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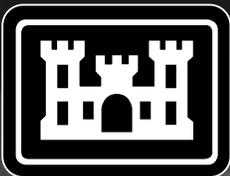
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Digest

In This Issue...

New Technologies



**US Army Corps
of Engineers®**



US Army Corps of Engineers®

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Address mail to:

Department of the Army
US Army Corps of Engineers,
Office of the Deputy Commanding
General for Military Programs,
Installation Support Division
Attn: Editor, *Public Works Digest*,
CEMP-IS
441 G Street, NW
Washington, DC 20314-1000
Telephone: (202) 761-5778 DSN 763
FAX: (202) 761-8895
e-mail: alex.k.stakhiv@usace.army.mil

Kristine L. Allaman, P.E.
Chief—U.S. Army Corps of Engineers,
Installation Support Division,
Office of the Deputy Commanding
General for Military Programs

Alexandra K. Stakhiv
Editor

Design and Layout:
Susan A. Sbugars
RPI Marketing Communications
Baltimore, MD

*On the cover: LTG Robert B. Flowers
takes command of the U.S. Army
Corps of Engineers.
(Photo by F.T. Eyre, HQUSACE)*

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LETTER FROM THE EDITOR



As you faithful *Digest* readers must have noticed by now, the *Digest* is getting bigger and bigger. The last two issues had 44 pages each! It seems I have a backlog of articles that just increases with each new issue. I apologize in advance if any contributors are disappointed in not seeing their articles in the current issue. Trust me, I do not pull articles in vain. This only happens if the consensus is that an article would be better placed in a later issue due to content, theme or length. On occasion, since we must work in multiples of four pages, an article must be pulled because there simply is no more space. Under no circumstances would I pull an article that is time-dated—workshop advertisements, training schedules, calls for articles, etc. First picked for *later* use and most susceptible, of course, are those articles received *after* the deadline, so *please* pay close attention to those calls for articles that I send out.

I would like to thank those of you who took the time to fill out the *Digest Readership Survey*. Once again, all of you seem generally pleased with the topics the *Digest* covers but would still like to see more of whatever field you're in. In other words, engineers want more stories about engineering and computer analysts want more stories on automation, environmentalists want more about the environment and so on. Only you can make that happen by contributing articles not only to the issue that highlights your particular field of interest but to the others as well. You also continue to enjoy reading the hard copy of the *Digest* and would *not* do so off the web willingly. For the first time, I received several responses from contractors who work on our installations and find our magazine helpful in staying current. Something new we have been asked to consider is a section on OCONUS. Again, this can only happen if you readers overseas contribute, so ask your public affairs office if you need assistance. On a final note, quite a few readers asked to see more coverage of professional development. This issue of the *Digest* does that more than amply. I

am also trying to establish a regular column with updates on changes in career programs and to publish more training schedules.

The November/December issue of the *Digest* covers new technologies being used by the Army on its installations. It features a wide range of topics, including use of re-refined motor oil, a system that keeps basements dry, a geoprobe for use in remediation, refurbishing fire trucks, managing energy on the computer, doing service orders by internet, and rating tools for sustainable design to name a few.

On the inside back cover page, you will find biographies of our new Chief of Engineers, LTG Robert B. Flowers, and the new Deputy Commanding General, MG Milton Hunter. LTG Flowers recently issued a special business card, a copy of which also appears on this page, to all USACE soldiers and civilians stating his philosophy on individual responsibilities and granting permission to “Just do it!”

This issue of the *Digest* also highlights the Career Program Managers Workshop held last August in Williamsburg, Virginia, where participants heard about present and future challenges for CP 18 (Engineers and Scientists). The breakout sessions covered leadership ability, qualities, and development within the career tracks of the various programs under the umbrella of “Developing the Capable Workforce.” The luncheon speaker, MG Milt Hunter, shared his views about shaping the 21st Century through professional development of the workforce; and the keynote speaker, Mr. Ray Fatz, Deputy Assistant Secretary of the Army for Environment, Safety and Occupation Health, discussed the environmental track of CP 18. Panel discussions of the three tracks of CP 18 (DPW, Environmental and Generalist) were held concurrently and later summarized and results presented by Ms. Kristine Allaman, Ms. Pat Rivers and Mr. Dwight Beranek during the plenary session.

Until next time...

Alexandra K. Stakhiv

Alexandra K. Stakhiv, Editor, *Public Works Digest*
(202) 761-7558, e-mail: alex.k.stakhiv@hq02.army.mil

PWD



Developing the Capable Workforce

The following eight articles represent highlights from the Career Program 18 Managers Workshop, which was held in Williamsburg, Virginia, 21-24 August 2000. The theme of "Developing the Capable Workforce" was echoed by the two guest speakers, MG Milton Hunter, Deputy Commanding General, USACE, and Mr. Raymond Fatz, Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health as well as by the many presenters and panelists. A sample of the topics covered included a Career Program 18 update, intern and recruitment placement, Competitive Professional Development (CPD), Leadership Development Program (LDP), training mentoring, sustainable development and design, and strategic sourcing. On the last day, participants broke up into groups representing the three tracks of Career Program 18—DPW, Environmental and Generalist—to discuss independently their individual problems and to propose solutions. Summaries of the results were presented in a plenary session at the close of the workshop.

MG Hunter speaks out on career development

by Alexandra K. Stakhiv

"Today, I'd like to talk about the 21st century and career development," began MG Milton Hunter, Deputy Commanding General, USACE. "You are members of the largest career field in America—Career Program 18, which has a total membership more than 15,000 strong. These are exciting times for your career field. You're being involved in more aspects of transformation than you can imagine."

Hunter went on to stress some of the things relating to career development that the military and civilian workforces have in common. "Early in my career," he said, "I got a call asking me to do something for the Army by taking a job counseling junior officers. My response was that I would prefer to go to graduate school just now and was told I could go *after* this assignment. I responded with 'How do you know that?' Well, I took the assignment and learned a lot. I still wasn't excited about the concept of career management, but I went to the job and stayed for 3½ years."

Hunter has never regretted it. What he learned about the Army in terms of its most important resource is that you can talk about teaching skills, but what you're really talking about is being able to shape the early careers of active duty junior officers. Many of the ones he counseled years ago have served and retired or are serving today as colonels, some as general officers.

"They're quick to point out to me that I was their first assignment officer," said Hunter. "And my quick response is 'Well, look at you. It must have been good early advice.'"

In all the years he was on active duty, Hunter never had one of them say that he gave him or her bad advice, although some of them may not have thought it was so good at the time. He said he made sure he wasn't just looking at the short term in their careers but at the long-term as well.

Having been a commander of the Army's tactical units and military civilian teams in the districts and divisions, Hunter also had the opportunity to participate in the career development of some of the workshop participants present as well as some of their colleagues back at the office. Some have even risen to the senior executive level in the Department of Defense, and Hunter said he is very pleased to see that.

"There is, of course, a subtle contrast of career management, depending on whether you are a civilian or military member of the Army," he added.

"So let me talk about some examples of different career paths. First, you have to realize that you set the example as CP 18 career managers, regardless of your career path. In many cases, you're already perceived as leaders in your organizations. You need to realize that and accept the fact that you may have an opportunity to shape the careers of many of your civilian fellow workers and look at them years later and say I had a hand in that. The difference is that that person will tell you had that *hand*."

As MG Hunter got into the personnel business, one of the things he found useful is playing charettes to show a *day-in-the-life of a personnel manager*. He particularly remembers one that shows an action officer busy working on something when the phone rings. The message being transmitted was that you should never be too busy to respond to an individual's request. What you say at a particular time may make the difference in whether that person stays or leaves. You have to reverse that role and think how you would react if you had the impression that this person didn't have time for you or didn't want to go that extra mile to get some information that could help you make a timely decision. Hunter said that this scenario is the main philosophy behind career management.

"I took the time, no matter what," continued Hunter. "I was at the Engi-





neer School in those days. Somehow the message got out to go see CPT Hunter on Friday afternoon. So virtually every Friday afternoon, I would have a line of young lieutenants waiting to talk to me. This became the norm. They would come and tell me about a situation with the family, and it was gratifying to be able to give them advice as a part of their career management. I don't think either of us appreciated at the time how important that advice would be to their careers."

The Army has institutionalized career management programs on the military side through training, education, assignments and professional development. Depending on the career field, DA PAM 600-3 presents the path to the top. Each path is clearly described in terms of things that need to be done to get there.

"I've been around for so long," reminisced Hunter, "that I can remember when one of our Assistant Secretaries of the Army for Manpower said, 'You know we need to train the civilian workforce the same way we train our military, because both of them are senior leaders of the Army.' That was more than a decade ago, and that's pretty much the path that we're planning

for our civilian workforce today."

Hunter strongly urged the audience of career program managers to apply some of the attributes to themselves. He asked them to think about how a person can become successful. There will always be some people who are very comfortable with the job they have, he said. If that's the case, then that person needs to come to grips with that and not expect anything more. Some of the attributes of a successful career progression come along the same lines.

"For instance," explained Hunter, "we tell our junior officers to do a great job at every assignment. Don't think that just because you did well in this one that you can do poorly in the next. It doesn't work that way. You have to tell your people the same thing. We tell our soldiers to take charge of their own careers. You as civilians have to do that too. You have to remember that you're the advisors, and as such, you can't take charge of someone else's career. You have to look at it from the perspective that your job is to help that person see beyond those personal things and make some tough career decisions. We also tell our soldiers to seek the top challenging assignments such as commands to develop leadership skills. We tell

them to be flexible in everything. You must do the same thing. Your advice must parallel the military's."

Hunter sees parallels in experience as well. Having been on senior executive selection panels several times, he could see that all the senior executives selected had *mobility* within their careers.

"They've done a variety of jobs in a variety of places and gained a variety of experience," said Hunter. On the military side, we also go to a lot of different places and encounter similar situations.

"We have a knowledge base to call upon to solve problems in different areas," explained Hunter further. "Many are the same, just with a different application. General Shinseki has referred to the Army as *the world's largest leadership laboratory*. He says that doctrinally we describe the necessary leadership skills for success. We categorize those skills necessary as technical, conceptual, and interpersonal, but they really feed off of one another."

Hunter used a direct quotation from George Marshall, an Army general who went on to become the Secretary of State and an elder statesman of our country. "It became clear to me that at the age of 58 I would have to learn new tricks that were not taught in the military manuals or on the battlefield," said Marshall. "In this position, I'm a political soldier and will have to put my training, rapping out orders and making snap decisions on the back burner and have to learn the arts of persuasion and guile. I must become an expert on a whole new set of skills."

"I don't think too many of us will become the Chief of Staff of the Army during a world war," continued Hunter, "but, as civilian leaders, the message is that you must also adapt as you develop your careers. Marshall saw it at the age of 58; I hope that we see it a lot sooner. Marshall realized that the skill sets that he used early on in his career were very effective up to a point. As he went into a new arena, he accepted that the skill sets necessary to accomplish the new mission were a lot different.

"The same thing is true when we talk about career progression. As you become more senior, you'll find that you require other skill sets. As engineers and scientists, you must have strong technical skills. That's a given in this career



MG Milt Hunter greets Steve Mason of TRADOC before addressing CP 18 managers on the ins and outs of career programs.



field. Why? Because to stay current in your technical field, you've got to strive to be on the cutting edge of new technology and procedures. If you're not relevant, you're not necessary."

Hunter gave the audience credit for striving for a broader base and better technical skills by cross training. He advised individuals in technical positions to aim for leadership and management positions, such as program and division chiefs. "Not every move will be a promotion," he warned. "It may be just an opportunity, but sometimes, those opportunities present themselves in very innocuous ways and lead to other things."

For example, you may have started out in one direction and found out that you were learning something else. Hunter was in a technical unit some years ago, when he got a call saying, "COL Hunter, you're going to be a DEH." He replied, "That's great, but what does it mean?" After they explained the concept, he said it still didn't register. "I should have known better, but I didn't. It wasn't until I was on the job that I appreciated the new things I was learning and the invaluable experience I was gaining, not to mention the springboard it was to become for my career."

Mentorship and networking are also great tools, continued Hunter. "You need to talk to the folks out there. If you're going to get varied experience with Mentorship, you need to put it in perspective with how it applies to what you're trying to do."

Hunter also explained what the senior Army leadership describes as the essence of success in the field. They refer to them as the personal qualities and attributes of success. They are not unique to those in uniform; we all share them.

Character, said Hunter, is an important part of every leader and Corps employee in DoD, and it's important no matter where you work. It refers to the qualities the senior leaders look for in evaluating the workforce. Character means believing in and acting on the Army values of duty, respect, selfless service, honor, integrity and personal courage. These spell out leadership.

Each of us has a responsibility to make decisions that support and strengthen our organizations. To do that, we support our electorate, our fel-

low workers. Our **duty** is to serve our nation. That should be our motivation—to strive to make a difference.

We need to **respect** all of our fellow human beings, customers, and competitors. Diversity in background, culture, religion, education, race and gender is really the strength of our organization and profession. Respecting and accepting those who are different from us is a real test of character and wisdom said Hunter. "When I talk about being different from us, I mean some of you are engineers, some economists, some human resources persons, and some contractor people, etc. Yet each one of us adds value by bringing a different view to solving the problem.

Selfless service. As public servants, Hunter reminded us that we might be called upon to serve in places that at the time we would prefer not to go. Today civilians often perform the same service to the Nation as their uniformed counterparts. They are often deployed first in response to national disasters.

The **honor** code means living up to all the Army values.

Integrity is simply doing what's right, morally and legally, even when there's no one there to see you do it.

Personal courage is the determination to do what must be done. It is the personal dedication to carry out the objectives no matter what the obstacles are. There is courage in battle, courage to face hardship and adversity, and moral courage to do what is right. The challenge to leaders is to have the courage to make tough decisions that will sometimes make the difference in the lives of others as well as in the lives of those around them, stressed Hunter.

"The bottom line is if you treat people with caring and respect, they will never fail you," concluded Hunter. "So I urge you to take charge of your careers and put in perspective the people you are advising. That perspective is that one day you'll sit in the same position. So set aside the time to focus on helping that person to make some tough decisions. Continue to promote networking and mentoring, not only here but also with the other scientists in your organizations. Finally, seek personal growth by taking advantage of other opportunities. Remember that you **all** have a special role in shaping the 21st Century." **PWD**

Meeting the Army's changing needs

by Alexandra K. Stakhiv

Calling career programs vital to the Army, Mr. Raymond Fatz, Deputy Assistant Secretary of the Army for Environment, Safety and Occupational Health, and keynote speaker at the Career Program 18 Managers Workshop, said he's always been a firm believer and strong supporter of them. In fact, Fatz informed the audience, "I am the product of an Army career program having entered the Army civilian workforce at the entry level in an intern program."

Talking to a cross section of CP 18 career program managers, Fatz took the opportunity to highlight a number of important issues, such as the Army transformation, civilian workforce demographics and other key personnel concerns, that should be considered by career program managers from a total Army perspective.

Fatz also specifically talked about the need to develop a career track that responds to Army environmental professionals and the Army environmental mission—a key area of interest and responsibility for the Deputy Assistant Secretary. Fatz said the Army has a lot of great jobs, and he thinks *his* is one of the best. He is functionally responsible and held accountable to the Secretary of the Army, OSD, Congress, and the public for the Army's environmental performance. With that responsibility, he must rely on the rest of the Army to manage and actually do the work. All the managers in CP 18, not just those in the environmental business, help him to do that job.

Fatz stressed the need for career programs to change with a changing Army. "In looking at making changes to your career program at this workshop, it is important that you keep up with the





changing Army. Your career programs must keep pace with the Army.”

The Army is about to embark on a major transformation, Fatz explained. The Army’s mission is changing and the Chief of Staff of the Army has a vision and a transformation campaign to keep up with those changes. That will bring a lot of challenges to everyone in the Army, both military and civilian.

Today, the Army is deployed to more locations than it ever was in its history. This creates a heavy demand and high stress on our soldiers. Our Army must be prepared for a whole spectrum of military operations in peace and in war. At any given time, our soldiers must be ready and trained to fight a conventional war, a global war, a nuclear war, or a chemical war in another country and still be prepared for the possibility of terrorists in this country too.

“Although our Army is stretched thin, it’s the best Army in the world,” said Fatz. “Our civilians, whether they’re working on equipment, training or maintenance, have much to do with sustaining the force and keeping our Army trained and ready.”

Fatz talked about the importance of the Army civilian workforce by describing the role Army civilians play in sustaining the base back home. In addition, Army civilians provide direct support on our deployments. He said that though “most of our civilians are back in the U.S. taking care of their business, Army civilians are also getting deployed. Desert Storm, Haiti, Bosnia, Kosovo—all the major deployments of the last 10 years or so, civilians have been on the ground. They take many *specialties* with them and many of these come out of CP 18.” Fatz went on to stress that “Civilians are an integral part of the Army team. They’re essential to completing its missions—they provide the continuity, the expertise and the commitment.”

Fatz also spoke of the demographic concerns facing the Army civilian workforce. “When you’re developing your career program requirements and changes, you have to know what the Army looks like. The average civilian worker is 46.6 years old and has 17.2 years of service. Is that good or bad? It simply means we’ve got an experienced

workforce out there. You should be considering that when you do your forecasting.”

Another interesting statistic that Fatz talked about was retirement eligibility. Between 1998 to 2010, there will be a huge number of people ready for retirement. Thirty-five percent of the Army workforce is 51 years old. He urged career program managers to take that into consideration when working on intake requirements, career development and referral systems.

