

Public Works *Digest*

Volume IX, No. 4
May 1997

A publication of the U.S. Army
Center for Public Works

PORT SILL
OKLAHOMA



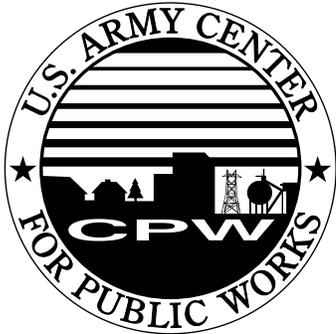
HOME OF THE
FIELD ARTILLERY

BEST POST IN THE ARMY
1985 1990 1992



In This Issue...

**Good ideas from
around the Army**



Public Works Digest is an unofficial publication of the US Army Center for Public Works, under AR 360-81. Method of reproduction: photo-off-set; press run: 3,000; estimated readership: 40,000. Editorial views and opinions expressed are not necessarily those of the Department of the Army.

Address mail to:

Department of the Army
US Army Center for Public Works
Attn: Editor, **Public Works Digest**,
CECPW-P
7701 Telegraph Road
Alexandria, VA 22315-3862
Telephone: (703) 428-6404 DSN 328
FAX: (703) 428-7926
e-mail: alex.k.stakhiv@cpw01.usace.
army.mil

Edward T. Watling
Director—U.S. Army Center for
Public Works

Penelope Schmitt
Chief—DPW Liaison Office

Alexandra K. Stakhiv
Editor

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

Fort Sill



- 1 Fort Sill—Clinging to excellence by the fingernails *by Penelope Schmitt*
- 1-2 Funding the Dirty Dozen
- 2 SAVings for Fort Sill
- 3-4 Customer-driven work teams
- 5 One good idea at a time
- 6-7 BOP—real investment opportunity
- 7-9 Learning the steps to Beebop—sweet music for the single soldier
- 8 Electronic entry saves hassles
- 10-11 One Army, and growing—Fort Sill supports 90th RSC

Energy



- 11 Prime power soldiers help DPWs win *by MAJ Tony Vesay*
- 12 Maintaining freedom's frontier *by SGT Raymond Barba*
- 12-13 Fort Lee welcomes Prime Power assistance *by SSG Christopher Wooley*
- 13-14 Yuma Proving Ground plugs into the sun
- 14-15 Riley energy office marches on

Installation Management



- 16 Program to "FIT" customer needs *by Dana Finney*
- 17 New work got you down? Call the Special Studies Team!
- 18-20 Finding temporary space in Europe—no easy task *by Clayton Turner*
- 20 BOLD Grants program includes more money-saving investments *by Jim Caldwell*
- 21 Fort Drum celebrates a decade of safety excellence *by Penny M. Joels*
- 22 Performance-based contracting *by Bob Hobenberg*
- 22 Reg recommends firm fixed-price contracts *by Bob Hobenberg*
- 23 Revised environmental protection & enhancement policy *by Robert W. Fenlason, III*
- 23 Army Environmental Training Support Center offers ITAM support

Automation



- 24-25 Commercial software tested at Fort Eustis
- 25 EPANET makes water quality and distribution system modeling easy
by Nelson Labbé
- 26-27 34 happy installations can't be wrong! *by Dana Finney*
- 27-28 It's COTS to be good! *by Martha Sharpe and Dick Farner*
- 29 Buying computer equipment on the web?—you bet!

Facilities Engineering



- 30 Let CPW help you manage your railroad network
- 30 STOP throwing away solvents *by Robert W. Fenlason, III*

Professional Development



- 31 CPW's Professional Development and Training—
not your little red schoolhouse anymore *by JB Nolen*
- 32 O&M training for HVAC controls
- 32 PROSPECT Registrar changes
- 33 Air Force Institute of Technology (AFIT) training
- 33 DOE sponsors life-cycle costing workshop

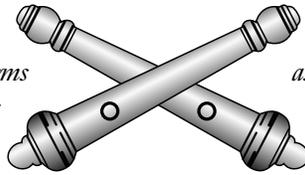




Fort Sill—Clinging to excellence by the fingernails

by Penelope Schmitt

“Welcome to Fort Sill, firebase for America’s Army and one of the nation’s premier power projection platforms . . . totally dedicated to the development and implementation of field artillery training and doctrine.”



