe with new pipe of equal or larger size; review requirements to determine if using smaller pipe will benefit system performance.

POCs are Jim McKenzie, (817) 886-1749 ; and Dave Bowersock,, (817) 886-1881.

Jim McKenzie is a senior engineer, Civil Design Section, Design Branch, E&C Division, Fort Worth District; and Dave Bowersock is a senior engineer, Environmental Design Branch, PER Division, Fort Worth District **PWD**



# New website for Army solid waste and recycling

by Stephen Cospers and Angela Dickson

The importance of sharing information and discussing current issues among peers is essential throughout all disciplines. Taking advantage of “lessons learned,” this exchange affords the opportunity to share experiences and saves time and money in the process.

The new Army Solid Waste and Recycling (ASWR) web site, [www.denix.osd.mil/aswr](http://www.denix.osd.mil/aswr), provides such a forum for solid waste and recycling professionals at all levels of the Army. It was created by the Engineer Research and Development Center’s Construction Engineering Research Laboratory at the initiation of the Assistant Chief of Staff for Installation Management.

The site includes links to technical guidance, documents, meeting minutes,



policy, training, announcements and a calendar. It is hosted by the Defense Environmental Network Information eXchange (DENIX), which serves as the Department of Defense’s central location for the distribution of environmental news, policy, and guidance.

In order to access the site, you must have a DENIX login and password. It is highly recommended that all Army person-

nel in environmental positions obtain a DENIX login and take advantage of this excellent resource. Solid waste and recycling points of contact are strongly encouraged to check the web site often.

A parallel, limited site has been set up for public viewing at [www.denix.osd.mil/aswr-public](http://www.denix.osd.mil/aswr-public), where you can also subscribe to an email list server for discussion of solid waste and recycling topics.

POC is Stephen Cospers, (217) 398-5569, e-mail: [stephen.d.cospers@erdc.usace.army.mil](mailto:stephen.d.cospers@erdc.usace.army.mil)

Stephen Cospers is an environmental engineer and Angela Dickson is a public affairs specialist at the Engineer Research and Development Center, Construction Engineering Research Laboratory. **PWD**

# Army to unveil new reporting portal

U.S. Army Environmental Center

The Army’s environmental reporting system will receive a state-of-the-art web portal this summer with the introduction of Army Environmental Reporting Online (AERO).

AERO will serve as the new gateway to the existing Army Environmental Database (AEDB), the hub for the Army’s environmental data and reports to the Defense Department, Congress and Army headquarters.

Designed for Army environmental professionals at all levels, AERO gives the Army’s environmental reporting tools a brand new, better organized interface to reduce redundancy, improve data quality, provide timely reporting and ensure information sharing across the Army.

Secure, but available from any computer with Web access, AERO is designed to be a tool for all Army environmental professionals.

A new look is the most obvious change. Using recently developed web technology, the home page gives immediate access to the most frequently used areas of AEDB. Tabs and navigation aids give quick access to more in-depth information.

With the new portal comes a pair of new tools: the Environmental Quality Index (EQI) and the Army Environmental Risk Module. Both are components of the Army Strategic Readiness System (SRS) scorecard for the assistant chief of staff for installation management.

EQI draws data from the Environmental Quality Report, Installation Status Report (ISR)-Environment and solid waste annual reporting.

Other tools, including Installation Profile, Program Environmental Reporting Module, Toxic Release Inventory and Installation Status Report are updated and refreshed from earlier portals. These

reports help the user do in-depth analysis of the Army’s environmental data.

The portal’s region-based structure reflects the Army’s current installation management organization.

AERO also features single sign-on. Users can log in once, with a single name and password, to use all of their Army environmental reporting systems.

Information resources within AERO include an electronic library, where users at all levels can upload and share documents related to installation, regional and Army-wide issues and solutions. Users can also find contact information on other AERO users and take advantage of a customizable event calendar.

POC is Neal Snyder, (410) 436-1655, e-mail: [neal.snyder@us.army.mil](mailto:neal.snyder@us.army.mil) **PWD**



## Regional fire service classes held at Fort Pickett

by Sam Nunnally and Gary Watts

Ropes vibrated under tension, flames crackled, smoke rolled and sirens wailed as Fort Pickett became a beehive of Emergency Services activity in a departure from the normal military training. The Virginia Department of Fire Programs sponsored a regional firefighter school for volunteer, career and Department of Defense firefighters.