That exodus is going to have a *major* impact on the Army, he said. There will be a lot of experience and expertise going out the door. The drawback is that since 1989, civilian endstrength has already taken a 44 percent (soon to be increased to 48 percent) reduction. Somehow, the Army is still getting its work done. Fatz thinks those reductions teach the meaning of *selfless service*. “I don’t know anybody who works for the government, the Army, who is working fewer hours and has an easier job than he did a few years ago,” he said.

Fatz also lamented the 59 percent reduction scheduled in the personnel arena. “I have relied on personnel professionals throughout my career as a manager and supervisor and career program functional chief. These reductions don’t allow us to go to the personnel folks as often as we used to because there just aren’t as many of them around. As a manager, you have to start developing your career program tracks with that in mind. In the old days, I had a huge team of professional civilian personnel officers to help guide me through the process. Not anymore.”

Some key questions Fatz asked the career program managers to look at when developing their career tracks during the workshop were: What missions will civilians perform? What are the critical occupations? What are the strength targets? What is the impact of changing mission? He said the answers all lead to the functional decisions.

The functional decisions made in the environmental program, for example, have resulted in a much larger workload on the installations. We have an excellent environmental workforce, both military and civilian, but they are relying more and more on



Ray Fatz (left) discusses CP 18 support of the Army’s Environmental Program with Mohan Singh of NAD.



contracting to provide the necessary support to help installations. There may soon be more of that. "This leads to an effective personnel strategy, because if you don't have the right kind of expertise, you may need to create some new job series," said Fatz. "There may be a need for multi-functional job series to meet the Army's changing mission."

According to Fatz, future workforce challenges include forecasting, hiring, and competitive salaries. "Are the Army's salaries competitive at the entry level with industry? Most engineers and scientists will say no. Young people getting out of college today can often start out with very high salaries with the dot.com companies, and the Army is not competitive with them. What kind of image are we projecting for them and others?" asked Fatz. "We need to bring in more young people now, so they can learn from the experienced workforce who are nearing retirement. Right now, the under 30 group constitutes the smallest number of the Army's workforce than ever before."

Other challenges Fatz mentioned include building and managing diversity, downsizing and retention. "How can we reduce uncertainty, reestablish stability, and increase workforce confidence? We have a lot of experience going out soon. Do we have the people coming behind them in the right numbers with the right training and skills to take their place? That's the challenge career program managers must face in developing their career tracks" he said.

Fatz also took time to talk about the Army's environmental program and how CP 18 supports this mission. Environmental issues continue to grow on the global, national, regional and local levels. These developing environmental issues are impacting on all Army operations, including acquisition, training and installation operations. And the cost is growing too. Today's Army is trying very hard to integrate the environmental business into everything it does, and it's trying to do it as early as possible in the process and not wait until the end.

"The Army environmental mission statement is very clear, very direct and to the point," said Fatz. *The Army will develop and implement cost-effective measures to protect and sustain the environment in support of military operations, installation management, and materiel development.*

Statistics show that the Army has more land than all the other services put together. The Army has 4,162 installations scattered throughout the world, which is six times as many as the Navy, Air Force and the Marines combined. There are more than 9,000 Formerly Used Defense Sites (FUDS) that at one time were occupied by the military and contain some type of contamination and need to be inventoried. The Army is the DOD Executive Agent for these FUDS sites.

Since the early 1970s, there have been many environmental laws passed, too numerous to detail. These laws have been important for this country and made it a world leader in the protection of the environment and human health. The Army is committed to following these laws and even going beyond compliance. We must be aware that this list of laws will continue to grow as time goes on. What makes it even harder is that these environmental laws keep changing. "We're now applying laws to things that we never applied them to before," continued Fatz. "If we were in compliance on something five years ago, we're out of compliance today. This is a tremendous challenge for environmental professionals and a real challenge for the installation managers."

"Environmental considerations need to be integrated with *everything* the Army does," said Fatz. "Protecting the environment doesn't only belong to the environmental specialists. All stakeholders need to be involved — on and off the installation — soldiers, family members, civilian employees, contractors, unions, concerned citizens, the press, environmental regulators."

According to Fatz, another concern is that the Army has *not* done a good job of telling its story in this area. "The

Army has an excellent story to tell and we are a true protector of the environment," he said.

Although there are more than 4,500 environmental professionals employed by the Army, there is no specific training program for environmental professionals and no specific career ladder for environmental professionals. Most environmental professionals are in Career Program (CP) 16, Engineers and Scientists (Non-Construction), or CP 18, Engineers and Scientists (Resources and Construction).

"Career program managers have not publicized their environmental career opportunities and thus environmental professionals feel they have a lack of visibility and want a separate career program," said Fatz. "Nevertheless, CP 16 and CP 18 managers believe that creating a separate career program for environmental professionals would actually be counterproductive, because it would limit the opportunities for environmental professionals to expand into other career programs offered under CP 16 or CP 18.

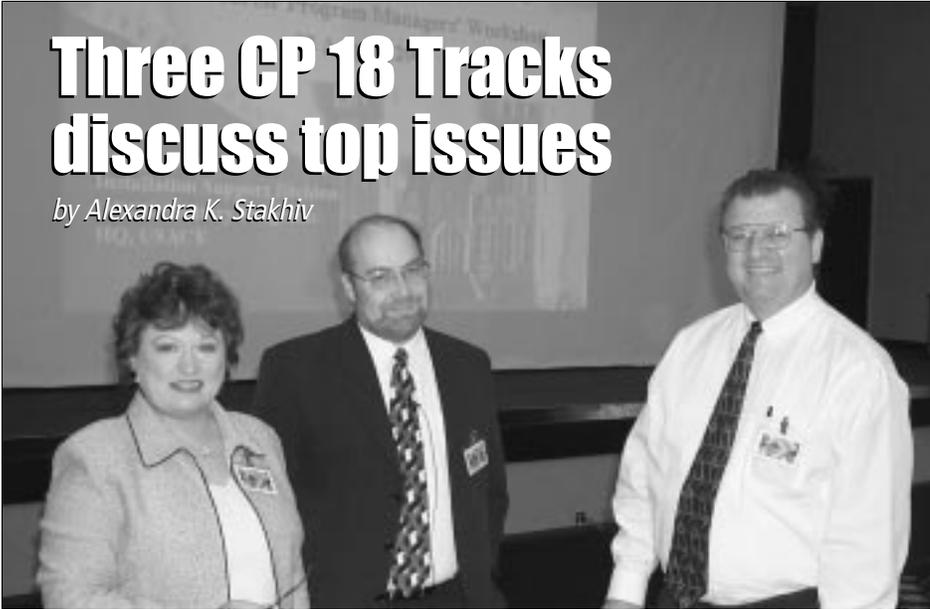
As recommended at the March 2000 Senior Environmental Leadership Conference, another solution is to develop a technical track and its associated training needs common to CP 16 and CP 18, for progression within both career programs. Fatz praised Bill Brown, Functional Chief Representative for CP 18, for moving out on this recommendation.

In conclusion, Fatz told the CP 18 career program managers to explore how other Army career programs are getting the job done. "Don't be afraid to go out and *steal* some of the good ideas other career programs are doing successfully, to include offering different developmental opportunities, developing a mentor program, using incentives for retention, and offering educational opportunities that lead to degrees, even advanced degrees. Most important, keep your eye on where the Army is going. That way, I'm sure you'll come up with a great environmental track that will meet the Army's changing needs." **PWD**



Three CP 18 Tracks discuss top issues

by Alexandra K. Stakhiv



Kristine Allaman, George Braun and Mirko Rakigijja discuss the DPW track during a break at the CP 18 Managers Workshop.

On the final day of the Career Program Managers Workshop, participants broke into three groups based on career tracks: DPW, Environmental and Generalist. Their goals included making a list of issues, prioritizing them, proposing fixes and drafting an action plan for the high priorities. Each tried to follow the same pattern in discussing the issues and proposing solutions. While some of the issues may not have been directly applicable to the ACTEDS program, it was hoped that they would at least stimulate thinking about the kinds of changes needed in the ACTEDS process.

DPW/Installation Support Track

Ms. Kristine Allaman, Chief of the Installation Support Division, HQUSACE, presented the outcome of the DPW/Installation Support Track. Her first general topic was privatization and partnerships. "I think you're all aware that these are very commercial activities," said Allaman. "All sorts of new and innovative things are happening out there. As we move into this type of environment, we need more and more highly-refined skills which include the fields of business, real estate, contracting, legal and community and master planning. It is important to keep pace with private sector practices and to understand and interact with the outside community/industry."

The proposed group changes to this issue were to train interns, cross-train current people with some of the long-term contractors, or to hire new people who already have the necessary new skills.

Another area the DPW track group looked at intensely was the ACTEDS Program. They found it to be outdated, difficult to use and somewhat of a stovepipe. Further, they felt that it does not address key issues such as how it would relate to the proposed Career Field 29 (Installation Management) or the planned civilianizing of DPW slots that are currently filled by the military.

Proposals included drafting a new ACTEDS Program, possibly through the use of the Huntsville Installation Support Center of Expertise and the Training Center as well as various field offices, where there is a wealth of experience and expertise.

Here Allaman asked Dave Palmer, Chief of the Installation Support Training Division, to explain the Huntsville Professional Development Support Center's (PDSC)

proposed Revision Management Plan for CP 18 ACTEDS.

"In looking at a proposal to revise the ACTEDS, we found four vectors that needed to be analyzed," Palmer explained.

1. Technical/ Professional Integration and Coordination — keeping everyone informed about what PDSC is doing.

2. Human Resources Integration — integrating career paths of environmentalists, installation program managers and other programs into the plan and dealing with recruiting problems and all the other issues that the ACTEDS imply.

3. Training Management Integration — analyzing and revisiting the skills, knowledges, and abilities within the program and integrating them into the career level. "We also wanted to make sure the courses being offered and the training management required to provide the courses are at the right level," said Palmer.

4. Presentation Platform Design — creating the interactive web pages and their links and making the ACTEDS easier to use as well as more accessible to everyone.

Another issue that came up was the current training being offered by Huntsville. "Just as we discussed how the current DPW business seems to be changing very rapidly," said Palmer, "we looked at the traditional kinds of training that we typically offer, and in some cases, it just doesn't fit both the situation today and in the future."

The proposed change to this problem was to create a Training Review Education Board with functional representatives from DPWs, MACOMs, DA, etc., and include the current DPW operation, future DPWs and emphasize Acquisition Corps training. This would require

input from the various installation models. Since there is no single standard installation, Palmer said we need to consider the whole gamut of



Kristine Allaman



installations types and different missions, to include forward deployed sites, installations with privatized utilities, and installations doing things in-house.

The third issue presented by Allaman was the partnership between the DPW and the Corps. "Together, DPWs and USACE districts have made good progress in working together as a team to support the Army. Unfortunately, in a few places, there are still vestiges of a *we* and *they* attitude," she said. There are very few opportunities for an exchange of ideas between the two groups. There are also cultural differences in how each perceives the world.

Allaman suggested ways to understand one another better that included:

- Collocation of Area offices and DPWs (e.g., Fort Lewis and Seattle District partnership).
- Mandatory DPW and USACE rotational assignments for interns.
- Encouraging more DPW participation in the Leadership Development Program.
- Using PM Forwards.

The DPW/Installation Support group also held a panel discussion on *sustainable design* to look at the more technical aspects. "Modern engineering processes," said Allaman, "include integrated planning and design, life-cycle productivity that require more generalists and fewer technicians. So what do we need to do? We need to change our cultural thinking and learn everything we can about sustainable design. We should also rethink the life-cycle impacts and create a Sustainable Project Scoring System," she concluded.

Environmental Track

Ms. Pat Rivers, Chief, Environmental Division, HQUSACE, summarized the results of the Environmental Track. "We tried to create a virtual scheme that will help us to make progress on the environmental track," she said. "We enlisted help from all the different parts



Dave Palmer

of the Army chain of command and we opened it up to others in order to get a very diverse participation. Here's the list we came up with initially."

- **Define environmental professionals.** "First, said Rivers, "we need to define what an environmental professional is. How do we count them? Do we include the Civil Works and Military Programs people?"

- **Identify training and developmental requirements.** "We have required regulatory, technical and other functional training, but there are lots of other capabilities that an environmental professional has to have," noted Rivers.

- **Draft a vision or mission statement.**

- **Benchmark the environmental track.** "The Environmental Track needs to include things like professional military education," said Rivers.

- **Look at becoming subject matter experts**—purely technical experts at higher graded levels. How can we identify what the Army might need? asked Rivers.

- **Create institutional incentives.**

- **Find people with mentoring/coaching/advisory skills.**

- **Add 5-6 subtracks to the Environmental Track** to include people working in the installation management arena but covering environmental issues.

- **Clarify career advancement potential** for people who want to stay environmental technical professionals and benefit from the

skills they're learned in the Army.

- **Identify certification and registration requirement opportunities.**
- **Look at how we recruit entry-level and mid to senior level people.**

"Different levels require different outreach efforts," said Rivers. "How do we make this track affordable and implementable? We can't spend the entire budget on the Environmental Track."

Rivers also brought up some other Army issues such as the need to stay connected to changes going on throughout the Army. As we change the role we play and how we execute our mission, we need to update and integrate with others, she said.

We also need to look at retention issues and help people to see that they're employable even though we can't guarantee them a job for life, Rivers continued. "They need to see that their skills are transferable."

From the careerist side, she said there is a lack of understanding of what CP 18 is all about in terms of environmental professionals. "We hire people because of their technical skills and make them work the environmental issues within their organizations, but they don't understand the Army mission," she said.

There is also a perceived lack of meaningful reward for excellent work and a feeling of being a stepchild. Many careerists still think training for supervisory/managerial positions is offered too late in their careers, and that all

available money is spent on required training. They want to be able to cross disciplines and get information about job opportunities in a timely fashion.

Summarizing the top three issues, Rivers said, "First, we need a vision mission for the CP 18 Environmental Track and a definition of what an environmental professional in the Army really is. Second, we need to identify training requirements, certification, registra-



Pat Rivers





tion and career enhancement opportunities. And *third*, we need to look at what funding/resources are really necessary to make sure environmental professionals have the opportunity to partake of training and development opportunities.

Generalist Track

"The Generalist Track group discussed the Corps competencies as related to our track in CP 18," began Mr. Dwight Beranek, Chief of the Engineering and Construction Division, HQUSACE. "We asked four young careerists to present their views on working in the U.S. Army Corps of Engineers and to put it all in terms of where the Corps is heading." (see p.10 for a sample)

"We also discussed the top issues facing us within the Generalist Track area," continued Beranek. Coming up with 21 issues, the group categorized them and then voted the following as the top five.

1. Simplify the hiring process.

"We need to be able to get people into the Corps faster," said Beranek. There were some questions on centralized intern selection and recruitment placement in the CPOCs. Complaints voiced were that "the process takes too long" and "we're not effective in getting new people into the Corps."

One recommendation was to organize a system to facilitate hiring new recruits at job fairs. "The idea was that the North Central CPOC would still be involved in the process, but that we would delegate 80 percent of the positions to be filled to the region," said Beranek. "This wouldn't just be for interns but other hires as well. You would have open continuous announcements from the CPOC at all the job fairs, but for some positions within your region, you would be able to interview on-the-spot. Then there would have to be a process by which you get those applicants and interviews off to the CPOC so replacements can be made more timely than they are now."

Another recommendation was to provide options to the centralized system. In some areas, there is a need to be able to fill positions without going to the centralized system.

"Both the young careerists and the senior-level folks agreed that when applicants to the Corps are talking to you at the job fairs and they hear about all the steps they have to take, they get turned off," continued Beranek. "Remember that they're being recruited by six or seven private companies for vacancies that can be filled on-the-spot. How can we compete? Our process takes 2-4 months. We need to ensure that an applicant knows exactly how to get into the system and get back to him with the results as quickly as possible."

2. Leadership Development Program (LDP).

The Chief of Engineers made the decision to open the LDP to everyone. (see p.11) In other words, all who applied got accepted. The problem, said Beranek, is that commanders feel they should be able to select who they want to attend this training. They want to make sure that they're sending the right people with their limited pool of money.

"Some of the six-month assignments need to be more flexible in regard to when individuals take these long-term assignments and how they're distributed within the districts so that one district doesn't have six or seven employees out at the same time," he said. With this added flexibility, fewer people would drop out of the program when it came time to take the developmental assignment.

3. Provide a technical track.

There is a "brain drain" in the technical arena and a technical track backup is necessary. "Once the GS 11-12 plateau is reached," explained Beranek, "there are few opportunities for advancement to a higher grade level. The solution is to stress technical competencies more within the GS 13 section chiefs area. There is also too much emphasis placed on the supervisory nature of those jobs and not enough on

the technical and professional aspects. We need to look at both to get the right people."

Some divisions are experimenting with or institutionalizing regional positions for technical experts at the GS 13 or 14 level. The recommendation was that the Corps adopt a Corps-wide plan to get these regional positions established. One way to do that is to come up with model position descriptions that are centrally classified, and make sure that proper procedures are followed in everything else.

4. Clarify technical mission of the Corps.

What should we be placing our Corps competencies against? The senior leaders of the Corps have been working on the answer to this question for the past six months. It's a big issue with the people in the field. "We have a strong team at headquarters

developing a *White Paper* to identify the principles we want to apply to maintain the technical competencies of the Corps," continued Beranek. "We are trying to identify the technical mission of the Corps and we want to make sure that the need to be technically competent in whatever we do is understood by all."