Fort Sill constantly strives for excellence . . . selected as the best Army installation in the world for 1985, 1990 and 1992. Despite these achievements, the post is not resting on its laurels . . .”

So reads the introduction to the Fort Sill Post Guide. And it’s true, Fort Sill’s Directorate of Public Works is constantly looking for new approaches that will keep living and working and training standards high. But the dollars and workforce to support that effort are steadily shrinking.

“It’s got to where you can hardly spend a nickel to save five dollars,” said COL Paul Nelson, Director of Public Works. “We have to work harder and harder to make good decisions.”

That’s why Nelson and his Deputy DPW, Dennis Hergenrether, have vigorously pursued new methods and organizational structures to manage the installation work force and work load. They have made their customers full partners in the decision process, and they are squeezing every corner of the installation for productivity.

Signs of their decisions are everywhere. In family housing neighbor-

hoods, major renovations funded by the Business Occupancy Program are nearly finished. Refurbished single soldier areas feature soldier-built barbecue areas, trim landscaping, and upscale, apartment-like quarters. Funding has been lined up for new barracks. Yet elsewhere on post, it’s hard to find money to repair leaking barracks roofs.

The sewage treatment plant has twice won state awards for excellent operations. Yet the installation’s aging water distribution system often springs leaks. “The sewer lines are beginning to fail also, which is affecting our ability to support new barracks and motor pools being built,” says Hergenrether. It’s a constant effort to keep up with repairs.

In other areas, once-manicured open areas are growing prairie grass. Small signs read “Future Wildlife Homes” and “Wild is Beautiful.” That’s the brave face on a sad duty COL Nelson must perform this afternoon—present RIF notices to 16

members of the groundskeeping crew.

“We just can’t afford to cut all the grass any more,” he tells them. Fortunately, some opportunities exist for retraining in other jobs. All the RIFED employees will be eligible for the Army’s Priority Placement Program, and COL Nelson hopes that in the end, all will still have jobs.

“Is this just here,” asks one member of the crew, “or is it all over?”

“It’s happening all over the Army,” is the true reply. Installations like Fort Sill are making hard decisions about what to do, what to wait on, what to stop doing.

The articles that follow tell the story of how one installation is coping with reduced funding, trying new ideas, and still finding savings that could help to keep itself in the front line of excellence. **PWD**

Penelope Schmitt is Chief, DPW Liaison Office, USACPW.

Funding the Dirty Dozen

It’s a routine workday afternoon at Fort Sill, but this meeting is different from other Public Works meetings around the Army. COL Paul Nelson, the DPW, and Deputy DPW Dennis Hergenrether are sitting down with their customers to hear *their* decisions on how to spend this year’s Job Order Contracting funds.

Around the table are the Deputy Garrison Commander, the Chief of Staff for the Installation, and representatives from Training Command, III Corps, Garrison #1, Garrison #2, Housing, Health Care and other installation customers. In front of them is a list of more than 100 projects. According to Hergenrether, all are valid installation needs, and the DPW can estimate and let the work. It’s up to the customers to decide which projects most need to be done.

“We have money to do about twelve of these projects,” COL Nelson points out.

“The Dirty Dozen!” a customer laughs ruefully.

A customer from III Corps starts the ball rolling. “I’ve got soldiers in barracks where the roofs are leaking so badly that they have to get their belongings up off the floor whenever it rains.”

Another customer chimes in. “Do all 13 of your barracks leak that badly, or can you do some and wait for some?”