The National Guard Maneuver Training Center Fire Department, comprised of career and National Guard firefighters, has previously hosted the regional school in what has become an annual event. The departmental assistant chiefs were responsible for arranging the classrooms, audiovisual equipment, training facilities, registration and rooms for the attendees. The department also provided manpower, fire trucks and other equipment for school support. The Town of Blackstone provided personnel and equipment and hosted a dinner for the school attendees.

On the training weekend, the students christened a new tower for vertical and window extractions of victims or fire fighters, ladder bail training or rappelling. The tower is a standard fire service design with some modifications incorporated to meet future training needs. The structure, fabricated by the department employees and the Division of Public Work carpenters, enhances a rich variety of Fort Pickett assets that support fire ground training. A departmental training officer has the option to select from the MOUT site, underground confined space facility, the locally manufactured maze trailers, rock face rescues, rappelling from a number of sites and Blackstone Army Airfield.

Identification markings on the helmets and turnout gear readily identified firefighters from about twenty-five departments in the Commonwealth; however, the award for longest distance traveled went to the firemen from Camp Atterbury, Indiana. Six federalized National Guard firefighters endured a 12-hour drive over winter roads before they had the opportunity to battle fires on the state-owned Aircraft Rescue Fire Fighting (ARFF) trainer.

The Department of Fire Programs



*Female firefighter.*

Regional Manager and lead instructor for the March school, Billy Shelton, calls Fort Pickett "a great place for fire training. The installation has diverse and unique facilities that are easily adapted to the fire service; very few localities have the facilities like the urban village, an airfield and rappel tower. We can present our students with some scenarios they may never have encountered before."

Four classes were offered this year: a) "Mayday" Firefighter Down, b.) ARFF for Structural Firefighters, c.) Rope Rescue and d.) Preparing for Court Room Testimony. Each of the classes was 16 hours with the exception of the Rope Rescue class, which spanned two successive weekends. The majority of the courses consist of classroom instruction and a practicum where students wear their departmental gear, including masks and a self-contained breathing apparatus.

The ARFF for Structural Firefighter program teaches the basics of aircraft firefighting procedures for the department supporting a smaller airport or assisting airport departments through mutual aid agreements. The class revolves around the mobile trainer operated by the Commonwealth's Department of Fire Programs. The state of the art trailer-mounted and computer-operated trainer is capable of a variety of fires in the engines, tires, passen-

ger compartment and ordnance on military aircraft. The most spectacular portion of the trainer is the propane fired blaze pad, which simulates blazing jet fuel.

Added realism in the Structural ARFF class came from the Marine Corps Reserve as HMM-774 fielded a CH-46. Additionally, two units from the Virginia Army National Guard sent aircraft for hands-on familiarization training. The 2d Battalion, 224th Aviation provided a UH-60 Blackhawk and a C-12 demonstration aircraft was provided by Detachment 26, OSACOM. The opportunity to actually see the aircraft first hand proved to be an invaluable asset to the ARFF class attendees.

The "Mayday, Firefighter Down" class convened in the MOUT site. This seventeen building facility, normally used to teach soldiers how to fight and survive in an urban environment, is an ideal complex for fire training. The narrow corridors and pitch-black stairwells, when filled with smoke, are truly daunting especially while trying to locate and rescue a firefighting casualty. Maintaining situational awareness, even with the aid of 50,000 watts lanterns, and ropes connecting the member of rescuing party is difficult and even frightening; claustrophobia has no place in the fire service.

Rescue training was not confined to the "Mayday, Firefighter Down" class. The Advanced Rope class, held in multiple facilities, created a practical application of physics as the students calculated mechanical advantage and developed expedient-lifting systems for above or below grade rescues. The students demonstrated their mastery of the technical aspects of advanced rope or heavy rescue operations in a mock, but realistic rescue scenario.