5. Get top command levels to place more emphasis on the importance of technical abilities in the Corps.

The consensus was that mixed messages have gone out about the Corps' identity. "Sometimes we're a contracting agency," said Beranek, "at other times, a management agency, and people get confused with regard to just who we are. The technical competency of the Corps too often seems to take second place. Commanders should understand and voice the importance of the technical aspects of the Corps. As we start cutting back on administrative people, their tasks are being reassigned to the technical staff more and more and we need to stop doing that. **PWD**



Dwight Beranek



Cindy Moses

Attracting and retaining the best and brightest entry-level personnel

by Cindy Moses

vate organizations. The current tedious process of recruiting and hiring leaves the door wide open for other organizations to hire good graduates while the Corps is still processing paperwork.

Fourth, the Corps must *provide challenging work* that will give meaning and purpose to an employee's life. The best and brightest employees thrive on new challenges and responsibility. In today's market, where there is a high demand for technical skills, the Corps will not retain those who feel that their efforts are increasingly spent on quality assurance reviews and administrative duties.

And lastly, the Corps must *appropriately recognize and reward their employees*. Proper recognition for a job well done is a key factor in job satisfaction. For recognition to be effective, it must be timely, be linked to the appropriate behavior or achievement, and it must match the person. According to the

May issue of the Federal Report, OPM states that the current performance award system, which is typically tied to an employee's TAPES, does little to motivate employees to do quality work. Each Corps District and Division must establish innovative ways to effectively recognize and reward individuals and teams for incorporating the Corps' mission and the project management business process into their daily work.

The United States Army Corps of Engineers is "The Premiere Engineering Organization in the World," and I believe that if it focuses its efforts on these five areas, the Corps will continue to set the standard for engineering excellence. **PWD**

Cindy Moses is a civil engineer in the Geotechnical Branch, Engineering and Construction Division, Kansas City District.

In my opinion, the five main aspects the Corps must consider to attract and retain the best and brightest employees are:

- Advertise the mission.
- Consider the whole person.
- Simplify the hiring process.
- Provide challenging work.
- Appropriately recognize and reward employees.

First, the Corps must *advertise the mission* to educate potential employees on the variety and magnitude of projects the Corps is involved with, along with the many personal growth opportunities the Corps experience can provide. Graduates will seek employment at an organization where they can add value. They will stay at an organization that provides continued learning and growth opportunities such as training and developmental assignments.

Second, the Corps must *consider the whole person* in the selection process. This means looking at their soft skills (personality, communication skills, and team building skills) as well as their technical skills. As a recent graduate of the Kansas City Leadership Development Program, I have a greater understanding that for an organization to succeed, individuals within all levels of the organization should be trained and mentored on the importance of good communication and team building skills.

Third, the Corps must *simplify the hiring process* to be competitive with pri-

How to enhance your career

by Beryl Dixon

Do you need to refine your program management skills? Would you like to sharpen your technical, managerial, or leadership ability? Do you feel the need to update your knowledge of national security issues or study the components of national power? If you answered yes to any of these questions, then Competitive Professional Development (CPD) may be the answer.

With the help of CPD, you could enroll in a university program or take a developmental assignment with another federal agency or in the private sector. You could also win a Secretary of the Army Research and Study Fellowship, attend the Army Comptrollership Program, or become an Army Congressional Fellow.

All staff members who are enrolled in a career program are eligible for CPD; however, selection is not guaranteed. All candidates are evaluated competitively within their respective career programs. If you

decide to apply, please keep the following points in mind:

- Discuss your plans with your supervisor. This discussion should include; how the Army will benefit from the CPD and how your newly acquired skills will be used on the job.
- Begin your application process 60 to 90 days prior to the local suspense date for the receipt of applications.
- Read the application instructions carefully.

For more information on how you might benefit from CPD and when to apply, please go to <http://www.cpol.army.mil/train/catalog/ch03gen.html>. Your servicing CPAC and Career Program Manager will also be able to provide valuable advice and assistance. **PWD**

Beryl Dixon is a Career Program Manager in the Human Resources Division at HQUSACE.



Attention, GS 12s and 13s!

Tired of the same old thing? Looking for a way to “move on up?” The Leadership Development Program (LDP) may be just the ticket for you. Initiated in FY 98, the LDP is a three-year program based on an exchange of personnel. It prepares GS 12s and 13s for leadership positions and consists of rigorous coursework, mentoring and a six-month developmental assignment.

All applicants must detail their education, experience, training, and desired developmental assignments. After evaluating the applications, a Board recommends assignments to round out the individual and make him or her competitive throughout the Army. The Functional Chief (LTG Robert Flowers) and the Functional Chief's Repre-



Tom Ballentine of the Water Resources Support Center talks to Olivia Henry, LDP Administrator, about the success of the LDP.

sentative (Mr. William A. Brown), however, make the final determinations.

Selecting officials are encouraged to give LDP graduates special consideration for any vacancies they might have. Students who fail to complete the program within the three years, refuse to accept a developmental assignment, or fail to submit their semi-annual reports may be dropped from the program for non-compliance.

The first DA-funded LDP session ends in February 2001, and a formal graduation ceremony will be announced in the near future. The next call letter for the second DA-funded LDP session is scheduled for April 2001. We encourage all interested CP 18 candidates to apply at that time.

For more information on the LDP, please contact the LDP Administrator, Olivia C. Henry, at (202) 761-0152, e-mail: olivia.c.henry@usace.army.mil

PWD

USACE deploys Registry of Skills

by Ray Navidi

The USACE-wide Registry of Skills (RoS) is now up and running. The Chief approved the RoS earlier this year and its deployment took place in September 2000.

The RoS is an on-line database created to support the Capable Workforce program, a USACE initiative to determine needed Corps skills and capabilities for the future and identify the gap between our current capabilities and future needs. The RoS is intended to gather information from our current workforce on their present positions and responsibilities plus any other skills or capabilities they possess to support the region and Corps overall mission. This voluntary information is desired for all employees to ensure that each team member has the opportunity to perform in a variety of situations consistent with regional or Corps-wide needs.

The MSCs can use the RoS to develop a comprehensive staffing plan that concentrates on training and recruiting individuals to meet future mission requirements.

The RoS database is web-accessible and will contain information on the skills, abilities, education and training of USACE team members. The database was successfully tested by NWD earlier this year. Once fully populated, the RoS will provide commanders with a quick snapshot of the vast capabilities available throughout the Corps to support the USACE mission. The RoS can be used for readily identifying gaps in expertise that need to be filled through education, training, mentoring or developmental assignments, and for quickly identifying people with specific skills and abilities in times of need. The RoS has been cleared with the HQDA Privacy Act Office.

While we encourage all USACE team members to register in the RoS—the broader the registration, the more valuable the database—the RoS will contain only information that is entered voluntarily by individual team members. No one will be required to enter information, and no individual's information will be entered by someone else.

The RoS database can be searched very quickly using a wide variety of search criteria to identify team members with potential, for example, to serve on regional design teams, provide independent reviews, serve as expert consultants, serve as troubleshooters, serve on interagency panels or committees, or assist in emergency operations. In addition, the RoS will assist in our outreach program and in establishing partnerships and collaboration with community organizations, industry and academia in areas of mutual interest. To use the RoS to enter your information or to search for people with specific skills and abilities, you must:

- Have a CEAP USERID and an Oracle password.
- Have access to a computer with a web browser (e.g., Internet Explorer or Netscape navigator).

All team members who already have a CEAP USERID and Oracle password





Updating CP 18

by Milt Elder

The Engineers and Scientists, Resources and Construction career program (CP-18) is alive and well. The previous essentially paper-based, centrally run, recruitment, screening, and rating process has been replaced by an electronic Internet system. The new system enables job announcements and job applications via the Internet, real-time information, and far greater accessibility by those inside and outside of government.

CP-18 Career Program Managers from major Army commands, ACSIM, Huntsville Professional Development Support Center, and other headquarters elements participated in a number of meetings in efforts to identify and resolve CP-18 problems. Everyone agreed that it was necessary to immediately revise the Army civilian training, education, development plan (ACTEDS) for CP-18 and to expand to better serve all CP-18 members, including DPW and environmental professionals.

To expedite this work, a contract to accomplish major revisions to the CP-



Bill Brown (center right) chairs a meeting of the CP 18 Board at the close of the CP 18 Managers Workshop.

18 ACTEDS Plan was awarded in September 2000. The contract completion date is nine and a half months.

The contract itself is broken into two phases, with much of the work in each phase being accomplished simultaneously. Two federal employee process action teams (PATs) have been formed to provide technical guidance. The first PAT is comprised of environmental experts, and the second is comprised of experts from public works and Corps of Engineer activities.

The Phase 1 effort requires the contractor to:

- Develop the environmental, natural/cultural resources (ENCR) vision

and mission statements.

- Define an environmental professional.
- Identify environmental career paths.

Phase 2 incorporates the results of Phase I, and updates the ACTEDS Plan to include all careerists, not just those designated as high-potential. The contractor will also:

- Examine the benefits and applicability of personality and skill assessments.
- Identify the bridges for transition into the garrison management career field.
- Examine a successful cooperative employment program.
- Establish electronic links with many other government, industry, and association web sites.
- Establish the completed ACTEDS Plan on the Internet for inter-active access.

For more information or assistance in identifying your MACOM POC, please contact HQ USACE POCs Bert Jemmott for Phase 1 at (202) 761-0797, or Milt Elder for Phase 2 at (202) 761-5760. **PWD**

Milt Elder works in the Installation Support Policy Branch of Military Programs' Installation Support Division at Headquarters.

(continued from previous page)

(you have this if you're a user of CEFMS or PROMIS) have already been validated as RoS users. If you're validated, simply use your browser to go to the URL <http://ros.usace.army.mil:1096> and log on. If you don't already have the CEAP USERID and Oracle password, call your UPASS administrator (in your IM Office) and he/she will set up your USERID and password and validate you as a RoS user.

The RoS is intended to be very user-friendly. It contains an on-line Help System and a link for sending email to the RoS database administrator. Please use this to report any problems, to comment on the system or to suggest improvements.

POC is Ray Navidi, CECW-E, (202) 761-4238, e-mail: ray.g.navidi@usace.army.mil

PWD

Ray Navidi is the Special Assistant for Military Programs, Engineering and Construction Division, HQUSACE.



Salute to Pete Sabo

by Stu Grayson

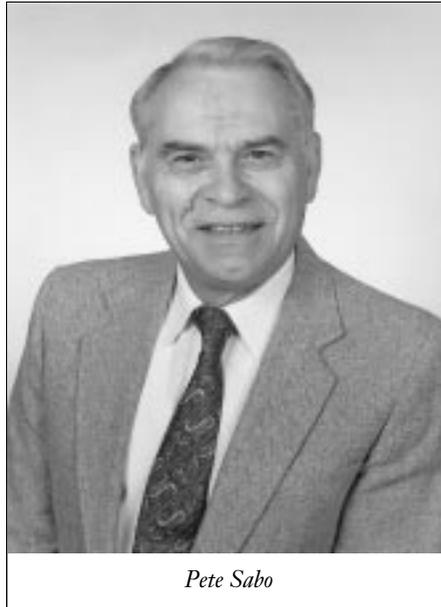
Pete Sabo came to Washington, D.C., in 1972 at the start of a revolution in the world of facilities engineering. Bringing his installation experience from Picatinny Arsenal in New Jersey, he stepped into a whole new world.

It was an era in which engineers who understood computers were rare.

Pete quickly assembled a team of young engineers and specialists whose function was to take computer technology into places it have never been before. His Integrated Facilities Systems Branch members in the old Directorate of Facilities Engineers became collectively known as “the Whiz Kids,” partly because of age and partly because the other branches and divisions did not understand what they did.

After 28 years of service, Pete’s legacy is leaving an Army in which computers and engineering are inseparable. Automated systems for management and planning are now an integral part of engineering, used on a daily basis.

Over the years, there were a lot of firsts, from the IFS-I (the largest pro-



Pete Sabo

ject ever undertaken by Computer Systems Command up until then), through regional data centers, mini computers, and local networks to today’s environment of Internet servers and worldwide

data networks. Pete has been a leader throughout this long journey into the future. His determination and ability to find resources, in an otherwise barren landscape, kept his programs running year after year.

The paths of the various applications were sometimes convoluted, but the end result is very close to what Army leaders approved as a concept in 1972. Throughout his career, Pete has been characterized as a wheeler-dealer, used car salesman, and even an outright bandit, but all of these traits were needed to get the job done and are overshadowed by the world-girdling success of his efforts.

Names have changed over the years — IFS Support Branch, Systems Division, Systems Integration Directorate, Facilities Management Directorate, Business Systems Branch — but through it all, Pete has provided the necessary leadership and connecting thread. It’s now time for Pete to sit back, at least for a while, and watch his efforts continue to blossom and grow. We can only hope that Pete’s successors will do half as well as he has. **PWD**

Stu Grayson works in the Business Systems Branch of Military Programs’ Installation Support Division.

Data System HQRADDs helps installations manage energy

The Headquarters Redesignated Army DUERS (Defense Utility Energy Reporting System) Data System (HQRADDs) is an automated management information system with which the Department of Defense monitors its supplies and consumption of energy. It is primarily used as an energy management tool, providing information about the DoD’s inventory and consumption of utility energy.

HQRADDs is intended to provide timely, mission-essential energy management data. The formats of this report were developed to ease preparation by reporting activities, provide rapid transmission, and simplify automated data processing.

HQRADDs identifies inventory for coal, propane and/or liquefied petroleum gas, and wood. It also identifies the consump-

tion of water and all other purchased utility energy (electricity, fuel oil, natural gas, steam and hot water, coal, and propane and/or liquefied petroleum gas) and renewable energy sources. It compares energy consumption against baseline (1985) consumption periods to determine energy conservation achievements. HQRADDs contains cost data on utility energy and environmental data such as degree-days.

 The HQRADDs Team is composed of Jim Ott (Project Manager) and Andrew Jackson (Functional Support), and Benu Arya (Technical Support). For assistance, please contact them at hqradds@hq02.usace.army.mil or through the HQRADDs/LIA Energy Bulletin Board on the HQRADDs web site (hqradds.belvoir.army.mil). **PWD**

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441 G Street, NW
Washington, DC 20314-1000
Phone: (202) 761-5778 DSN 763
FAX: (202) 761-8895
e-mail: alex.k.stakhiv@hq02.usace.army.mil



Rating tool for sustainable design now on web

by Stephen Flanders, Richard Schneider, Donald Fournier, Annette Stumpf, and Brian Deal

An easy-to-use rating tool allows building delivery teams to score various design features that define how sustainable a facility will be over its life cycle. The Sustainable Project Rating Tool (SPRT), created in Excel, can be downloaded from the web at <http://www.cecer.army.mil/EARUpdate/NLFiles/2000/SPRT.cfm> (or <http://www.cecer.army.mil/EARUpdate/NLFiles/2000/SIRTSPRTv5.xls>). It is intended to be used throughout the design process to guide the project towards a sustainable solution. The project team or an independent review panel will use SPRT to determine the certification level of the project at its conclusion.

The Deputy Assistant Secretary of the Army for Installations and Environment (DASA (I&E)) directed the Assistant Chief of Staff for Installation Management (ACSIM) and USACE to



Future military construction will expand on sustainable principles used in the Fort Lee, VA, Harrison Villa housing, which was cited for energy-efficient design.

incorporate the principles of sustainable development in all military facilities. "Sustainable" design and development results when design teams consider current and future impacts of an activity, product, or decision on the environment, energy use, natural resources, economy, and quality of life. SPRT provides guidance to ensure that sustainable design and development are considered in Army installation planning decisions and infrastructure projects to the fullest extent possible, balanced with funding constraints and customer requirements. Starting in FY02, all 1391's will require adaptation of sustainable principles.

The U.S. Army Engineer Research and Development Center (ERDC) developed SPRT for the Corps of Engineers at ACSIM's request. While several rating tools have been put into practice, most of them do not reflect the reality of military installation planning, design, and construction.

After evaluating different rating products, ERDC based SPRT on the Green Building Council's Leadership in Energy and Environmental Design Green Building Rating System 2.0 (LEED 2.0)TM.

LEED 2.0 TM is divided into five categories: sustainable sites, water efficiency, energy and atmosphere, materials and resources, and indoor environmental quality. To these categories, SPRT adds three more: facility delivery process, current missions, and future missions. ERDC researchers also adapted LEED 2.0 TM's format of describing the intent of a measure, defining a measurable and quantifiable requirement, and offering a strategy to meet the requirement. SPRT uses equivalent military standards and regulations where applicable. A version of the tool specific to housing is under development.

A rating in SPRT produces numerical "certification levels." They are: Bronze — 25 to 34 points; Silver — 35 to 49 points; Gold — 50 to 74 points; and Platinum — 75+ points. The Army goal is to fund projects that achieve a Bronze or higher rating.

For more information, contact Stephen Flanders, (603) 646-4302, e-mail: stephen.n.flanders@erdc.usace.army.mil or Richard Schneider, (217) 373-5424, e-mail: richard.l.schneider@erdc.usace.army.mil **PWD**

Stephen Flanders, Richard Schneider, Donald Fournier, Annette Stumpf, and Brian Deal are all researchers in ERDC.

Are you on the Digest distribution list?

If not, call Alex Stakhiv at (202) 761-5778 or e-mail alex.k.stakhiv@hq02.usace.army.mil.

If you are requesting an address change, please include the old address as well as the new.





CMS arrives!

by Ken Ralph

- Provides electronic routing of approval actions and acquisition decisions.
- Enables Project and Contract teams with specific individual

responsibilities to be established and monitored.

contractors performing the work. For example, a contractor profile can be established which enables him to see only contracts awarded to his firm and perform limited updates to such things as progress schedules and creation of cases for contract modifications. Corps Area and District Offices can similarly be given access to preview work targeted for them as well as update the status of on-going projects.