Still another asks. “Is this a repair job, or do the roofs have to be replaced?”

Somebody else says, “Hey, the PX food court is leaking too. We ought to fix that.”

Another participant adds, “Has anyone gone to AAFES and asked them for the money to do the PX? They might have the dollars!”

Hergenrether speaks up. “Both are valid projects. Which one do you think is most important?”

This discussion, with its weighing of priorities and tradeoffs, is a new departure for Fort Sill. Like most Directorates of Public Works, the procedure in the past was to present—and defend—a prioritized program.

“We are at a point where we can hardly spend a nickel to save five dollars,” COL Nelson said.

“That’s why it is doubly important to involve customers up front in our decisions,” Hergenrether explained. “When they face the choices, they truly understand how tough the issues are.”



They look for the solutions that will do the most for their soldiers, their readiness, the installation.”

Initial concerns that customers might make bad decisions or fight for “pet rocks” quickly evaporated in the face of serious resource constraints. Instead, the discussion revolves around choices among the most urgent of many critical facilities needs. “It is true that I make the list of projects and put them in the order I think is most urgent,” Hergenrether said. “That is my contribution to making sure that we voice the engineering priorities.” But during the meeting, neither COL Nelson nor Hergenrether argue for any one project. They are aware that their customers bring other factors to the table that they may not have known—urgent training needs, command initiatives and the like.

“Our customers have become educated decisionmakers very quickly,” Hergenrether said. The meeting bore him out. One participant advanced the idea of using a weighted scoring system similar to TRADOC’s decision process for installation funding, known as MAR. “Are my top dozen projects the ones I *really* want to fund?,” he wondered, “or are we sitting around the table flipping coins?”

The Council’s decisions indicate that it was a far better than even chance that this customer group was choosing wisely. Here are the “dirty dozen” projects they identified as most urgent:

- 1 Pneumatic controls for an HVAC system that would impose the highest dollar cost if it failed.
- 2 Repairs to the DPW’s pest control storage facility. “There’s a major deficiency with this building and we could be fined if it’s not fixed. Besides, it’s cheap to do!”
- 3 Urgently needed repairs to Snow Hall’s boiler and utilities.
- 4 Repair Snow Hall’s cooling tower.
- 5 Complete renovations to Honeycutt Gym. The command was willing to use training funds to start this vital project.
- 6 Repair to failing water lines in the 3700 area. “This is the first bitesize piece of infrastructure needed to support new barracks,” Hergenrether said.

7 Replace the roof on building 5033. The building has three tenants and a covering of plastic held down by sandbags.

8 Air Conditioning repair for building 60, an academic building where temperatures last summer were measured at 120 degrees Fahrenheit.

9 A new boiler for building 2258—
“When the boiler stops, we evacuate this building for safety reasons.”

10 Building 2412 needs AC fixed. It’s cheap to do.

11 The III Corps Barracks roofs.

12 Repair ventilation deficiencies in Starships.

At the end of the meeting, Council Members ruefully reflected on projects that didn’t make the dirty dozen.

“Number 21—that’s the main water pump for high pressure systems this

side of post. We have it banded together now. What about that?”

“It can probably last for another year,” Hergenrether said.

“Then 18 is the one I won’t get—the utilities in those buildings are all broken—plumbing, HVAC, electric.”

“I know it’s bad,” Hergenrether agreed, “but those Starships at least have windows you can open!”

“And it’s a \$300 to \$400 thousand bill to fix,” another customer pointed out. “We could do three or four projects for that money.”

In the end, the customers left, satisfied that they had made the best decisions they could, for now. And if year-end money becomes available, they already have made progress toward a consensus on what projects are most important to fund.

🔧 POC is Dennis Hergenrether, Deputy Director of Public Works, Fort Sill, (405) 442-3705. ■

SAVINGS for Fort Sill

In a whirlwind two-and-a-half days, the Center for Public Works team had seen and talked to many Fort Sill DPW staff and customers.