*POC is Dean Dixon, (256) 235-6173, e-mail: dixonad@anad.army.mil*

*Sam Nunnally is assistant chief of the Army National Guard Maneuver Training Center, Fort Pickett Fire and Rescue Department; and Gary Watts is the plans officer in the Division of Plans, Training and Security at the Army National Guard Maneuver Training Center, Fort Pickett.*

**PWD**



# Successful EMS implementation at DNSC

by Brett Frazier

The Defense National Stockpile Center (DNSC) successfully implemented an Environmental, Safety, and Occupational Health Management System (ESOHMS) via Huntsville Center contract to meet the requirements of EO 13148, "Greening the Government Through Leadership in Environmental Management." Although not required by EO 13148, the ESOHMS also met the certification requirements of the International Organization of Standardization (ISO) 14001 and includes the safety and occupational health requirements of the Occupational Health and Safety Assessment Series (OHSAS) 18001 that are anticipated to be adopted by the ISO committee.

DNSC is an activity-level agency under the Defense Logistics Agency that is responsible for management of the strategic and critical materials. Headquartered at Fort Belvoir, Virginia, DNSC stores 50 commodities at 9 manned depots and 41 unmanned depots. Congress has authorized DNSC to sell commodities that are excess to DoD needs. The sale revenues fund DNSC operations to make it a self-sustaining organization. (Source: <https://www.dnsc.dla.mil/>)

The U.S. Army Engineering and Support Center (CEHNC) developed an SOW based on preliminary input from DNSC. The DNSC chief of Environmental Management set an aggressive six-month schedule for implementation of the ESOHMS program. DNSC maintained coordination between DNSC, CEHNC

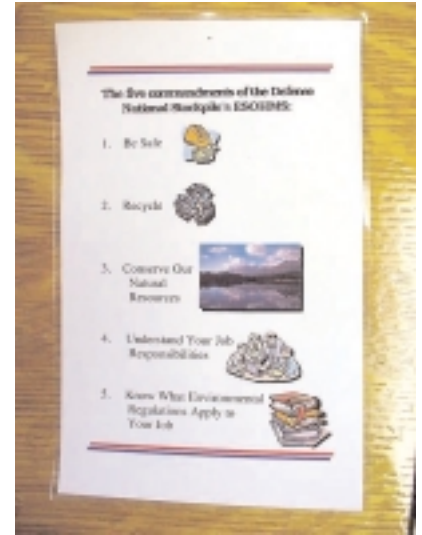
and their contractor, Parsons Engineering. As the ESOHMS implementation progressed, three scope modifications were required to meet additional training and support needs. The final scope included training, coaching sessions, training support materials, website creation and support, ESOHMS manual creation, and database development.

The ESOHMS was developed to reflect DNSC's ESOH Vision and Values Statement. Good coordination between DNSC and CEHNC allowed for quick contract updates and uninterrupted work flow for the contractor.

Parsons and their subcontractor, Paragon Business Solutions, hit the ground running to start the EMS implementation process, which included training of DNSC personnel and development of the ESOHMS training manual, interpretive guidance document (IGD), web site, and an interactive database. Personnel training included the ESOH core team, general employee training at each of the manned depots, on-site "coaching sessions" for internal and external audit preparation, and continuing education and support materials to maintain ESOHMS awareness. Support materials included promotional items, screen saver, and ISO 14000 flags. The ESOHMS manual documented DNSC's environmental policy statement and their guidelines for ESOHMS.

The program was developed from a second-person viewpoint. The informal writing style of the training manuals brought the ESOHMS down to a personal level that emphasized that each individual was the key to a successful ESOHMS. A hard copy of the IGD was provided to all locations but, per the ESOHMS, the most current version of the manual and all non-sensitive support documents were made available on the ESOHMS website, [www.iamthekey.com](http://www.iamthekey.com).

After two months of training, DNSC tasked CEHNC to conduct an internal audit of the ESOHMS. CEHNC provided six ISO 14001-trained internal



The Five Commandments of the ESOHMS

auditors to conduct the audit. CEHNC conducted the internal audit at DNSC HQ and four manned depots over a one-week period. The audit compared the ESOHMS to the guidelines of ISO 14001 and OHSAS 18001. The audit teams reviewed ESOHMS documentation, interviewed DNSC personnel, and evaluated the ESOHMS for intent, implementation, and effectiveness.

The audit noted minor non-conformances/observances in the implementation and effectiveness of the program and one major nonconformance in the effectiveness of the training. Due to the aggressive schedule, the awareness of the ESOHMS by individual personnel had not "sunk in" before the audit. A Gap Analysis at one depot conducted by a Registrar Accreditation Board (RAB)-certified auditor from Paragon found similar nonconformances. DNSC addressed nonconformances by continued training and awareness, the addition of undocumented procedures, and bringing the ESOHMS website online.