To you know where your project is? Starting In December 2000, managers and project engineers in the Fort Lewis Directorate of Public Works will have immediate access to the status of their annual contract acquisition program. From the current status of an option in a small project to the summary of a major funding program, information will be available to anyone having the Contract Management System (CMS) client software and the proper permission to access the data.

Fort Lewis will receive CMS on December 4, 2000 as a part of IFS System Change Package 13 and will conduct the User Acceptance Test through December 15. CMS was developed over the past three years through a joint partnership between the Corps' Huntsville Center and the Fort Lewis DPW. It is based on a business model and a system developed by Fort Lewis that have been recognized for excellence in supporting DPW business practices.

The primary focus of CMS is to help Public Works personnel organize, develop and manage their contracted work. It supports the acquisition of studies, plans, design, maintenance, construction, services or any other type of work targeted for accomplishment by contract without regard to the type of contract. A key point is that CMS targets the entire project development and procurement cycle with emphasis on the pre-award activities.

Some of the main features are:

- Supports tracking of the annual project acquisition process as a whole and by specific program.
- Enables Work Requests/Orders to be consolidated into one acquisition package while tracking the approval amounts of each individual Work Request.

responsibilities to be established and monitored.

- Provides a data structure that fully supports the procurement process.
- Facilitates status tracking to include all acquisition milestones as well as progress schedules.
- Supports management of contract problems to include developing modifications and individual tracking of each item.
- Facilitates the recording and tracking of construction warranties.

CMS is fully integrated with IFS and replaces the old Contract Administration module. It provides views of all candidate Work Requests which may be browsed and linked to contract packages. It further provides a view of the facility database to insure that valid and appropriate facilities are selected.

As you can see from the sample CMS screen, the layout and functionality are very different than IFS and other standard systems. All screens use a tabular approach which make related data immediately available and help the user to focus on the task at hand. There are numerous "pop-ups" to include calendars and pick lists as well as radio buttons and a host of other features. They make the entry of data as effortless as possible as well as facilitate as many views and applications of the information available.

CMS also contains a fully integrated Help documentation system, providing context sensitive descriptions on any screen or field.

The security features of CMS offer significant flexibility in terms of people who can use it. While the primary users will be the DPW project engineers and their managers, it can be used by any DPW personnel, other internal and external organizations as well as the

The ultimate objective of CMS is to create a seamless and near paperless environment whereby the statement of work and bid schedule can be developed in CMS and sent electronically to the Standard Procurement System (SPS) or PROMIS. Return data will include status and cost.

CMS is being developed in several phases using a building block approach. Phase 1 contains all of the information necessary to build and manage an acquisition package. Follow on phases will add these capabilities:

- Resource planning and leveling for DPW individuals assigned to develop packages.
- Non Compliance Inspection Report — sampling and reporting capabilities.
- Ability to charge in-house time and cost (SIA, SRA, EDC) to packages.
- Generation of DD 1354 data.
- Invoice Processing.
- Ability to process multiple award (MATOC) packages/contracts.
- Other approval checklists.
- Submittal tracking.
- Ability to generate completed forms (DD, DA, SF, etc.).
- Automated interfaces with SPS, PROMIS, DJAS and CEFMS.

CMS will be sent to all IFS sites as part of a major IFS upgrade in January 2001. The Huntsville Professional Development Support Center is developing a training course that will be available to installations in 2001.

POC is Ken Ralph, CEHNC, (804) 734-2631, e-mail: ken.ralph@usace.army.mil **PWID**

Ken Ralph is a management analyst at the Engineering and Support Center Huntsville at Fort Lee, VA.



GIS gets to the core of the matter

by Liam Anselm Bickford

If you received direct mail today, chances are someone used a Geographic Information System (GIS) to find you. If you flipped on a light switch today, if you received a delivery of a major appliance today, if you bought fresh vegetables today, if you looked at a map on the Internet, chances are a GIS had a hand in that too.

Information about the earth touches on every aspect of our lives. Everything we do is done on, above or below the earth. Information about the earth, the places we live, work and eat is ever more vital. Governments, corporations, and citizens alike need this information. They need it today, right now. But it must be understandable, useful and timely. The people who collect and process this information in special ways are the Omaha District Army Corps of Engineers' Geotechnical Engineering & Sciences Division.

Annual Openhouse

To get more information about GIS circulating, Geotechnical Engineering and Sciences Branch put on their second annual open house. Held in January at boatyard building 49, there were a vast number of displays and demonstrations designed to show GIS's growing services and capabilities. Tim Skeen, from Omaha District's Unit A, explains, "We started this open house to get the word out about our unique capabilities and our crews. We need more exposure. Last year was highly successful. We received a lot of feedback. Many people said 'We didn't know you could do that.'"

We do a lot more than just drilling, but people are surprised when they realize how much we can do. We don't do any direct marketing, but when word gets out they seek us out. If they know our capabilities, they bring us work.

This year had the following attractions:

- Direct-push monitoring well installation and sampling demonstration.
- Conventional auger and rock coring drilling demonstration.
- Surveys, Mapping, and GIS displays and demonstrations.
- Integrated field investigation case history display.
- Geophysical equipment display and demonstrations.
- Soils testing demonstrations.

In addition, there were a variety of smaller displays and demonstrations too numerous to mention. GIS experts answered questions and provided information on capabilities.

Linking Geography and Data

GIS helps fight crime, finds customers and protects nature. Geographic information systems are computerized mapping programs helping private groups and governments make decisions. Companies use them to plan store locations, watchdog groups to track discrimination, and law enforcement agencies to fight crime.

These GIS programs connect information stored in a computer database to points on a map. Like transparent sheets on an overhead projector, information is displayed in layers. Each succeeding layer is laid over the preceding one. The resulting maps reveal trends patterns that might be missed if presented by spreadsheet.

A GIS is an organized collection of computer hardware, software, geographic data, and personnel designed to efficiently capture, store, update, manipulate, analyze, display and output all forms of geographic information.

To answer questions of location, such as where, why, and how, one needs to consider all data available from various sources. Once graphics and data are combined together, patterns and trends are revealed that spreadsheets alone won't portray. These "Smart Maps" solve problems, making decisions easier.

GIS can be used in a wide variety of applications to solve unique challenges faced by geologists and exploration geophysicists. GIS studies geologic features, analyzes soils and strata, assesses seismic information, and creates three-dimensional displays.

Seismologists at the U.S. Geological Survey use GIS to assess potential damage from earthquakes. Studies are made of frequency and severity of earthquakes. After data is displayed, geographic relationships between the earthquakes and known areas of liquefaction determine overall hazards for any site.

Although GIS programs bring hidden truths to light for countless industries, the technology itself is little known to those who do not work with it. Nothing has changed in 3,000 years as far as the ability to look at maps. But analyzing, reading and garnering information out of them is a real innovation.



Executive Information Systems launch GIS repository development

by Miriam Ray and Jeri King

The Executive Information Systems (EIS) Team has completed the first phase of a system which combines existing Installation spatial data with relational data used in systems such as IFS (Integrated Facilities System) and ISR (Installation Status Report). This system graphically shows the installation boundaries, buildings and streets. It further color codes these facilities based on ISR condition, type of building and other defined "filters."

The goal was to combine data sources containing Real Property maintenance information and display it in a graphical environment to assist decision-makers at every level. This initial prototype phase was successful at Fort Belvoir, Virginia. We are now in the process of expanding this prototype, to include additional layers of graphical data such as utilities, ranges, training areas, wetlands, and communication lines.

The ultimate goal of the GIS initiative is to create a centrally-managed repository for Installation level geographic information. These various layers of graphical data are currently maintained in several data sources and not integrated. By integrating these various layers, Facilities Managers can turn to

ONE data source for a complete graphical view of their installation. The user, depending on the layers he chooses to view, can customize this view and the filters or criteria applied to the layers.

This tool will support the Installation managers, MACOM managers and HQDA planners and policy makers. It will be available through the HQ and Installation Executive Information Systems.

In addition to the expanded functionality in this second phase of development, we would like to include an additional 5-8 installations. Several installation have already come forward, but it is not too late to apply. If your installation has graphical data that is not integrated and you would like to participate in this design effort, we welcome your input. We are specifically looking for the following data layers:

- Installation Boundary
- Building footprints
- Road edge of pavement / centerlines
- Utilities
- Communications (phone, data)
- ITAM
- Environment



Above: Miriam Ray



Left: Jeri King

You do not need to have all layers to participate. Additional layers not listed here will be considered as well.

POCs are Jeri King (202) 761-5850, CEMP-IM, e-mail: jeralyn.j.king@usace.army.mil or hqeis@usace.army.mil; and Miriam Ray (757) 220-1061, CEHNC-ISCX-WM, e-mail: miriam.o.ray@usace.army.mil or ieis@usace.army.mil **PWD**

Miriam Ray, IEIS Project Manager, works for the Engineering and Support Center Huntsville at Fort Lee, VA, and Jeri King, HQEIS Project Manager, works in the Business Systems Branch, Installation Support Division, HQUSACE.

(continued from previous page)

Whether you see its impact indirectly, or, touch GIS technology yourself, it's a technology at work today to make your world better. GIS provides a unifying framework for thinking globally and acting locally!

POC is Liam Anselm Bickford, (402) 221-3193, e-mail: liam.a.bickford@nwo02.usace.army.mil **PWD**

Liam Anselm Bickford is a public affairs specialist with the Omaha District.

FIRMS is now on CD

The Huntsville Installation Support Center and Software Development Center-Lee recently released and mailed the Fire Information Resource Management System (FIRMS) on CD. The software released on CD has the latest 1.5 versions, which include updates to Facilities, Personnel and Training that supercede the original 3 Ω disk 1.5 release from Fort Carson.

These updates include the following:

- A fix to a printing duplication problem on the Hazard Deficiency Report.
- A repair to the deletion of Partitions.
- Ability to do a Training query from personnel records.

Systems support is available from Jim Asbury at (804) 734-0230 DSN 687. **PWD**



Catch the PAX surf

by Michael Rice

Who ever thought they could surf while they worked? Four years ago the Programming, Administration and Execution (PAX) System began a journey in the web world that is about to reach full deployment. Four years ago, web surfing seemed to be a fad by some; naysayers even said it'd die out soon. Who could have believed the record breaking near-vertical rise of this new, graphical way of conducting all aspects of daily business, from banking, to kids' homework assignments, to ordering cars, to paying your taxes?

2001 not only brings in the new millennium, it also brings in a new world of user access for all applications of PAX, particularly the CAPCES system and the DD1391 Processor system. Web is the way to go if any system is to remain current for the next generation, and PAX took the opportunity from the outset. Without rewriting the underlying application, PAX introduced a new and fresh look when it started to phase in the web version of these systems.

WebPAX operates on an IBM Enterprise server in a secure environment, with the VM/ESA operating system, running VMWebServer from Sterling Software for serving web pages, and with front-end firewall boxes for added security. Access is controlled by userid, password and pass code (project code) authentication. There are minimum hardware (Pentium level PC) and browser (MSIE 5.5) requirements to use the WebPAX due to constraints by COTS software. WebPAX, Web1391, and WebCAPCES can be accessed by authorized users at: <http://www.webpax.net>.

WebCAPCES was the first online in February of 1998 with reports and information. Web1391 came next with the basic "front page" DD1391 form. WebDIRNET, a module of CAPCES, is last with its phased deployment. All of the systems will have full functionality deployment on the web during the next few months.

The DD Form 1391 is the principal statutory instrument for Military Construction (MILCON) authorizations and appropriations. The Military Construction, Army (MCA) and Army Family Housing (AFH) "Green Book," a portion of the President's budget justification data to Congress, is composed entirely

of documents produced by the DD1391 Processor. The system supports and assists master planners with text, cost data, economic analysis, and statutory requirements for MILCON projects.

CAPCES supports the Office of the Assistant Chief of Staff for Installation Management (OACSIM) with the MCA and AFH budget formulation, development, submission, budget book activities, and Congressional actions. The system enables OACSIM, MACOMs and installations to manage and track approximately 10,000 individual MCA and AFH projects during all budget programming cycles.

The web provides new excitement to programmers and users, new capabilities for applications, new concerns in areas of security, and good old-fashioned methods of processing for improved system support. Not long ago few people understood terms like home page, HTML, web forms, or PERL. Today, web developers have to quickly grasp the latest concepts of JAVA beans, JAVA Server Pages, CGI, ActiveX, or Dynamic HTML. (If you don't know these terms now, ask your kids.) WebPAX has incorporated these new concepts in planned and appropriate ways to help users, from installation master planners to HQ budget analysts, do their job better, smarter and more efficiently, now and into the future.

The most evident impact on users on Web1391 and WebCAPCES is the full screen, color, and graphical approach to working. "There's a definite and distinct learning curve for many people. Some don't like it because it's different," remarked Bill Crambo, the CAPCES manager and systems engineer. "However, once people get used to it, they start to discover all the new things that web browser access offers. All of our work to date has been to put the existing capabilities of the Processor and CAPCES into a web browser environment, but why stop there? Why shouldn't someone who's reviewing a construction project 1391 be able to see a picture of the existing conditions on the screen at the same time? Why shouldn't data be displayed

in a 3-dimensional graph or chart, linked to maps, sound and video?

This is not futuristic; this is the current and soon-to-be-old technology. Young engineers and business executives expect to have all of this and more on their hand held PDA."

In fact, current plans call for a tab on Web1391 for photographs, drawings, site plans and maps. The current deployment of WebPAX will provide the platform for these newer capabilities as well as future expectations.

Are there any drawbacks to going web? The answer to that is conditional. Today, some people don't have the bandwidth — the communications pipe size — to adequately use web applications at their desk. This is a serious problem for these folks. The reason can be tied to the Army's restrictive approach to internet access. There's a tug-of-war between requirements for more capacity and security concerns about the number of access points for hackers. This is a new border crossing, a real entry point to our country's daily life that nobody was prepared to handle.

Things are improving and will continue to do so. We have a world now where the average person can get high-speed internet access at home for less cost than their phone or cable bill. Security issues caused by hackers are making a lot of managers aware, security experts savvy, and IT professionals alert and proactive in safe-guarding their systems. Soon WebPAX will incorporate security layers which could include Secure Socket Layer (SSL), 128-bit encryption, or more.

The concerns are real, but they are manageable. The web is here to stay and current problems will soon be history.

POCs are Michael Rice, CEMP-IB, (202) 761-8908 DSN 763, e-mail: Mike.Rice@hq02.usace.army.mil, and William Crambo, CEMP-IB, CAPCES System Administrator, (202) 761-8900 DSN 763, e-mail: Bill.Crambo@hq02.usace.army.mil. WebPAX, Web1391, and WebCAPCES can be accessed by authorized users at: <http://www.webpax.net>. **PWD**

Michael Rice is the PAX Program Manager at the Installation Support Division's Business Systems Branch.



IEIS offers greater flexibility for DPW users

by Miriam Ray

The Installation Executive Information System is undergoing several updates that will allow users to have greater control over the data they are selecting to view. Some of the enhancements users can look forward to within the next few months include the following:

Live Queries

Live queries have been re-written in a more "user-friendly" format. These queries allow DPWs to view their data in real-time. The new format also displays corresponding graphs and allows for the entire screen and/or data to be easily exported to some of the more commonly used applications such as

Microsoft Word, Excel, Lotus, etc. Some of the new live queries available include:

● Dwelling Unit Costs:

Displays the work documents and related cost for a specific family housing dwelling unit or facility for the time period selected.

● **Housing Costs:** Displays family housing work orders for the time period selected. Query results can be displayed by work class code (J, K, L and M) or by element of resource (civilian labor, supplies, contract). Users can submit additional query requests for inclusion on this screen.

● **Family Housing:** A new ICON has been added to the Housing area that displays detailed family housing information. Many installations have expressed a need for additional AFH data to support several on-going housing initiatives. New screens include:

- **Army Family Housing Cost:** This new screen displays the total AFH cost by Design Use Category Code (i.e., 71111= FH General Officer, 71112= FH COL) and work class code.
- **AFH by EOR:** Displays total AFH cost for the categories above, broken down by element of resource.
- **AFH Cost:** Displays the total cost for a facility/quarters.
- **AFH Detailed Cost:** Displays the actual work documents, phase, work class, description, and cost (by element of resource) for the selected facility/quarter.