Team leader Pete Sabo would leave with a charter to look for more flexibility in the Barracks Upgrade Program and use of BOP funds.

Penny Schmitt of the DPW Liaison Office had a notebook stuffed with good ideas to publish in the **Public Works Digest**.

Engineers Ron Mundt and Mike Dean had shared their expertise on infrastructure issues. They identified several maintenance, inspection and safety steps that could be taken to protect the installation’s investments in electrical distribution, road net, and rail systems. Mike was especially happy that Fort Sill’s Dam Safety program, hardly begun at his last visit three years ago, was now in great shape.

Scott Monaghan had cleared up some glitches to smooth the DPW’s effort to close down the supply warehouse. He could leave satisfied that he had helped the installation establish good accountability methods and easier ways to dispose of excess stocks. He recommended creation of

a standby list of suppliers for emergency parts and spares so that immediate needs could be quickly met even without a standing supply.

Kimball Minter, a systems specialist with CPW’s contractor, E.L. Hamm, won high marks for DPW COL Paul Nelson. He found that Sill was charging its reimbursable customers based on facility number rather than customer I.D. “In some cases, you could be undercharging by almost 50 percent,” he said.

“You just paid for your visit right there!” COL Nelson said.

U.S. Army Center for Public Works Staff Assistance Visits bring a team of five to six installation support specialists in management, planning, systems, engineering and other areas to DPWs. The visits are centrally funded, and teams go out at the request of the Director of Public Works or Garrison Commander. CPW’s purpose is to find and publicize good ideas that can help the whole Army manage installations better, to identify and, if possible, fix problems on the spot, and to seek headquarters support, training or technical solutions for other challenges and problems. **PWD**



Customer-driven work teams

How do you work with customers when resources get down to the bare bones? Fort Sill's Directorate of Public Works has responded by putting customers in charge of work plans and priorities. In place of the traditional DPW organization, with shops organized along mechanical specialties, Fort Sill has created five multiskilled, self-directed work teams, each serving a customer or group of customers.

Deb Lofland, the Maintenance Manager for the III Corps Area Team, explained how this idea became a reality. She has been the team's manager since December 1996, and program manager since 1990. "We began this when the Army was restationing massive numbers of troops from Germany. I was a management assistant at the time, and III Corps asked to have a single point of contact in the DPW to help them."

The units moving onto the installation ran into a delayed and problematic latrine project and 17 barracks buildings with repair needs. "The DPW hired three temporary workers, pulled a plumber from the shops and put me in charge of them. He gave me the U-Do-It projects and all the service orders from those barracks. It was an unbelievable backlog, especially in plumbing and carpentry.

"We sorted the work by building.

We took the plumber and a multiskilled electrician and went into the worst building first. We just stayed in there working until we got finished—about one to five days for each barracks building. We did the same with all the rest. In two months, we had it caught all up. They also assigned me two or three crews of soldiers for U-Do-It projects," she said. "By September of 1996, we had finished projects that weren't due to be done until July of 1997."

After this success, III Corps asked Lofland's team to take over the motor pools and administrative facilities in their area. Other customers on Fort Sill began to ask for the same type of service arrangement III Corps had. COL Paul Nelson, the Fort Sill DPW, sold the idea of multiskilled work teams to the union and the workforce, and briefed the idea to the installation commander.

"We spent a lot of time working this out," Lofland said. "We pulled data, we examined the geography we'd have to deal with, and the customers. We figured out how to divide up the work into manageable sections."