DNSC wanted an ESOHMS that could be ISO 14001-certified by an outside RAB-certified auditor, which would provide validity to the program for DNSC personnel and stakeholders. To meet this goal, DNSC tasked two RAB-certified U.S. Army Center for Health Promotion



CHPPM auditor reviewing the ESOHMS web site.





# Southeast Region Office (SERO), IMA holds 4th Annual Energy Managers Forum

by Graham Parker

The 4th Annual SERO/IMA Energy Managers Forum (EMF) was held March 9–12 in Tampa, Florida. The purpose of the EMF is to bring together the energy managers from the Southeast Region installations to: 1) provide an update on DoD, Army, IMA, Region and installation activities focused on meeting the goals of Executive Order 13123; 2) share ideas and approaches for saving energy and money at installations; 3) lay out plans for the coming year to identify energy and water projects, funding opportunities and sources through the development of long-range energy and management plans; and 4) learn about the latest in new and emerging technologies and metering approaches.

In addition to the region energy managers, attending this year's forum were staff from the Southeast Region Office; OAC-



Steve Jackson, Energy Manager Southeast Region, and Osman Khan, REM, Fort Benning, in a lively discussion during a break at the 2004 Energy Managers Forum.

SIM; Huntsville, U.S. Army Corps of Engineers; Department of Energy/Federal Energy Management Program Atlanta Region Office; Army Audit Agency Atlanta Office; Southern Company Energy Solutions; Erica Lane Enterprises; and Pacific Northwest National Laboratory (PNNL), who organized the EMF for the Southeast Region.

Over 20 presentations were given. Those given by the region energy managers included Jesus Gimenez on the Fort Buchanan Water Resource Management Planning; Osman Khan on the Fort Benning Central Plant Decentralization Project; Glenn Stubblefield on the Fort Gordon High Performance Rooftop Air Conditioner Demonstration; and Tony Mora (Fort Rucker) and Gary Meredith (Fort Knox) on Utility Energy Services Contracting projects. Other topics included a Resource Efficiency Manager (REM) roundtable discussion; an update on funding and financing opportunities for installation energy and water projects; and a discussion/status of the Facility Energy Decision System (FEDS) site assessment and long-range energy management planning activities at Southeast Region installations.

As part of the EMF, OACSIM's Jim Paton and Benu Arya provided a one-half day training session to energy managers and reporters on the HQRADDS energy and water reporting system, as well as led a discussion of the planned updates to HQRADDS. At the conclusion of the



Benu Arya, Aspex, Inc., Linda Colquitt, U.S. Army Audit Agency (foreground); (background, L to R) Doug Dixon, PNNL; Glenn Stubblefield, Fort Gordon; Gary Meredith, Fort Knox; and Mark Smith, Redstone Arsenal; listen to a presentation at the 2004 EMF.

EMF, PNNL conducted a "mini-workshop" on operations and maintenance strategies (led by Greg Sullivan, PNNL). This workshop was an abbreviated version of the O&M workshop conducted for the Department of Energy Federal Energy Management Program ([www.pnl.gov/femp/](http://www.pnl.gov/femp/)).

Copies of the agenda and presentations from the SERO/IMA 2004 EMF are available for downloading at [www.pnl.gov/ima-seroenergy/emf/emf.stm](http://www.pnl.gov/ima-seroenergy/emf/emf.stm).

POC is Steve Jackson, Energy Program Manager, Southeast Region Office/IMA, (404) 464-0703, e-mail: [jacksons@forscom.army.mil](mailto:jacksons@forscom.army.mil)

Graham Parker is a program manager, Energy Science & Technology, Pacific Northwest National Laboratory. **PWD**

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and Preventive Medicine (CHPPM) auditors to conduct an external audit at HQ and at three manned depots to determine if the ESOHMS was in conformance with ISO 14001.

The external audit noted some minor nonconformances that are currently being corrected by DNSC. Once the nonconformances are corrected,

CHPPM will declare DNSC's ESOHMS in conformance with the ISO 14001 guidelines.

Lessons learned include:

- Develop a positive EMS team for efficient implementation.
- Keep the program simple and build the EMS around existing effective programs.
- Maintain focus.
- Fast tracking maintains EMS implementation at a higher priority over other pro-

grams.