DPW Management Data:

- **Credit Card Cost:** Displays the total credit card obligations for the time period selected. Costs are broken down by shop, document type, and element of resource for purchases of supplies and services.
- **Shop Stock Charges:** This screen displays the current shop stock rate and suggested rate for each shop. Shop stock plays an important role in the overall charges to reimbursable customers.
- **ISR:** The ISR report for FY 1999, as submitted by the installations, is available on-line via IEIS. This screen shows the ISR quality, quantity and overall rating by FCG and facility. ISR sustainment cost is displayed with the actual cost (from IFS) that could be related to that FCG.
- **Service Order Data:** Service order information is by far one

of the more requested areas in IEIS. Several of the screens in the service order area have been enhanced with a "Retrieval Options" button. With this option, the user can include or exclude selected customers, shops, and/or statuses. This flexibility allows the users to "customize" the data displays with their own applied filters. Also in the

service order area, drill down capability has been expanded to allow users to drill down to the actual work documents. For example, managers can not only see how many service orders are backlogged for each shop,

Dwelling Units Costs For Installation
For 01-Jan-2000 To 01-Oct-2000

12/5/00 DOC NO	PH	DESCRIPTION	WKCL	FACNO	QTRS	LAB	EQUIP	MAT	MISC	Page CONT	Total TOTAL
CA313440R		RPR SERVICE VALVE	K	00010	A	0	0	0	0	170	170
G0074610R		NO HEAT IN QTRS ON GOING PROB			A	0	0	28	0	0	28
G0117300R		REMOVE 1 WALL SCONE IN BEDROOM			A	0	0	0	0	14	14
G0118020R		R/R RADIATORS THROUGHOUT			A	0	0	337	0	977	1,314
G0120400R		REPAIR 2 LIGHT SOCKETS - LOOSE			A	0	0	7	0	43	50
G0120840R		RPL MISSING CERAMIC TILES IN B			A	0	0	0	0	90	90
G0120940R		REFINISH FLOOR AND 2 STEPS IN			A	0	0	55	0	201	255
G0120950R		REPAIR OVEN DOOR - NOT CLOSING			A	0	0	45	0	26	71
G0120960R		REPAIR/REPLACE FAUCET HANDLE			A	0	0	0	0	26	26
G0120970R		REPAIR LOCKS ON BATHROOM DOORS			A	0	0	0	0	39	39
G0170649R		REPAIR REFRIGERATOR LEAKING			A	0	0	0	0	0	0
G0172430R		UNCLOG GARBAGE DISPOSAL			A	0	0	0	0	57	57
G0172440R		UNCLOG BATHTUB			A	0	0	0	0	21	21
G0176670R		P/U LARGE PILE OF BRUSH ON CUR			A	0	0	0	0	31	31
G0197960R		PURCHASE & DELIVER (8) RHODODE			A	0	0	0	0	16	16
G0221620R		RPR UNDER KITCHEN									
G0221630R		DELIVER (8) CUBINETS									
G0221640R		INSTALL STAIRTRIM									
G0221660R		CLEAN GUTTERS									
G0223820R		PURCHASE/DELIVER									
G0225750R		REPAIR LEAK AT									
G0238570R		REPAIR ICE MAKE									

Open Priority 1 Service Orders
Shop 06 FACILITIES MAINT
Prime: - (Live As of: 12-05-2000)

Securans	Job Description	FACNO	Created	Worked	CRS	Costs
885525R	WATER COMING IN BLDG THRU BR	03041	03-MAR-97	13-MAR-97	CM	Yes
F022147R	ROOF RPL ROOF LEAK	09505	25-JUL-97	25-JUL-97	CM	Yes
M504433R	SECURE BLDG	04091	22-OCT-97		CM	Yes
F000168R	WATER POORING AIR CLEANOUT	09148	23-JAN-98	23-JAN-98	CM	Yes
F027764R	WATER LEAK & BOWED CEILING	06080	15-JUL-98	26-JUL-98	CM	Yes
F008236R	SECURE DOOR AND WINDOW	02184	28-JUL-98	25-JUL-98	CM	Yes
F000269R	REPLACE REFRIGERATOR	06016	24-DEC-98		X	
M110919R	ROOF LEAK IN CLASSROOM	08221	18-FEB-99	18-MAR-99	CM	Yes
F019948R	REPAIR ALL WASHERS - ALL HAVE	01196	28-MAY-99		X	
CE20648R	CLASSIFIED SAFE WILL NOT OPEN	08315	16-AUG-99		X	
F022129R	ROOF LEAK F3 LG 539 B651	09040	28-SEP-99	28-SEP-99	X	Yes
F002648R	REPAIR REFER - NOT COOLING - A	02184	29-OCT-99	01-NOV-99	X	Yes
F002618R	BLD 2111 A THRM RM 364 ROOF LE	02111	02-NOV-99		X	
F006488R	AUTOMATIC DOORS FROM OUTSIDE I	01189	14-DEC-99	24-APR-00	CM	Yes
SC05246R	BLD 1415 ROOF LEAK BEHS BATH	01475	25-JAN-00		V	
F018288R	BLD 2111 C THRM RM 101 NEED TO	02111	01-MAY-00	01-MAY-00	SHP	Yes
F021508R	LEAKING ROOF IN BUNK ROOM AT	01189	17-JUL-00	17-JUL-00	I	Yes

● **AFH Open Documents:** Connects to the installation's IFS database and displays all the open work documents for the selected facility/quarters. Display includes the description, current work status, approval indicator, the creation date, and any actual costs.



IFS service orders by Internet

by Mike Christos

Do you find it a bit frustrating to deal with busy signals when trying to call in a DPW service order? Tired of having to find the time during hectic duty hours to call in that pesky facility problem? Or want to know the current status of a service order you called in before? Well, if you have access to a computer and the Internet, then you can take advantage of the DPWs new capability to accept service orders over the web.

The new IFS WEB Service Order Entry system is currently under BETA Testing at Fort Lee DPW. To date, there have been over 400 service orders received and accepted by the DPW's Customer Service Desk. Residents of family housing as well as building occupants can submit their service orders this way. A customer can access the WEB page after the page has been integrated into the installation's WEB page.

As soon as you fill out the service order request and hit the submit button, you get an immediate service order number showing that the request has been sent to the DPW. Hang on to that number so that you can check the status of your request later.

The service order desk clerk immediately

receives your request on his computer and handles it the same as a telephonic service order. The desk clerk reviews your request

to ensure that all necessary information is provided and correct, assigns a priority to the service order and sends it on to the craft shops for action.

If you have typed in an e-mail address in the request, the service order clerk returns an e-mail message that confirms your service order has been processed. But, if there is missing or incorrect information in your request, the service order will be declined and an email message sent back giving you a brief description as to why it was declined. For declined service orders, the customer will need to resubmit the request with the correct information.

If you wish to check a service order that you have submitted, you can go to the service order status page, enter your service order number and get the latest

IFS Service Order Request

Use this form to submit a routine service order. This form is not for emergencies. Please note and save the Service Order Number assigned to your request. You may be able to use this number to check the status of your Service Order Request on the IFS Service Order Status Page.

POC First Name:

POC Last Name:

Primary Telephone Number: () - -

Alternate Telephone Number: () - -

Email Address:

Location: Ft. Lee

Building/Facility Number: [Help](#)

Street Address:

Description of Problem/Work:

(Only one problem per Service Order. Please be brief while providing a description of the problem.)

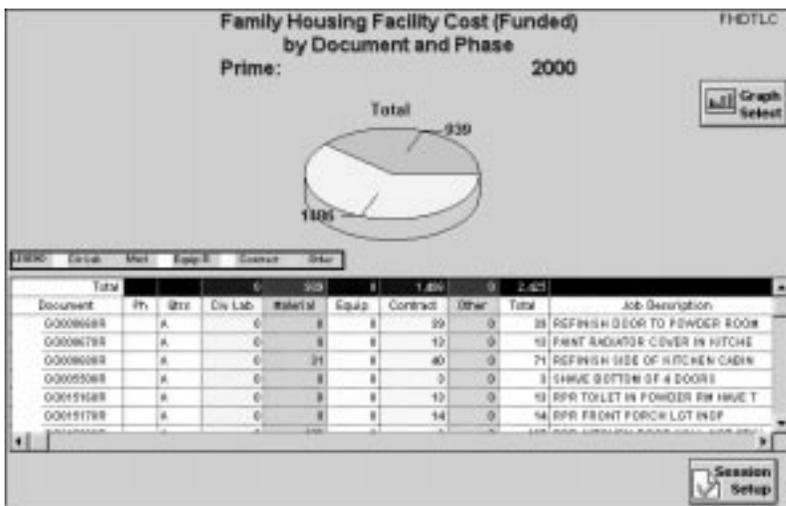
status. You will get a status that may be something like "In shop," "Waiting supplies," "Completed," or "Cancelled," depending on the latest action. A status will only be valid if the service order desk has ACCEPTED the service order into the system, either through the web or over the phone.

The web service order submission option is NOT to be used to submit emergency service orders. Typical examples of emergency service orders are a busted water pipe, a leaking natural gas line or stopped-up plumbing in a one bathroom quarters.

POC is Mike Christos, (804) 734-2837. PWD

Mike Christos works at the Systems Design Center at Fort Lee, VA.

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but they can further drill down to see the actual service orders that are backlogged, their location and status.

- **Work Orders:** Several enhancements in the work order area have been added to help with workload analysis and trending. One example is users can see the time a work order spends in estimating, at the shop, or in supply, and provides average times.

IEIS is a DPW management system that was designed to meet your management needs. DPWs are encouraged to send comments/recommendations for future enhancements. IEIS is an extremely flexible tool that can be updated in a very short time due to the flexibility of the centralized platform. If your installation is not on IEIS, please contact us to find out how your DPW can obtain this powerful tool.

For more information, please write: ieis@usace.army.mil PWD



KM is Installation Support Division's remedy for "Brain Drain"

by Darlene Fuller and John Grigg

It doesn't take a rocket scientist to notice that there aren't as many rocket scientists (or engineers) around any more. In the U.S. Army Corps of Engineers, an American institution built on its corporate knowledge of engineering principles and practices, many highly knowledgeable experts in various fields of engineering have recently retired or will retire in the near future. Add that fact to the aggressive recruiting by the private sector for engineering talent, and you can see the stage is set for a serious "brain drain" for the Corps.

In 1998, the former U.S. Army Center for Public Works was beginning its dissolution. Kristine Allaman, Director, was looking for ways to capture all the Public Works lessons learned, experience, and knowledge of the more than one hundred engineers and technicians on their way to somewhere else.

Allaman turned to the experts at the Civil Engineering Research Laboratory (CERL), Champaign, Illinois, who were working on an initiative called Knowledge Management, or KM, a relatively new concept in DoD. Ask for a definition of Knowledge Management, and you will get as many different answers as you have different people. And they're all correct! For the Installation Support Division, KM is defined as...

"... a discipline that promotes an integrated approach to identifying, capturing, retrieving ... and sharing all of an enterprise's information assets."

Assets include databases, documents, and the expertise and experience of individual workers.

In February 1998, CERL held a workshop in Alexandria, Virginia, to brief KM to the Installation Support Office (ISO) teams and kick off the Installation Support (IS) KM project, using the IS community as the pilot area of interest.

The DPW support that USACE provided to the Army was facing serious

disruption, so Allaman assembled a KM working group to develop and implement the tools that would help offset the effect of the impending "brain drain." As an added benefit, these tools could be provided to the USACE Districts and Divisions for their efforts in DPW support.

The IS KM working group assembled in July 1999 and again in December 1999 to map a strategy and identify requirements. PricewaterhouseCoopers (PwC) joined the team to assist in developing the software tools. By the end of January 2000, Phase 1 of the IS KM initiative was taking shape. Four "tools" were identified and construction started:

- The White Pages, which replaces and improves the World-Wide DPW directory,
- The Contracts Database, which is a listing, by USACE Division, of all IDIQ contracts,
- The Registry of Skills, recently implemented by Ray Navidi's team, and ...
- A Search Engine, which would allow the user to search several databases for DPW-related information.

Phase 2 recently started with the award of a follow-on contract to PwC. This phase will finish the White Pages, upgrade the web site, and provide training modules on how to use the IS KM system. Additionally, South Atlantic Division (SAD), South Pacific Division (SPD), and the Great Lakes and Ohio River Division (LRD) joined forces and provided funds to ERDC (CERL) for technical oversight of the program.

LRD is also developing, through CERL, an interim IS project tracking system. This interim system will be



John Grigg

compatible with PROMIS/P2, the Corps' project management information system, and will be available for viewing on the IS Home Page (currently under construction).

Representatives from several communities of interest at HQUSACE attended the Phase 2 kick-off meeting held 3 October. The IS KM initiative is the pilot KM project for USACE, and the lessons learned and experience gained will be invaluable as the USACE corporate KM strategy develops.

The next milestone for the project is the selection of an "enterprise portal" and the associated search engine. The portal will be similar to the home page of Army Knowledge Online. Concurrently, the working group is finalizing the KM web site.

☛ The KM working group is actively seeking customer input—from the installations, MACOMs, Districts, Divisions, and laboratories. If you would like to know more about the project, please contact Darlene Fuller, PM, at (202) 761-5782, or Don Emmerling at (202) 761-5767. **PWD**

Darlene Fuller is an Automated Systems Specialist in the Business Systems Branch of Military Programs and John Grigg is the Installation Support Program Manager for the Great Lakes and the Ohio River Division.



What's Coming in HQEIS

by Jeri King

Do you ever need to find the facility number and associated information for every World War II wood building on the installation? Or perhaps you want to get information on all your historical facilities. Headquarters Executive Information System (HQEIS) will soon have the answers. One of the most used screens in HQEIS, the Standard Query of Real Property Inventory (RPI) by Facility Number, is going to be enhanced with several more retrieval options and additional sorts. This will make a very useful screen even better. You'll be able to retrieve only those facilities with the type construction code or facility type of your choice. You can select by category code or Facility Category Group (FCG). You'll also be able to choose a year range for the year built or acquired and there are lots of sort options.

As you probably already know, HQEIS provides Army facility data for each of the installations that can then be aggregated to primary installations, major commands, or total Army. There are over ten years of data available. Real Property information is updated twice a year and cost data once. This is a good place to check to see what information HQDA is using or to compare your installation to a similar one.

In fact, if you can't wait for the enhancements to the RPI by Facility Number screen to find those World War II wood buildings or all your historical properties, you can go right now to Standard Queries and click on Facility Counts by Category and Ownership Codes. You'll have plenty of retrieval and sort options plus you can choose the organizational level you need. The new Facility Counts by Category and Ownership Codes screen has been such a hit that this same type of information and flexibility has been requested by FCG. This will also be coming to HQEIS in the near future.

Also coming soon will be an interface with the HOMES database and a new homes module in HQEIS. This will allow display of the number of bedrooms in a set of quarters.

The HQEIS team is also working on a screen where you will be in charge, choosing the organizational level,

attributes, and timeframes you need. The Real Property Inventory data will be the first available but measures from General Statistics will follow shortly after. This will give you a lot of flexibility to get just the information you need.

The team is also working on providing greatly enhanced spatial capability in the GIS module with the combination of installation footprints overlaid with standardized layers. These layers

may include utilities, training ranges, and environmental concerns, plus Integrated Facilities System (IFS) and Installation Status Report (ISR) data.

You can access HQEIS by downloading the Citrix client found on the ISD home page onto your personal computer. HQEIS is a password protected system so send an e-mail with your name, phone number, installation, and e-mail address to hqeis@usace.army.mil to get your username and password.

POC is Jeri King (202) 761-5850, CEMP-IB, e-mail: jeralyn.j.king@usace.army.mil or hqeis@usace.army.mil **PWD**

IFS and APIs

As DPWs move more toward COTS (commercial off-the-shelf) products for their work management, IFS is evolving to meet the challenge of integrating with COTS products. The integration allows information that is required by the government to be validated and captured into the IFS database. The process to allow this integration is through the use of IFS (Application Program Interfaces (APIs)). The concept of APIs has been around for many years. APIs allow a developer to pass a set of defined values to a library of functions, defined in the IFS database, in order to utilize the built in business rules of the IFS database. The developer does not need to know the behind-the-scenes database structure or business processes in order to insert data into the IFS database. The use of APIs allows an installation the flexibility to structure a work management system to meet the changing work environment within the DPWs.

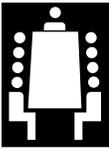
There are several IFS APIs that are currently under BETA testing which will allow external systems to post data into and retrieve data from the IFS database. The following list shows the current IFS API calls with a short description:

GetSoData (Validate and and return Service Order records)
ValidateSO (Validate a Service Order)
ValidateShop (Validate a shop)
GetShopCd (Return a Shop code)

ValidateDoc (Validate a Document Identification Number)
ValidateEmp (Validate an Employee Number)
ProcessLabor (Add a Labor and Equipment Record)
GetTaskInfo (Return a task unit)
ValidateTask (Validate a particular Task Code)
ValidateTdac (Query the TECH_TECH_ACTV table for active codes)
GetUse (Return a design use category code)
ValidateInstallation (Query to validate an installation number)
ValidateFacility (Validate a facility number)
GetSONo (Get service orders for a specific day and shop)
GetJONo (Get work order documents for a specific day and shop)
GetDocNo (Extract all documents number for a giving date and shop)
GetPhData (Retrieves Work Phase information)
GetSOOData (Retrieve SOO Data)
GetPMDData (Retrieve Preventative Maintenance Documents)

The IFS API library is continually updated as more integration requirements are identified by installations. In the future, look for the most current IFS API list as well as articles and examples on interfacing with IFS APIs posted on the IFS WEB page.

POC is Mike Christos, (804) 734-2837, e-mail: christom@sdcl.lee.army.mil **PWD**



Improving performance on warranty

The Headquarters of the Army Corps of Engineers has completed actions on an initiative to improve performance on warranty. This is the culmination of the efforts of a process action team developing recommendations to improve the warranty process, and followed by an implementation

team which carried the recommendations into establishing final policy.

The primary thrust of the policy was to establish the roles and responsibilities of the customer/user and the Corps, and to make it clear to the construction contractor what was expected of him contractually with respect to warranty. It was felt that three main items were necessary for an improvement in warranty performance:

- The customer had to know his responsibilities.
- The Corps had to follow through on its required actions.
- The contractor had to understand what was required contractually.

The revised Engineer Regulation, ER 415-345-38, on the subject contains a sample generic memorandum of understanding between the Corps and its customers to outline the roles and responsibilities of the parties. Of particular importance was the coordination during the planning and design phase of the project when the options for warranty were presented to the user so that expectations were established. As specified in the regulation, four and nine month joint warranty inspections follow project turnover and are particularly

important, because the systematic identification and correction of warranty problems during the one-year construction warranty period insures proper disposition of the deficiencies by the contractor.