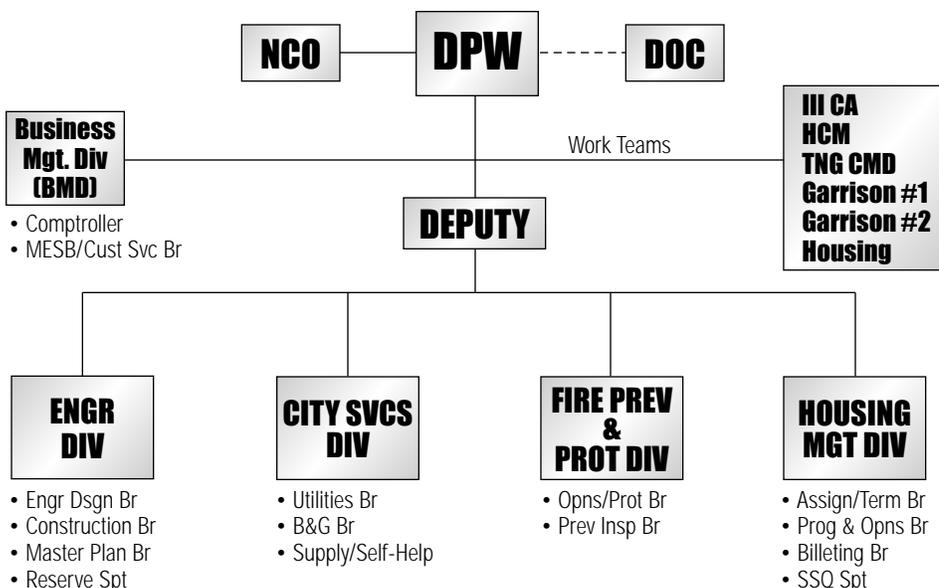
Some major management tasks are in other parts of the DPW. A City Services Division manages and maintains the installation's main infrastructure systems—rail lines, water and sewer lines, electrical distribution, road net, and the like. Engineering Division provides design, construction and master planning services as well as Reserve support (see article on p. 10). The DPW also includes the Fire Protection and Prevention and Housing Management Divisions.

The self-directed work teams, though, are the heart of day-to-day customer service. Each team has multi-crafted technicians, a person to manage tools, parts and supply, a customer representative, and people to handle self help. There are a few differences in the makeup of the teams, based on service needs. The Housing team has eight painters and paperhangers; the garrison teams have the sheet metal workers, for example.

By the end of September 1996, the teams were beginning to form and go to work. "We didn't have any managers yet, only acting managers. The maintenance manager's job was a new concept. Dennis Hergenrether our Deputy DPW, and COL Nelson, our DPW, took a lot of time writing the job description and going through the selection process. Al Shields, our City Services Division Chief, participated too. They had applicants from inside and outside. They really competed and interviewed for these positions—asked everybody the same set of questions."

What is the new job like? "A lot of work!" says Lofland. But she finds it rewarding. Since she moved into her job with several years of experience in working with her customers, and with good program and financial management experience, she finds the fiscal end of the business easier than most. "I have had to learn more about the maintenance and repair work processes. Other managers still need more training in program and project management. And each program we work out has to be customized to meet the needs of our customers."

New Directorate of Public Works





The Customer Drives

The “working out” of priorities is done with the customer’s help. At a monthly meeting chaired by the Deputy Commander of the III Corps area, Lofland listened carefully to the work priorities being proposed by the III Corps’ various units. This meeting was a mirror image of the post-wide Public Works Council, where major customers set installation DPW project priorities. The Colonel briefed them on the results of the Council meeting, telling them that their barracks roofs were a little higher on the priority list and that their dining facility repair project had moved up too.

Then the surgery on the III Corps project list began. Too much work and too few resources was the familiar theme. “We have 200 more work orders than we have money or labor to do,” he said.

“This month we can do the top 10 projects under K & L account funding, and the top 20 U-Do-It projects. Then we can do 11 others,” Deb Lofland explained to her customers. In a painstaking, but friendly process, each unit reviewed its priorities. A surprising number of projects had been completed. Some proposals fell out because they were actually work for the City Services Division, or had been scrubbed. A few new projects were added. Balancing acts occurred. Participants struck deals with one another. In the end, the list of “real” projects had grown a little shorter, and some new priorities emerged.