- Provide sufficient time for personnel to adopt EMS into their work routines.
- Contract should be adaptable to meet unforeseen tasks.

POC is Brett W. Frazier, (256) 895-1874, e-mail: [brett.w.frazier@HND01.usace.army.mil](mailto:brett.w.frazier@HND01.usace.army.mil)

Brett W. Frazier, Huntsville, AL. **PWD**



# Highlights of the 2003 DPW Worldwide Training Workshop

by Dave Purcell

The DPW Worldwide Training Workshop held in Washington, DC, 2-4 December 2003 was an overwhelming success. In attendance were 647 people with 499 participants and 148 exhibitors. An overwhelming majority of these participants, 96%, asked that we keep providing annual DPW workshops.

We achieved our goals, i.e., we updated Army Public Works professionals on Army policies and initiatives; we provided a forum to exchange ideas on facilities management; and we addressed the successes and obstacles that DPWs face in accomplishing the installation support mission.

Critique comments from attendee and vendor were uniformly positive:

- 95% rated the workshop good or excellent.
- 93% rated speakers as good or excellent.
- 13 of the 15 rated breakout sessions were scored as "very good."

Some of the notable strong points included in the comments were:

- High quality general session speakers.

- Large number of senior leaders that were on site throughout the workshop.
- Expanded role and participation of HQ IMA in the program.
- Security at the hotel.
- On-line and on-site registration process.
- Topics in the breakout sessions.

Some areas were marked for future improvement. These included the impact of the supporting hotel (cost, layout, amenities, etc) and noise control during general sessions.

HQ IMA (Installation Management Agency) is the lead agency for the 2004 Worldwide DPW Training Workshop. Tentatively, the workshop is scheduled for 7-9 December 2004 in St. Louis, Missouri. As details are finalized, a formal announcement will be issued. Look for more updates in future issues of the Public Works Digest.

POC is David N. Purcell, (703) 601-0371, e-mail: David.Purcell@hqda.army.mil

Dave Purcell works in the Facilities Policy Division, OACSIM. PWD

# FY05 USACE PROSPECT Training offers new course

During the FY05 USACE PROSPECT Training Survey, the following new course will be offered —#094 "UMCS LonWorks." It is intended for persons responsible for the design, quality verification and operation of Utility Monitoring and Control Systems (UMCS) based on LonWorks technology. This course will provide design, quality verification, and O&M staff with the fundamental knowledge necessary to implement and use LonWorks systems as specified in UFGS-13801 (UMCS) and, to a lesser extent, UFGS-15951 (DDC and other building level control systems).

The website for course #094 information including course description, course dates/locations, and course tuition is <http://pdsc.usace.army.mil>. Employees and supervisors are encouraged to contact their organization's training POC to request spaces in this and any other courses that will meet their technical training needs.

For more information concerning course #094 and the PROSPECT Program, please contact course manager Janine Wright, at (256) 895-7455. PWD

# Register now for the DPW Management Orientation Course

The Installation Support Training Division (ISTD) at Huntsville, Alabama, has vacancies in the following FY04 Course Session:

**CRS # 989, DPW Management Orientation Course (DPWMOC)**

**Location: Alexandria, VA Tuition: \$1,200.00**

**Session 2004-02, Dates: 03-12 Aug 04**

This course provides an orientation for new Directorate of Public Works (DPW) managers and key DPW staff personnel and covers the administration, organization, functions, and management systems of the installation DPW. It includes:

- Resource Management & Budget Process
- BASOPS Service Costing
- DPW Work Management System
- Master Planning
- Housing
- DPW Automation
- Acquisition
- OMA Project Classification
- Environmental Overview
- Plans & Operations
- Installation Status Report Issue & Update
- Engineer & Sustainable Range Management

The classroom instruction consists of lectures/seminars presented by experienced guest speakers from HQ IMA, HQ USACE, OACSIM, DAU, and DPWs with group practical exercises, classroom discussion; individual assignments and an examination.

For more information about attending this course session, please call Sherry Whitaker at (256) 895-7425 in the Registrar Division.

To enroll in this course, FAX a DD 1556 or MIPR to Sherry Whitaker, CEHR-P-RG, FAX: 256-895-7469. Credit Card information is accepted.