Secondly, a Corps of Engineers Guide Specification, CEGS-0178, was written and distributed covering various deliverables to do with warranty. Of note were the warranty response times to be specified for the contractor to respond to calls by the customer during the one-year construction warranty period, based on the criticality of the operation of various facilities types.

The policy guidance has been distributed throughout the Corps for implementation and for coordination with all project customers. The follow on action for the Corps is to apply the guidance to all projects and to insure that customers understand the implications of the construction warranty provisions contained in the contract documents, as well as their responsibilities during project development, construction, and following acceptance of the facility.

POC is Jeff Krull, (202) 761-1443, e-mail: jeff.p.krull@usace.army.mil **PWD**

Radial saw recall

Emerson Tool Co. is recalling about 3.7 million Craftsman® radial arm saws for repair. These radial arm saws were sold without a guard that covers the entire blade. Consumers have come into contact with the blade or have been hit by pieces of wood kicked back by the saws, resulting in severe injuries.

Emerson is offering a free repair kit that provides a complete blade guard.

The recalled Craftsman® 8-, 8½-, 9- and 10-inch radial arm saws have a model number beginning with 113, usually located on the base of the saw. The brand name "Craftsman®" and store name "Sears" are written on the saws.

Sears stores and catalogs sold the 8-, 9- and 10-inch saws from 1958 through 1992. The 8½-inch saws were sold from 1990 through 1995.

For older model saws and others that cannot accept the new guard, Emerson will provide \$100 for the return of the saw carriage. Consumers must contact Emerson to receive a free repair kit or to return their saw carriage. Saw should not be returned to Sears.

For more information, please call Emerson at (800) 511-2628 anytime, or visit the firm's web site at www.radialarmsawrecall.com **PWD**

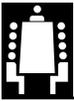
Public Works Supply and Equipment Reference Guide available

The *Public Works Supply and Equipment Reference Guide*, including the DPW Equipment Acquisition Tutorial tool, is now available for Army Engineer Equipment and Supply POC use from the ACSIM Facilities Policy Division web site. It provides the most current guidance as well as procedural suggestions you may employ in your day-to-day operations. We hope that this guide will help you do your job smarter and with more confidence as well as enhance service to your customers.

<http://www.hqda.army.mil/acsimweb/fd/policy/SupEqGuide/index.htm>

The web site is intended to be a continuing tool. It was developed from input by the Army Equipment and Supply Working Groups of MACOM and installation POCs. Your continued input for critical issues is appreciated. Please note that this guide does not take the place of Army or other federal regulations or MACOM Supplements to Army regulations.

POC is Larry Black (703) 428-6173 DSN 328, e-mail: larry.black@hqda.army.mil **PWD**



Privatization contracts awarded at Forts Bragg and Campbell

by Bobby Harman

Utility systems privatization efforts at Fort Bragg, North Carolina, and Fort Campbell, Kentucky, recently took a giant step forward. On September 29, the U.S. Army Engineering and Support Center, Huntsville, in conjunction with the two installations and Headquarters, U.S. Army Forces Command (HQ FORSCOM), awarded four privatization contracts.

At Fort Campbell, the City of Clarksville (Tennessee) was awarded a contract for the natural gas distribution system, and CH2M Hill was awarded a contract for the water and waste water systems. At Fort Bragg, Sandhills Utility Services was awarded a contract for the electrical distribution system and American Water Services was awarded a contract for the natural gas distribution, water, and waste water systems.

The utility privatization team structured all four contracts in an indefinite delivery, requirements contracting format. Actual work is accomplished by issuing task orders under the basic contract. In this case, the government issued task orders immediately after each contract was awarded. These task orders require the awardees to accurately characterize each system, and prepare work plans to upgrade, own, and operate the systems. The work is expected to be completed next spring, and will result in scopes of work that are submitted by the awardees and agreed to by the Government. The government will use the scopes of work to prepare independent "should cost" estimates and compare them to the awardees' cost proposals.

Ownership of the systems will be transferred to the contractors only if it is in the government's best interest to do so. If not, the installation can request an exemption from privatization, or it can use the work products as the basis for new solicitations.

The decision regarding the transfer of ownership will be made by the respective installation commanders and FORSCOM Headquarters only after the initial task orders are completed and evaluated. Any transfer of system own-

ership will be accomplished by issuing a second task order against the basic contracts.

If carried to completion, the process has three phases. In phase one, the government issues a competitive solicitation and offerors submit proposals based on the best data available. The government evaluates the proposals and selects the "best value" offeror. In the second phase, the government awards the basic contract and initial task order to the "best value" offeror. Under this phase, the successful offeror does the necessary research to develop a well-defined scope of work. If the results reveal it is in the government's best interest to privatize, then a second task order is issued and phase three begins. Under this phase, the contractor owns, operates, maintains, and upgrades the system to support mission requirements. Additional task orders may be issued to cover new requirements identified during this phase.

Huntsville Center recommended a three-phase process because sufficient information was not available to develop definite scopes of work for the solicitations. Without well-defined scopes of work, the government has found that resultant proposals contain many assumptions and contingencies to counter the high risks involved. Technical and cost variations between the government position and the various offer-

ors have been found to be so divergent that it is impossible to justify a recommendation to privatize.

Advantages of the three-phase process are:

- Requires the contractor to accurately define the system inventory, condition assessment, and environmental base line prior to the ownership transfer decision.
- Gives the installation more flexibility and control over the final scope and price.
- Provides for exclusive interface with one contractor, which results in a smoother and more accurate agreement and ownership transition.

One characteristic of the three-phase process is that funds must be available to pay the contractor for work performed under the initial task order. The installation cannot finance these costs over time because financing is not allowed prior to the decision to privatize. In the cases of Fort Bragg and Fort Campbell, funds to pay for the initial system assessments were programmed and provided by HQ FORSCOM.

Although this process requires upfront costs and takes a little more time to execute, the expected results will provide a significant improvement in the information needed to make the privatization decision.

POC is Bobby Harman, (256) 895-1528, e-mail: bobby.d.harman@hnd01.usace.army.mil 

Bobby Harman is the Program Manager for Utility Systems Privatization at the Installation Support Directorate, U.S. Army Engineering and Support Center, Huntsville.



Brown wins top award

Secretary of the Army Louis Caldera recently presented William A. Brown, Principal Assistant for Military Programs, HQUSACE, the Award for Outstanding Achievement in Equal Employment Opportunity (Manager). This annual award honors individuals who have made outstanding contributions to the Total Army Team. Brown was recognized for improving opportunities for minorities by implementing the Leadership Development Program.



Army's largest post selects developer to privatize housing

by Gary Sheftick

A private developer has been selected to draw up a plan to take over management of family housing at Fort Hood, Texas, with the firm agreeing to renovate or replace the 5,482 quarters there and build several hundred new ones.

The Army signed a contract June 28 with a company called Fort Hood Military Housing, LP — a joint venture between a California firm called Lend Lease Actus and the Georgia-based company Trammel Crow Residential. Under the contract, the firm will work with the Army to draft a Community Development Management Plan for Fort Hood. This effort will take about 6 months, officials estimate. If the plan is accepted, then the company takes over family housing on post. The contract will be for 50 years and is valued at about \$4 billion.

Fort Hood will be the second installation to privatize housing under the Army's new program called the Residential Communities Initiative. Fort Carson, Colo., privatized its housing in September. Fort Lewis, Wash., is currently evaluating the qualifications of contractors. Fort Meade, Md., began accepting bids from developers in May and has extended the solicitation period through the end of July.

Forts Hood, Carson, Lewis and Meade were selected to participate in the RCI Pilot program to test the concept of housing privatization for a larger scale program within the Army, said Mahlon Apgar IV, assistant secretary of the Army for Installations and Environment.

"RCI is all about taking care of our soldiers and their families," Apgar said after announcing the Fort Hood contract. He said the program will provide soldiers with a quality of housing that the Army could not otherwise afford, due to funding restraints. Apgar said that America has the "most efficient and effective housing industry in the world" and RCI will take advantage of that private-sector expertise. Under

RCI, a private developer owns and operates family housing and charges soldiers rent. In exchange, the developer agrees to maintain and renovate or replace current facilities and build new housing to meet family housing needs.

Since Fort Carson privatized its housing in September, the developer has already renovated 200 of the 1,823 units of family housing. Officials said that the renovated housing had been vacant for some time due to lack of funds to repair it. The contractor fixed the quarters and moved soldiers in prior to Christmas. In addition, the company broke ground March 25 on the 840 new housing units to be constructed at Carson.

Apgar explained that the developer at Fort Carson was selected using the traditional "request for proposal" or RFP approach. Bidders were required to submit detailed proposals which developers said cost them \$200,000 to \$500,000 to prepare. Fort Hood and the other two RCI posts are using a streamlined process, officials said, by only asking for the qualifications of developers.

The new Request for Qualifications, or RFQ approach, will focus on the developer's experience, past performance, preliminary concept, financial capabilities, organizational capabilities, (expected) financial returns and utilization of small concerns as subcontractors, said Ted Lipham, RCI program director. He said submitting the RFQ is expected to cost developers only a fraction of what it cost to compete at Fort Carson.

The difference with the RFQ is that a detailed Community Development Management Plan will be drawn up with the developer after the selection is made. For instance, the developer and Fort Hood officials will now go to work to jointly determine the exact number of new housing units and other facilities to be built on post. Along with housing, Lipham said parks, playgrounds, running tracks and other such areas could



be built as part of the plan. He explained that this approach will allow the installation commander and staff to work closely with the private developer to tailor communities to local needs.

Fort Hood Military Housing, LP is being paid \$350,000 for development of the Community Development and Management Plan. Once the plan is approved and the company takes over family housing, all income and operating expense to maintain and build housing will come from the rent paid by soldiers.

U.S. Rep. Chet Edwards (D-Texas), congressman for the district Fort Hood falls under, said the RCI contract for Hood is "good news" for families in his district. "It means taxpayers will save hundreds of millions of dollars," he said.

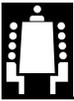
Edwards was optimistic about Congress extending the authority to privatize additional sites.

"I think this program, now that we're starting to see dirt move, will be looked upon favorably on Capitol Hill," he said.

MG Geoffrey D. Miller, Deputy Chief of Staff for Personnel and Installation Management for Forces Command, said he hopes RCI will eventually modernize a sizeable portion of the Army's family housing. He said the Fort Hood contract "begins a long-term partnership to provide equality of life to our soldiers and their families." **PWD**

(Note: More information about RCI can be found at <http://www.rci.army.mil/>)

Gary Sheftick works for the Army Staff News Service.



Army increases use of design-build for project delivery

by Pete Tamilin

The Army is proceeding with increased use of design-build as a project delivery strategy for military construction. It is apparent that significant benefits can be realized through use of design-build, including reduction of design costs and fewer change orders during construction.

The Army is planning a minimum of 25 percent (by program amount) of the FY 02 MCA projects in the next Budget Estimate Submission to be accomplished using design-build. The goal is to ramp up to 50 percent in subsequent years.

Effective use of design-build strategy requires careful definition of requirements during the preparation of the project DD Form 1391 and the request for proposal (RFP). The opportunities to make changes after the design-build contract award will be severely limited. In accordance with AR 415-15, Appendix M (revision dated 7 January 2000), all discretionary (user requested) changes after award of the design-build contract must be approved by OACSIM (DAIM-FD). To ensure obtaining the necessary facilities, MACOMs/installations must consider the following:

a Careful preparation of the DD Form 1391 and increased use of planning

charrettes. For FY 04 projects, MACOMs/installations are urged to fund planning charrettes conducted by USACE. For FY 05 projects, OACSIM has centrally programmed some OMA funds for planning charrettes. These funds will be made available in FY 02 for selected projects.

b Detailed review of the RFP by the MACOM/installation. All organizations that have a vested interest in the project should participate, including the user, DOIM, force protection officer, provost marshal, fire marshal, and environmental officer.

c Full participation in RFP charrettes. Charrettes conducted during the preparation of the RFP should receive full MACOM/installation support.

Design-build is an effective project delivery strategy and will become mainstream in Army MILCON execution. MACOMs/installations are urged to become familiar with the policies and procedures for design-build to assure effective participation in the process. A PROSPECT Course is offered on this subject.

POC is Pete Tamilin, DAIM-FDC, (703) 692-9207, e-mail: peter.tamilin@hqda.army.mil **PWD**

Pete Tamilin is a civil engineer in the Construction Division of the OACSIM Facilities and Housing Directorate.

New code for MILCON design-build procurement

by Pete Tamilin

To better manage the Army's increased use of design-build as a project delivery strategy for MCA and UMMCA programs, the ACSIM has established a Code 7, defining it as follows:

Code 7: Preparation of a request for proposal (RFP) for a design-build project is authorized. Award of an architect-engineer contract to prepare a design-build RFP is authorized, if appropriate. Under Code 7, the design effort is limited to that which is appropriate to award a contract to a single construction contractor to perform both the design and construction of a facility using performance specifications under a firm, fixed-price contract. The development of nominal technical project criteria is expected. If a technical design level beyond 30 percent is necessary, prior written approval by HQDA(DAIM-FD) is required.

Normally, projects will be released with Code 3 (parametric design) authority. Subsequently, projects identified for design-bid-build will receive Code 6 (final design) authority; projects identified for design-build will receive a Code 7 (preparation of an RFP) authority. Projects planned for execution as design-build must be identified as early as possible but not later than the beginning of Code 3 activities. This change will be reflected in the next update of AR 415-15.

POC is Pete Tamilin, (703) 692-9207. **PWD**

Property book system converting to DPAS

The DoD is implementing the Defense Property Accountability System (DPAS) over financial accountability of property to meet the Chief Financial Officers (CFO) Act of 1990. DPAS is a transaction based integrated logistical and financial system that is compliant with Federal financial and property accountability standards.

The Army is fully committed to implementing DPAS for all TDA units and installation property books. Currently, DPAS has been successfully fielded to 146 Army installations worldwide. The DPAS fielding will continue in FY 01 to include property books within the DPW.

The DPAS Program Manager is creating an automated conversion program to convert the DPW's legacy property book system to DPAS. Assisting in this effort, Fort Riley and West Point provided test data to be used to create the conversion programs. The demonstration tests should be completed in late October for review and approval by Facility Policy Division of ACSIM.

Once the conversion programs are fully operational, the DPW DPAS fielding will commence in the Second Quarter FY 01 with expected completion by the Third Quarter FY 01.

The ACSIM Facility Policy Division POC is Larry Black (703) 428-6173 DSN 328, e-mail: larry.black@hqda.army.mil **PWD**



Left—The first refurbished truck: a 1988 E-One. Center—the first E-One Glider Kit. Right—the 4x4 Pierce second Glider Kit. (Photos by Shawn Charbonneau)

Fort Riley completes Fire Truck Refurbishment Program

by John Boyd

The Directorate of Public Works at Fort Riley recently completed a major program to meet the installation's future safety needs by investing *now* in the Fire Department's apparatus. The Directorate developed a 4-year plan to refurbish the existing fleet and aggressively pursued OPA funding to replace apparatus that was not cost effective to repair.

The need was recognized in 1997 when the fire department had three Engine Companies deadlined for repair and was forced to go out to a neighboring Army Installation (Fort Leavenworth) and a local community outside Fort Riley (Junction City) and borrow fire trucks until repairs could be made. The Deputy Director of Public Works, Larry McGee, then started budgeting for refurbishment of one truck per year until the three trucks were completed. The total investment was over \$630,000, which extended the life expectancy of the trucks by 10-12 years.

The plan got under way in May of 1998 when the first of the three trucks, a 1988 Emergency One, was taken to Ocala, Florida, to the E-One plant for cab and body refitting, new suspension and engine repair to bring it back to factory specifications.

This truck had an aluminum open cab (firefighter seating area) with a steel rear body that started rusting the first year it was in service and in the end had

rusting away from the frame. The truck came back 4 months later with a lot of innovations and improvements, to include a fully enclosed, environmentally controlled raised cab with seating for six personnel, rescue style deep compartments with "roll up" doors, internal ladder storage compartment and a scene lighting package.

In FY 99, the decision was made to perform a complete "Glider Kit" refurbishment of two Military Adapted Civilian Items (MACIs). A careful analysis determined what capabilities were necessary to carry out future missions and how to incorporate new technology into the specifications. Some of the special needs included a pump and roll capability, which allows the vehicle to move around its objective while pumping foam and water, and placing a bumper turret on the front of the vehicle that could be operated by the vehicle driver. This required approval from DA to convert the vehicles from "tactical" vehicle status to Non-Tactical, where OMA funds could be utilized to alter or refurbish them.

In the Glider Kit program, only the motor and transmission are reused and placed into the production line to be built as a new fire apparatus.

The second truck was sent to Florida and returned 6 months later as a new certified Class A fire engine.

This truck has some special features

which include pump and role capabilities, front mounted bumper turret, foam generating system, 750 gallon water tank with integral 40 gallon foam cell, rollup compartment doors, fully enclosed cab with seating for six personnel, bumper mounted attack line and scene lighting package.

The second truck to be rebuilt with a Glider Kit was sent out to a different manufacturer (Pierce) in FY00 and included two additional modifications, a 4-wheel drive package and a remote controlled deck gun with 1,000 gpm capacity. These additional modifications provided Fort Riley with a multi-purpose fire apparatus that is capable of responding in all weather conditions and terrain. It returned September 30th and joined the fleet where it now serves front line duty.