To get ready for the next meeting, Lofland asked unit representatives to review the project list with their commanders to make sure of their true priorities. “Your proposed projects must be valid, bona fide needs, your work orders completed and ready. Each battalion can come meet with me and we’ll coordinate on your scrubbed list.”

“This is a learning process,” Lofland explained afterwards. “The units are still in the process of learning what color money will buy which kind of project. They also have to keep checking back with their commanders. At this level, priorities change more.”

Still, the customer discussion centered on which of many important projects they would be able to do. They

addressed tough questions about competing needs among themselves and turned to Lofland with the results of their deliberations.

“We have a better chance of satisfying customers who have decided what to have done, and when,” she pointed out.

Self-directed teamwork

How do the teams work, and work together? Members of the III Corps area team sat around the table in their conference and break area, discussing the reorganization, and how it works for them.

“The cell deal is all right,” said one team member. “We have more freedom to make on-the-spot decisions about what to do. Sometimes you’re going to decide and then get your hand slapped. So you get your hand slapped. The job got done, didn’t it?”

Another expressed the opinion that supply wasn’t perfect, now that job was changing from a traditional warehouse operation to team management. The supply manager for the team differed. “I try to shop smart,” he said. “I put the parts number in the system and do a lot of cross referencing on types of parts. I think I get good prices!”

“But sometimes we have to wait a week or two for a part. Then we try to find patch parts to rob, spend a lot of time looking around for compatible equipment.”

A big part of the problem is aging infrastructure, someone explained. “We have some museum-type areas where the plumbing and stuff is coming to crunch time. You can’t do much preventive maintenance. Parts are scarce. You do repairs with bandaids and bubble gum.”

“I took a compressor out of 3426 to go into the air conditioning at 3428 and make it work,” the HVAC technician

explained. “That was ok because the building was empty. Now it’s going to be office space. Hope we can buy a compressor!”

The team works with R&U teams from the barracks, and likes it. “We give them three weeks of training. They ride with different crafts during that time and we try to teach them as much as possible. It improves their statements of work when they call in—and it eliminates a lot of unnecessary ‘idiot’ calls.”

“They get better-than-classroom training. We get help. They’re good gofers and great kids. We think it would be great if we could have them detailed to us when they become short-timers waiting for their next assignment.”

As for morale on the team, it was high.

“We worked well before and we still do. We’ve got a great electrician, a great plumber, a great HVAC technician. The best in all our skills. We support each other real well.”

Asked whether they could tap expertise when it was needed, one of the experts answered: “I’ve been called in on overtime for my specialty. Sometimes there’s a little hangup when you need special equipment. We have to go to City Services and borrow their bucket truck — but that’s cost efficient because we get the most out of that equipment.”

Team members agreed there were some big advantages to working across skills. Here’s what they liked most:

“Scheduling group efforts is a lot easier when you have ONE boss.”

“There’s no passing the buck. When you’re only one deep in a skill, you can’t have any deadbeats. Everyone is accountable, real fast.”

“Never have to have someone higher up to tell them to get the job done.”