For further information on this course session, please call Beverly Carr, course manager, Installation Support Training Division, at (256) 895-7432.

PWD



## Deborah Potter *Environmental Chief, IMA*

Deborah Potter began her career with the Army in 1977 in the field of preventive medicine. She was in one of the first graduating classes offering degrees in environmental health at East Carolina University in North Carolina. A few years later, while visiting OPM with a friend, she noticed an interesting job announcement in the environmental health branch of the Preventive Medicine Activity at Fort Eustis, Virginia. She decided to apply on the spur of the moment, and several months later landed the job.

"In retrospect, I see it was very helpful to have started out in preventive medicine," said Potter. "The MEDDAC was a tenant on the installation, so I experienced being a customer of the DPW before I became a part of the DPW workforce. I also interacted with the DPW staff as part of my job in preventive medicine, so I felt very comfortable making the jump to DPW."

Potter moved over to the Fort Eustis DPW in 1986, starting out as an action officer primarily responsible for water programs. Three years later, she became the environmental chief at Fort Eustis. After another three years, she left Fort Eustis for HQ TRADOC, where she eventually became the environmental chief as well.

Potter says she's glad she worked her way up from action officer at an installation to environmental chief for a MACOM. This prepared her for the position she now holds as environmental chief for IMA. "I really think that installation experience is critical when your job involves making decisions that impact installations."

Potter is delighted that the majority of her staff has also had installation experience. For a short time during IMA's infancy, Potter was dual-hatted as the TRADOC environmental chief and the acting IMA Northeast Region environmental chief. That experience also provided valuable insight.

IMA is responsible for installations all over the world, which in itself is an eye-opening experience for someone who has never worked outside CONUS, Potter



Deborah Potter

said. She feels fortunate that two of her staff members at HQ IMA have overseas experience; the rest are learning about overseas environmental requirements as quickly as possible. One of the things Potter realized after starting her job at IMA was that, quite often, people designing systems or writing policy have very CONUS-centric views. One of her goals is to remind people to consider impacts on overseas installations when new policies and guidelines are developed.

Potter recently passed her one-year anniversary with IMA. Over those 12 months, she noticed several environmental issues that involved the U.S. Army Corps of Engineers (USACE).

"Of course, that wasn't surprising, Potter said, "since at both the installation level and the MACOM, I routinely worked with Corps environmental contacts. At TRADOC, we even had a Corps liaison on site."

At IMA HQ she misses having those contacts. She has met a few times with HQ USACE folks and looks forward to routine dialogue. Potter is currently working with USACE to arrange for a liaison officer to work with her staff one day a week to facilitate communication.

"I think that would be very beneficial to both the IMA and USACE. The person I'm thinking of would bring a wealth of institutional knowledge to IMA, so stay tuned."

According to Potter, a major IMA focus is establishing installation standards that would eliminate the haves and the have-nots. This is critical in the environmental program just like it is in other functional areas. Money is getting tighter and it is important to ensure that all installations get what they need to meet legal requirements and Army leadership objectives.

Potter and her staff are using a two-pronged approach to reach this objective. The first is to critically review environmental requirements. Unlike other programs where requirements are derived from a model, environmental requirements are built from the "bottom up." Each installation identifies what it needs and categorizes requirements according to HQDA policy and guidance.

"In the past," explained Potter, "each MACOM interpreted the policy differently, which resulted in dramatic funding differences across installations. We are now reviewing every project for consistency with Army policy and going back to the Department for interpretation if necessary. This should result in an overall requirements package that is both defensible and accurate."

The second prong involves common levels of support (CLS), IMA's tool for providing installations equitable funding and consistent standards for all services that IMA funds. CLS will ensure that funding is allocated to installations in an equitable fashion.

This is an incredibly challenging time, Potter said. The IMA mission statement has four bullets, one of which is "Preserve Our Environment." The ASA (I&E) will be unveiling the new Army Strategy for the Environment shortly, which will broaden the program's focus.

"And for the first time, we will have one agency, IMA, responsible for implementing the strategy on installations worldwide. We will have the opportunity to make a real difference, on a global scale. That's pretty exciting," Potter concluded. **PWD**



**Installation Management Agency**  
2511 Jefferson Davis Highway  
Arlington, Virginia 22202-3926

**<http://www.ima.army.mil>**