This effort represents a major commitment by Public Works to upgrade the existing fleet in times of financial challenges being experienced by all DA installations. Nevertheless, through planning and dedication, the program was a success and the Fort Riley community now enjoys a new upgraded fleet of fire apparatus that will be around for several generations.

POC is John Boyd, DSN 856-4257, e-mail: boydj@riley.army.mil **PWD**

John Boyd is the Fire Chief at Fort Riley, KS.



Post houses at Fort Monroe get system to dry basements

by Dana Finney



Water seepage into basements creates a mess and damages building components.



A new system to dry up wet basements will make its debut this fall at Fort Monroe after proving successful at several other military posts. Three family housing units at Monroe will be the first to get the system, called “electro-osmotic pulse technology” or EOP for short.

Wet basements, caused by water seeping through concrete and cracks, are a common, nasty problem in many parts of the country. Besides making a mess, the moisture rusts any metal items in the area, leaves a chalky residue on walls, and allows bacteria to grow, which causes the air to smell bad. It can also damage the wall’s structure over time.

“When you think of all that water going through the concrete foundation of a building, you have to be concerned about the structural soundness of the foundations,” said Colonel Paul Dunn, Training and Doctrine Command (TRADOC) Engineer at Fort Monroe.

EOP uses wires and electricity to produce conditions that drive the water out into the earth, where it stays put.

The wires installed in the indoor concrete walls and floor form a positive electrode, while a copper rod driven into the soil outdoors sets up a negative electrode. When the electric current is run from the positive to negative electrodes, it causes an electromagnetic field that pulls water out with it.

According to Vincent Hock, a researcher at the U.S. Army Engineer Research and Development Center’s Construction Engineering Research Laboratory (CERL), “The water molecules are dragged through the concrete and into the soil by charged particles — they are forced to move toward the negative earth.”

The EOP system is patented in Norway and a company in Wisconsin, Drytronic, Inc., owns exclusive rights to sell it in the United States. Hock first tested the EOP technology at Fort Jackson, South Carolina, to learn if it really works. A demonstration in a wet barracks basement there showed that the system does work, and since then, CERL has worked with Drytronic to make it work even better.

Installing an EOP system costs some 40 percent less than the usual treatment — trenching and tiling — and can be expected to last much longer. Once the walls are dry, the cost of power to operate the system is very low, about the same as running a 40-watt light bulb.

With serious seepage problems at Fort Monroe, Fort Monroe’s Directorate of Public Works (DPW) joined forces with CERL to bring in the first three EOP systems.

“The location here, with the Fort surrounded by water, presents a unique situation, and we’ve battled water problems for over 100 years in buildings that have basements,” said Colonel Dunn. “Many of the buildings affected are now significant historical structures, and the moisture is causing their foundations to deteriorate.”

The three housing units to have the EOP system installed, buildings 127, 158, and 188, are all registered with the State of Virginia as historic, which means some parts cannot be altered in any way. But according to CERL scientist Michael McInerney, the EOP sys-





tem will not do any damage. "The State Historic Preservation Office signed off on the project because the system is all contained on the inside and doesn't affect the exterior," he said. Further, all wires and electrodes for the system are mortared into the concrete and cannot be seen.

The buildings to get the first EOP systems at Fort Monroe were selected based on walk-throughs to identify those with severe problems, according to Joe Fuller, Installation Advocate for the TRADOC Engineer. "We actually inspected about ten buildings and selected three — two of which were duplexes," he said. "So the end result is that we will be able to improve the quality of life for five Army families through the installation of EOP technology. Also, we wanted to fund housing demonstrations for officer and enlisted alike. We were successful in finding units that met this goal."

TRADOC headquarters elected to try the EOP technology here based on success stories in the field, where the system has dried up wet basements in soldiers' housing. The barracks at Fort Jackson, which often had up to a foot of water standing on the floor, has been dry since early 1995. In a more recent project completed last spring at Fort Sill, OK, three single-family housing units have systems in place.

"We chose three of our worst buildings," said Ron Means, engineer technician in the Housing Office at Fort Sill's DPW. "They are single-story, historically eligible bungalows with basements, about 1,000 to 1,100 square feet each. The homes were built in 1934 and the type of soil was probably not considered," he said.

The soil he refers to is mostly clay. When conditions are dry, the clay contracts, pulling the moisture out toward the soil and evaporating. Then when it

rains, moisture causes the soil to expand, causing cracks in the foundation walls. "It's a constant shifting and heaving, which is really hard on basements," Means said.

For 10 years the Fort Sill team tried various remedies, including complete excavation, tar mopping, installing French drains to connect with the storm sewer — and another new method, sealing cracks with oil field gel. That's a material used in permanently sealing oil wells that are tapped out.

Most of the treatments only lasted a short while, and even the gel has not worked as well as the EOP system, he said. "Even though some cracks recurred after the first heavy rain, the EOP system cut water intrusion by 50 to 75 percent. Where you used to go down in those basements and smell damp, musty air, they've dried up to where the air quality has improved greatly." Drytronic has since resealed the cracks, which were existing ones around pipes and similar areas.

"Once the system they installed takes over, the dampness goes out of the basement," said SSG Ned Clemons III, who lives in one of the units. "The air quality in the basement improved a great deal."

The EOP systems to be installed at Fort Monroe will demonstrate a slightly different use of the technology. Rather than operating on poured concrete walls, CERL will set up the systems to dry basements made of mortared brick. According to Hock, this will be the first attempt to use the system in this way. "I think it will work — I'm 95 to 100 percent sure of success," he said.

"The EOP system is a good example of how we're trying to use technology to improve our soldiers' quality of life," said Colonel Dunn. "If we can keep a basement dry and livable in a set of quarters, it will make a big difference to occupants in not having to live with an aggravating problem."

For more information, contact Vincent Hock at CERL, (217) 373-6753 or 800-USA-CERL, ext. 6753, e-mail: vincent.f.hock@erdc.usace.army.mil **PWD**

Dana Finney is CERL's Public Affairs Chief.

Cold Regions Lab researcher receives Hammer Award for new technology



Charles J. Korhonen, a research civil engineer, with the U.S. Army Engineer Research and Development Center's Cold Regions Research and Engineering Laboratory (CRREL) in Hanover, NH, has received the Hammer Award for his role as the Team Leader of the Low-Temperature Repair Team for Sequoyah Nuclear Power Plant.

CRREL's Korhonen, in a joint effort with the Tennessee Valley Authority (TVA), S&ME Singleton Labs, and a private material and concrete construction consultant, developed a lightweight portland cement concrete mixture that allowed repairs without shutting down the nuclear plant or disrupting service. This new concrete mix was placed, consolidated, finished and cured at below-freezing temperatures without thermal protection.

"This technology, for placing concrete at sub-freezing temperatures, could extend the concrete construction season by several months in much of North America," stated Korhonen. "Currently, the U.S. construction industry spends about \$1 billion dollars per year to provide heated enclosures for placing concrete at below-freezing outdoor temperatures. Approximately \$800 million of that cost is in heat from non-renewable fossil fuels much of which could be saved by adopting this new low-temperature concrete technology."

For more information regarding this concrete technology, please contact Charles Korhonen at (603) 646-4438. **PWD**



Army develops method to reuse hydraulic fluid

by Dennis A. Teefy, Ralph B. Mowery and Neal C. Werner

A recently developed hydraulic fluid recycling machine can return the fluid to military specifications without shipping the fluid or sending samples to a lab for analysis. (Photo by Dennis Teefy, USAEC)

A recently developed method for returning used hydraulic fluid to service in military vehicles could save installations a significant portion of the costs associated with procurement and disposal of the fluid.

The process, developed by the U.S. Army Fuels and Lubricants Technology Team in cooperation with industry, will also have a significant impact on meeting pollution prevention goals and conserving natural resources.

Hydraulic fluids recycled and tested at the installation level will meet or exceed military specification as a result of this multi-year project.

Researchers from the U.S. Army Environmental Center, the Aberdeen Testing Center and the U.S. Army Tank and Automotive Command first determined the viability of restoring used fluid to military specification performance. They then identified commercially available used fluid processors and demonstrated the performance of the restored fluid in military vehicles.

Third, the Army entered into Cooperative Research and Development Agreements (CRADAs) with manufacturers of the certified processors to develop and test automation technology that would allow recycling at the installation or unit level.

In the lab, Army researchers discovered that used hydraulic fluid, even

when heavily contaminated, performs as well as the fresh, except in low temperature stability, foaming characteristics, fire point, evaporation loss and levels of particulates and water.

Particulates wear out pumps and seals, cause valve spools to stick, score cylinders and generally erode hydraulic system components, leading to malfunction.

Water decreases the lubricity, viscosity and load carrying capacity. It decreases the thickness of the oil film between moving parts and could cause acids to form. When it freezes, the ice crystals can cause malfunctions.

Using an automated recycler, as certified during these studies, can restore hydraulic fluid to meet or exceed military specifications without harming its physical or chemical properties, except for, in some cases, foaming characteristics.

Restoring the anti-foaming properties presented one of two major challenges to finding a method that did not require shipping the fluid away for processing. Foaming resistance requires an additive that is depleted over long-term



use. However, the amounts necessary are so miniscule it would be difficult to blend them into the cleaned fluid outside a laboratory or manufacturing facility.

The amount of anti-foaming additive is so small, in fact, that mixing 25 percent new fluid in with the decontaminated fluid is enough to restore anti-foaming properties to acceptable levels, the team found. A soldier in the field can easily do this.

The other challenge appeared during field testing the different manufacturers' purifying units—some already available and some developed specifically for this program. Many of the devices, though cumbersome, performed adequately, but none provided a way to determine when the fluid had been sufficiently cleaned of particulates and water to meet military specifications. Operators could either collect samples and send them to a laboratory for analysis or process the fluid for an extended period.





Federal agency use of DSCR-provided re-refined oil continues to grow

In 1995, Defense Supply Center Richmond (DSCR) began offering re-refined motor oil to its customers via the Basic Re-refined Motor Oil Program. This program offers re-refined motor oil to federal civilian and military agencies worldwide. Since that time, DSCR has added the Closed Loop Re-refined Motor Oil Program (Closed Loop) that offers re-refined motor oil in the Continental US and includes free pick-up of the customers waste oil, up to 120% of what is purchased.

Both programs have packaged products that are readily available to the customer and are competitively priced when compared to virgin oils. The Closed Loop Program even offers bulk deliveries if you meet the 200-gallon minimum order requirement.

Since the inception of DSCR's re-refined oil programs, customer demands have continued to grow. At the direction of Dave Oliver, the Principal Undersecretary of Defense for Acquisition and Technology, DSCR implemented an Automatic Substitution Policy where all DoD commercial virgin oil requisitions that have a re-

refined oil counterpart are automatically substituted with the re-refined oil equivalent. This has helped customers comply with Executive Order 13101/13149 and increase their re-refined oil usage.

Likewise, automatic substitution policies are in place for the Department of Justice, Department of Interior and the Department of Transportation. Additionally, DSCR has diligently worked with the U.S. Post Office Fleet Managers. Many of them are now participating in the DSCR Closed Loop Program. It is DSCR's goal to eventually have all postal vehicles in each region of the continental U.S. purchasing re-refined oil.

One example of the increase in re-refined oil usage lies within the Department of Defense. As a percentage of DSCR total comparable virgin/re-refined oil usage, the DOD has moved from 8.6% re-refined oil usage in FY 97, to 18.8% in FY 98, to 27.5 %

in FY 99, and 38.4% in FY 00. Factoring in the automatic substitution policies, DSCR's re-refined/virgin oil sales were up 11% in FY 00 compared to sales in FY

99 and total re-refined oil usage increased approximately 50.4% in FY 00 compared to FY 99.

DSCR feels that there is still much room for growth in this area both within the Department of Defense and Civilian Federal Agencies.

Both federal military and civilian consumers of virgin oil products may purchase the environmentally preferred, re-refined motor oil from Defense Supply Center Richmond. This will help in complying with Executive Orders 13101/13149 and due to the rising costs of crude oil, may reduce overall costs associated with the purchasing of motor oil. To place an order, please call the DSCR Call Center at (804) 279-4865 and press 0; or use your government credit card by accessing the website (www.emall.dla.mil).

For questions concerning DSCR's Re-refined Oil Programs, please contact Jim Fazzio at (804) 279-4908 DSN 695. **PWD**

(continued from previous page)

The Army needed affordable units capable of performing in-line analysis of the fluid and giving a "go" or "no-go" indication to the operator. Two vendors from the field demonstration agreed to attempt to incorporate such a sensor. So far, one company has produced a fluid recycler with a built-in sensor.

Since its filters can typically remove particulates before dehumidifiers reduce water content to acceptable levels, the unit incorporates a water sensor. After giving the filters time to work, the unit checks the water sensor. Once the humidity is reduced to the level required by the military specification of the fluid being processed, the recycler shuts off automatically.

The unit is now certified by the Army and is commercially available. Due to its reasonable cost, the process has high potential for long-term cost savings. For example, fresh MIL-H-46710 (FRH) fluid costs \$10 per gallon, and disposal costs can reach \$3 per gallon. USAEC estimates the cost to recycle FRH to be less than \$3 per gallon, depending on site conditions, fluid contamination and available workforce.

Since the field tests, the U.S. Army's CH-47 (cargo helicopter) program has successfully implemented the use of the recycling units as part of their maintenance program. The U.S. Air Force and U.S. Navy are also well into their evaluations of the unit. USAEC will continue field demonstrations of this

process throughout the fiscal year.

For more information, please contact the USAEC technology transfer hotline at t2hotline@aec.apgea.army.mil or call 1-800-USA-3845.

POC is Ralph B. Mowery, (810) 574-4220 DSN 786, e-mail: moweryr@tacom.army.mil **PWD**

(NOTE: This article is not to be construed as a DoD endorsement of a particular vendor's product.)

Dennis A. Teefy works at the U.S. Army Aberdeen Test Center at the Aberdeen Proving Ground, MD; Ralph B. Mowery works for U.S. Army TACOM in Warren, MI; and Neal C. Werner works for Pall Aeropower Corporation in Clearwater, FL.



Fuel cell system powers Anchorage post office

The Corps of Engineer's latest project under the Department of Defense Fuel Cells Program is also the nation's biggest to date. In partnership with the U.S. Postal Service (USPS), Chugach Electric Association, Inc., and International Fuel Cells (IFC), the Construction Engineering Research Laboratory (CERL) designed a system of five fuel cells connected in parallel to provide an uninterrupted power supply for USPS's Anchorage center.

A fuel cell is similar to a battery. It uses an electrochemical process to convert chemical energy into electricity and hot water. Each IFC-supplied PC25(fuel cell generates 200 kilowatts of electricity, enough for more than 100 homes, and more than 700,000 Btu's per hour of usable heat.

Heat recovery from the fuel cells will help provide space heating to the facility, increasing the overall fuel efficiency of the Postal Service Center. As a result, less fuel will be needed than from conventional systems.

Fuel cells do not burn fuel so the system eliminates air emissions normally associated with acid rain and smog, and dramatically reduces those associated with global warming. Compared with electricity generated from the average combustion-based processes in the continental U.S., a one-megawatt fuel cell system would save more than 200,000 pounds of air pollution and 11 million pounds of carbon dioxide from the atmosphere during each year of operation.

Research, development, manufacture and installation of the \$5.5 million fuel cell system was funded, in part, by Chugach, USPS, DoD, Cooperative Research Network of the National Rural Electric Cooperative Association, and the Electric Power Research Institute.

In addition, a new control system for the project was developed by CERL as part of the DoD Fuel Cells Program. The system assures that the facility will continue to operate uninterrupted during a grid outage. If there is a grid out-

age, the fuel cells transition to operate as an independent system, continuing to power the Postal Service facility. The automatic transition will appear seamless, eliminating the need for conventional non-interruptible power supplies and stand-by generators.

CERL is a U.S. Army Engineer Research and Development Center (ERDC) laboratory. A CERL research team has managed the DOD Fuel Cells Program for its duration in the interest of advancing this environmentally friendly technology by introducing it at military installations. To date, 31 fuel cells have been installed under the program. CERL also manages the Fuel Cell Rebate Program.

For more information, please contact Dr. Michael Binder, (217) 373-7214, e-mail: m-binder@cecer.army.mil or Frank Holcomb, (217) 352-6511, ext 7412, e-mail: f-holcomb@cecer.army.mil **PWD**



Array of five fuel cells delivers one megawatt of electricity to the Post Office via the local electric utility's grid. Recovered heat warms occupants. The system is part of Chugach's power grid and the utility operates it for USPS. Compared to a combustion-based system, the fuel cells avoid releasing some 200,000 pounds of pollutants and 11 million pounds of carbon dioxide into the atmosphere each year.



Device captures and recycles volatiles from exhaust

by Dana Finney

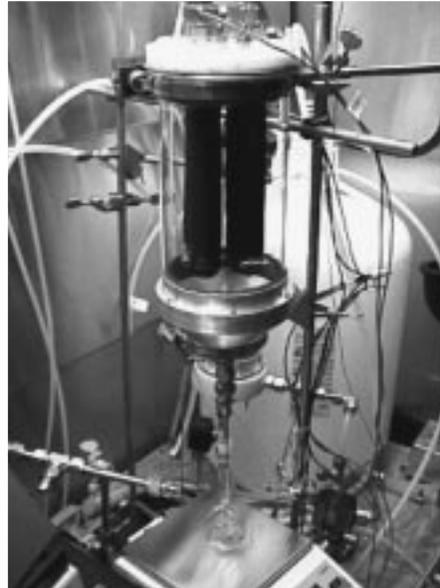
Innovative use of a carbon fiber material allows hazardous air pollutants (HAPs) to be collected and siphoned off for reuse. The Construction Engineering Research Laboratory (CERL), in partnership with the University of Illinois and the U.S. Air Force, has developed a cartridge-like device that captures HAPs and volatile organic contaminants (VOCs) exhausted from operations such as painting and chemical cleaning.

The new system uses a woven, pure carbon fiber cloth which is rolled up into cylinders and located in a metal vessel. When HAPs-contaminated air is pulled through the vessel, the substance adheres to the carbon fibers until the adsorbent is saturated. Then an electric current passes through the cylinders and the captured material desorbs from the fabric, condensing onto the chamber walls, which have remained cool throughout the process.

"Much of the energy goes into desorbing material from the carbon fibers, not in heating of the ancillary equipment and containment vessel," said Dr. James Hay, CERL researcher who led the project. "The liquid HAP that collects on the cool walls of the vessel is readily removed from the gas stream and is available for reuse in the process that originally generated the pollutant."

Hay's team developed the technology for U.S. military operations at installations and munition plants. Many activities required to support the defense mission release VOCs and other HAPs, including equipment cleaning with chemicals and painting weapons and tactical vehicles. The woven, activated carbon material used in the new system originally was designed for electronic and fire prevention applications.

CERL's device represents a breakthrough in pollution treatment technology. Conventional treatments use gran-



ular activated carbon, which is a spherical-like material placed in canisters. Once it becomes inundated with contaminant, a second step is required to purge it — usually involving steam. Then another procedure must occur to remove water so the carbon can be reused.

According to Hay, the new system is novel because it eliminates the additional steps by collecting and desorbing the HAPs all in the same vessel. "Any time you avoid a treatment process, you save money. That's especially true when the process uses a lot of energy like the current methods do," he said.

Besides lowering the cost of treatment in that way, the new carbon fiber fabric system will be more cost-effective because the substrate will not have to be replaced as often. In addition, it achieves a state of purity in emissions that falls well under regulated levels and will avoid fines for non-compliance.

"We estimate the cost will be 20 to 50 percent lower to use than conventional pollution abatement methods," said Dr. Mark Rood, University of Illinois professor who co-developed the system. "We won't know for sure until



Above: James Hay (left), CERL, and Mark Rood, University of Illinois, examine a bench-scale version of the carbon fiber filter.

Left: Lab-scale treatment system.

we do the pilot-scale test, but laboratory testing points to significant savings." Lab tests focused on capturing methyl ethyl ketone, a common HAP. A pilot-scale device is being developed and will be field-tested in the coming year.

In addition to the environmental and economic benefits of the new treatment system, CERL's device means greater flexibility in choosing paints and other chemicals. With increasingly stricter emission standards, many operators have tried using products with lower VOC content to comply with regulations. These materials can be more expensive and almost never afford the same quality as higher VOC content products.

Military operations now will be able to use materials best suited for the application thanks to the new carbon-fiber fabric system. And while it was developed to help DoD comply with the Clean Air Act, the device also has major spin-off potential.

"We've already been contacted by private sector companies who are interested in using it for different purposes, such as coating and degreasing operations," Hay said.

For more information, please contact Dr. James Hay at CERL, (217) 398-3485, e-mail: james.hay@erdc.usace.army.mil **PWD**



Testing proven products in new combinations may mean new technology

by Kim Gillespie

The Huntsville Center, as part of its on-going mission to ensure Ordnance and Explosives project site safety, tasked Zapata Engineering and the Southwest Research Institute to test the DeMil International's transportable Donovan Blast Chamber for the concept of safe and efficient destruction of a toxic simulant.

"Huntsville Center does not do R&D (Research & Development), but we do look for better and safer ways of doing business. The Donovan Blast Chamber has already been approved by the Department of Defense Safety Board and is currently being used for destruction of conventional munitions at the Massachusetts Military Reservation. Because of its capacity for destruction of munitions without emissions, we are looking at other ways it can be applied to protect the public and the environment," said Chuck Twing, team leader for Huntsville Center's Chemical Warfare Materiel team.

Tests were conducted in June to determine if a toxic simulant could be effectively destroyed within a blast chamber contained in a vapor containment structure with no detectable levels of smoke simulant escaping the vapor containment structure's air filtration system to the external environment.

The draft report containing the analyses of the test result was issued to Huntsville Center in September, and initial conclusions are positive. "Huntsville Center should have the final report available for those interested by the end of this calendar year. These tests were very limited in scope and context and we will probably recommend a second phase of expanded tests be conducted."

Four tests were conducted, with Tests 1 and 2 being used for informational purposes, and Tests 3 and 4 serving for qualitative evaluations. Tests 1 and 2 were conducted with only the Donovan

Blast Chamber in an open-air environment. Air sampling was conducted by inserting DAAMS tubes into the ductwork at approximately three, six and nine feet from the chamber's overpressure outlet. Tests 3 and 4 were conducted with the Donovan Blast Chamber in an enclosed environment—the vapor containment structure.

The blast chamber's overpressure outlet exhausted directly into the vapor containment structure, and the vapor containment structure was connected to a filtration system provided by the Edgewood Chemical and Biological Command. Two DAMMS tubes were mounted approximately one foot above the discharge stack on the air filtration system for Tests 3 and 4. In addition, two DAAMS tubes were placed inside the vapor containment structure to measure ambient air quality.

"The vapor containment structure is already an approved and proven tech-

nology, but we wanted to see how the detection levels differed. That is why we labeled the first two tests as "information data," while we considered the second two tests as "pass or fail," explained Twing.

The simulant used for testing was methyl salicylate (oil of wintergreen), an industrial chemical commonly used as a simulant for hazardous material. "The Soldier, Biological and Chemical Defense Command (SBCDCOM) has the expertise in this area, and they recommend using this simulant for testing," said Twing.

The technical team conducting the tests consisted of Huntsville Center, Zapata Engineering, Southwest Research Institute and Sudhakar Co. Zapata provided all engineering and support services for the test. Southwest Research and Sudhakar were subcontracted to Zapata and conducted the actual testing. Southwest



Installation of the DAAMS tubes inside the ductwork for Tests 1 and 2.



provided air monitoring and analysis of air and surface waste residue generated during blast containment structure testing events, and measured pressure changes inside of the vapor containment structure during Test 4. Sudhakar assisted Southwest Research in the detonation of test blasts.

The tests were conducted at Southwest Research Institute's facility in San Antonio, Texas. All personnel involved in the testing were properly trained and qualified. The inventor of the Donovan Blast Chamber was also on-site to assist with the chamber.

High oxidizing Datasheet was used as the donor charge. "We wanted the blast to consume as much of the simulant as possible, so a 4:1 explosive-to-simulant ratio was determined to be best for these initial tests, but we didn't want to exceed the 3- to 5-pound explosives limit of the Donovan Chamber, so lesser amounts of the simulant were used than would likely be encountered with a real hazardous material," explained Twing. The other variation used for the test was wet testing and dry testing. "The purpose of the wet test was to assess the effect of water on simulant destruction," said Twing. Wet tests were conducted by suspending water-filled plastic bags from the inside roof of the blast containment chamber.

Tests 1, 3 and 4 were conducted using 0.25 pound of simulant and 1.0 pound of charge. Test 2 was conducted



Installation of the DAAMS tubes above the air filtration system discharge stack used for Tests 3 and 4.

using 0.094 pound of simulant and 0.375 pound of charge. Tests 1 and 3 also were wet tests and included 1.0 pound of water. Tests 2 and 4 were dry tests.

Results of the tests indicate that no detectable levels of simulant were measured outside of the vapor containment

structure. Additionally, Test 4 included a pressure sensor attached to the wall, but no significant change in pressure was detected. "We will probably recommend a second phase of testing be performed with a greater variation on the charge. We would also like to see more variations on the wet and dry tests, with a possible neutralizing agent being used with or in place of the water," said Twing.

"Both the blast chamber and the vapor containment structure were commercially developed products, and have proven to be safe and reliable. We believe it is a worthwhile investment to explore the various ways these products can be used. Combined with our experience of actually implementing technologies out in the field and our track record for safety, we think we have a pretty good feel for what will work," concluded Twing.

POC is Chuck Twing, (256) 845-1543, e-mail: charles.l.twing@hnd01.usace.army.mil **PWD**

Kim Gillespie is a public affairs specialist at the Huntsville Center in AL.



The configuration of the Donovan Blast chamber inside of the vapor containment structure for Tests 3 and 4.



“66 Series” Geoprobe probes new depths

by Nancy Gould

Last December, the Savannah District added the “66 Series” Geoprobe to its arsenal of contaminate detection and remediation tools. The powerful new \$130,000 direct push machine has proven already to be a valuable investment for the district’s HTRW program, which has been funded \$7 million for in-house work for FY 00.

The “66 Series” pushes well casings and investigative probes to greater depths faster than the district’s other Geoprobe. It can apply 30,000 pounds of pressure using a nitrogen charged hammer to hit a driving rod into the earth at a rate of 33 times a second.

“We can install two-inch wells now,” said Tom Whitacre, geologist in the Geology/Hydrogeology & HTRW Design Section. “We were limited to half-inch wells with the smaller Geoprobe. The larger two-inch diameter provides extra space that allows us to install more instrumentation if we need to. We can also collect larger soil and groundwater samples for investigative purposes.”

Recently the district used the new machine to install monitoring wells as deep as 100 at contaminated sites at Fort Benning. The smaller Geoprobe is limited to shallow well installation for depths up to thirty feet. In the past, the drill rig was used almost exclusively for wells more than 30 feet deep, even though the work is slower and more costly.

Wesley Herman, drill rig operator, said the new system is extremely fast compared to other drilling tools. He has installed as many as 20, 30-foot wells with the new system in one day—a job that would take two to three weeks with the drill rig. The new system is cleaner, safer, and less tiring, according to Herman, who says he uses



The “66 Series” Geoprobe generates minimal Investigation Derived Waste (IDW) compared to the large volumes generated by the traditional drilling rig used to drill to the same depths.

5-foot drill rods instead of the 10-foot rods used with the drill rig.

The Geoprobe also has another major benefit. It generates minimal Industrial Waste (IDW) compared to large volumes generated by the drill rig. Disposal of the IDW incurs even more costs. But even with drawbacks, the drill rig’s ability to penetrate rock and consolidated soil makes it the best tool for the job in certain soil conditions.

Managers should consider the tasks required at a site and match the objective they wish to achieve with the technology that’s available, says Cardwell Smith, the district’s technical coordinator for the Site Characterization and

Analysis Penetrometer System (SCAPS). For example, SCAPS could be the investigative tool of choice for some sites with petroleum contamination at depths 100 feet or less because of its ability to locate source areas of contamination quickly at a relatively low cost.

Both Geoprobe systems have contaminate probes similar to SCAPS but the new Geoprobe has additional features not available on the smaller Geoprobe. The Membrane Interface Probe (MIP) detects volatile substance in subsurface soils through the vertical soils readings it takes as it is driven into the ground. The readings reveal where monitoring wells should be placed. Another new probe collects soils stratigraphy data, which identifies sands and clays.

Besides investigative work, the new tract mounted Geoprobe is used to perform various kinds of remediation such as pumping Oxygen Release Compound (ORC) into the earth’s subsurface, a process performed at the Marine Corps Air Station in Beaufort, S.C. to eliminate gasoline related contamination of groundwater.

Whitacre said the maneuverability of the compact Geoprobe makes it easy to reposition. The machine moves back and forth easily in small areas and can maneuver through shallow water, soft sands, or muddy fields.

“We’ve gotten a lot of positive feedback on the new Geoprobe from customers,” Whitacre said. “We’re saving them money and getting the work done more quickly than we ever have before.”

POC is Tom Whitacre, (912) 652-6003, e-mail: thomas.j.whitacre@usace.army.mil **PWD**

Nancy Gould is a public affairs specialist with the Savannah District.

New faces at HQ

On October 6, 2000, the U.S. Senate confirmed MG Robert B. Flowers for appointment to the grade of lieutenant general and assignment as the Chief of Engineers/Commanding General, United States Army Corps of Engineers, Washington, DC. LTG Flowers follows LTG Joe N. Ballard, who retired on August 2, 2000. Below are the biographies of LTG Flowers and MG Milton Hunter, Deputy Chief of Engineers, former Deputy Commanding General for Military Programs at HQUSACE.

The Chief of Engineers occupies a unique position as a senior member of the Army Staff and as commander of a major Army command. He has Army Staff responsibility for engineering, housing, construction, real property, natural resources, and environmental programs for Department of Army. He also provides advice and assistance on military engineering and topographic matters.

As a major commander, the Chief of Engineers directs an organization of more than 500 military and approximately 37,000 civilian members with an annual program exceeding \$10 billion. Major missions include military facilities construction for the Army and Air Force; environmental restoration of current and former defense installations; and the Army's civil works program.

The Corps of Engineers also provides engineering assistance following natural disasters, regulates work in the nation's waterways and wetlands, conducts research and development, serves as the Army and Air Force real estate agent, and provides engineering services to 60 other federal agencies.



LTG Robert B. Flowers Commander and Chief of Engineers U.S. Army Corps of Engineers

Lieutenant General Robert B. Flowers assumed command of the U.S. Army Corps of Engineers as the 50th Chief of Engineers on October 23, 2000.

General Flowers was born in Pennsylvania and resided in several areas of the world as his family moved around during

his father's military career. Following graduation and commissioning from the Virginia Military Institute in 1969, he completed Airborne and Ranger training and began his career as an Engineer Officer. He holds a master's degree in civil engineering from the University of Virginia and is a registered professional engineer in Virginia.

Prior to his selection as Chief of Engineers and Commanding General of the U.S. Army Corps of Engineers, he served as the Commanding General of the Maneuver Support Center and Fort Leonard Wood, Missouri. His other commands include an Engineer Company in Germany; the 307th Engineer Battalion, 82nd Airborne Division; the 20th Engineer Brigade, XVIII Corps (Airborne); and the Mississippi Valley Division of the U.S. Army Corps of Engineers.

Operational deployments include command of an expanded brigade of 10 battalions (7,700 soldiers) during Operations Desert Shield and Desert Storm; Task Force Engineer for the Joint Task Force in Somalia; and Deputy Chief of Staff for Engineering (Forward), U.S. Army Europe in Bosnia.

Other assignments include Assistant Division Commander, 2nd Infantry Division (Mechanized), Eighth U.S. Army, South Korea; Deputy Commanding General and Assistant Commandant, U.S. Army Engineer Center and School, Fort Leonard Wood, Missouri; Branch Chief, Counternarcotics Operations Division, Washington, D.C.; Combat Developer, Combined Arms Center, Fort Leavenworth, Kansas; Field Engineer and Research Project Manager for the Portland Engineer District; and Staff Engineer in Thailand for the Udorn Detachment and Northern Thailand.

General Flowers and his wife Lynda have four sons, two daughters-in-law and one granddaughter: Rob and Mandy, 2LT David and Christy, Bill, Matt and granddaughter Hannah. **PWD**



MG Milton Hunter Deputy Commanding General U.S. Army Corps of Engineers

Major General Milton Hunter, became the Deputy Commander for the U.S. Army Corps of Engineers in Washington, D.C., on August 2, 2000.

MG Hunter is a 1967 Architectural Engineering and distinguished military graduate of Washington State University,

and he holds a Masters Degree in Engineering (Construction Management) from the University of Washington. He is also a graduate of the Engineer Officer Basic and Advanced courses, the Command and General Staff College, the Army War College, the Executive Development Program, Darden School of Business Administration of the University of Virginia, the Construction Executive Program of Texas A& M University, and the Senior Managers in Government Program at the John F. Kennedy School of Government, Harvard University.

Previous assignments with the Corps of Engineers include Commanding General and Division Engineer of the North Atlantic Division, Commanding General and Division Engineer of South Pacific Division, Chief of Staff, U. S. Army Corps of Engineers, Washington, D.C.; Commander and District Engineer, Seattle District; Assistant Director of Civil Works, Central Region, Directorate of Civil Works; and Deputy District Engineer, Charleston Engineer District. He served as a program analyst in the Directorate of Program Analysis & Evaluation, Office of the Chief of Staff, Army; in the 339th Engineer Battalion (Construction) at Fort Lewis, Washington; as Executive Officer & Company Commander with Headquarters and Headquarters Company, 937th Engineer Group (Combat),

18th Engineer Brigade, Vietnam; as Assistant Division Engineer of the 12th Engineer Combat Battalion, 8th Infantry Division (Mechanized) at Bad Kreuznach, West Germany; and as Commander of the 79th Engineer Combat Battalion (Heavy), 18th Engineer Brigade at Karlsruhe, West Germany.

MG Hunter is married to the former Karina Bechtle and they have two sons, Alexander and Patrick. **PWD**

Chief's Philosophy

- Every USACE soldier and civilian has four individual responsibilities:
 1. Know your job.
 2. Be situationally aware.
 3. Be healthy.
 4. Treat every individual with dignity and respect.
- Leaders set the example.
- Think through problems and let me know what **YOU** would do if **YOU** were the CG. **DON'T COMPLAIN!**
- Keep a sense of humor, enjoy your families, and have fun.



Chief's Permission Slip

Ask yourself:

1. Is it good for my customer?
2. Is it legal and ethical?
3. Is it something I am willing to be accountable for?

If so, don't ask for permission. You already have it. **Just do it!**

—LTG Robert B. Flowers

Public Works

Digest

In This Issue:

New Technologies

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