“It’s a work family.” **PWD**

III CA Self-Directed Work Team

MULTI-CRAFTED TECHNICIANS

Electrician.....2

Plumber.....2

Kitchen Equip.....1

HVAC.....4

Maint Mech/Carp.....1

TOOL/PARTS/SUPPLY.....2

CUSTOMER REP.....1

TOTAL.....17

R&U PERSONNEL

U-Do-It/Est.....2

Washrack Leader.....1

Painter/Wallpaper Hanger...0

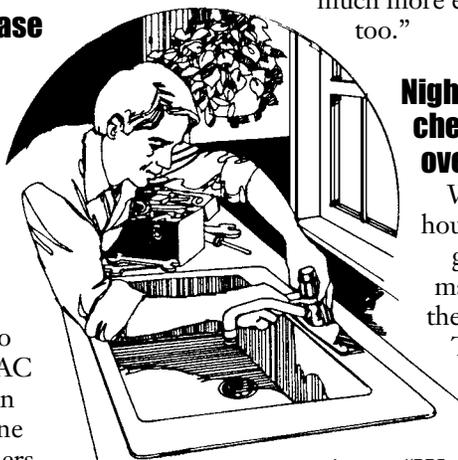


One good idea at a time

Fort Sill's Directorate of Public Works is full of people trying to think of better ways to manage, to work, to encourage employees, to make life better. Here are a few of the discoveries CPW's Staff Assistance Visit team made while visiting Fort Sill in March. These are just the tip of a big iceberg. Other Fort Sill Good Ideas are highlighted in this section.

Raise small purchase limit to \$5,000

It saves paperwork, time, and ultimately, money. Fort Sill's DPW has worked out a policy change that lets staff and managers within the DPW do small purchase actions up to \$5,000 using an IMPAC card. The reduction in paperwork delays alone saves money. Customers receive timelier service. Work team members spend more of their time improving facilities.



Build Union-Management Teamwork

Al Shields, Chief of City Services for Fort Sill, believes there should be a partnership between his workforce and management. "I send my Supervisors and his closest Union Steward associate to the LEAD class *together*," he said. Army Civilian Leadership Training is great, Shields believes, and he has personally experienced the strong bonds that can be built among LEAD class participants. Graduates agree, working through the intensive training together yields long-term payoffs.

Homemade oil supply point cleans house

It's simple to build, and makes the vehicle maintenance shop cleaner and safer underfoot. Joe Hill, of the Fort Sill DPW equipment shop, encouraged his employees to fabricate a rack that will hold three oil drums. It stands in a metal catchment trough and includes a pour-through rack to hold containers.

"A manufacturer's equivalent would have cost us \$3,000," Hill said. "We put this together for next to nothing. Now we don't have slippery spots on the floor and we've made the shop that much more environmentally clean too."

Night differential—cheaper than overtime!

When there's an after-hours plumbing emergency, Fort Sill work managers turn first to the Housing Work Team for assistance.

This team keeps two plumbers on the night shift at all times. "We know when customers usually discover their plumbing problems—sometime after five o'clock when they get home and find a flood," explained Housing Work Team manager Bryan Kiser. When the problem pops up in the barracks or another building, these night-differential employees are the first to be called. "If they are able, they respond," Kiser said. "That way, we keep our plumbers busy all the time, and other work teams do not pay overtime unnecessarily."

Cash-poor awards program is rich in recognition

Like many DPWs, Fort Sill operates so close to the bone that there's almost no money to support an employee cash awards program. Managers and supervisors have done their best to wrestle attractive incentives and honors from the few dollars available. Throughout the

DPW, attractive jackets bearing the Fort Sill DPW emblem and employee's names testify to high performers. The idea? Managers guessed that signs of appreciation might mean more than the small cash check equivalent. City Services Chief Al Shields gives his Employees of the Quarter an 8-hour time off award. Recent winner George Redelk plans to spend his free day on the golf course. Other ideas being considered are a "weekend getaway" in one of the installation's guest facilities, or a gift certificate to a local restaurant or store. "It's a way to make sure the employee receives the maximum we can make of the award," Deputy DPW Dennis Hergenrether explained.

Make concrete "seethru" to save on leak repairs

Like many installations, Fort Sill has housing built on concrete slabs. Leaky pipes under the slabs can mean costly and destructive repairs. Pinpointing the leak saves time, money, and distress! **Use an Infrared camera to spot leaks**, suggests Fort Sill City Services. When the leak is from a hot water line, it's easy to find. Even cold-water leaks can be located using this method. Turn off the cold water and cross hot water over

to the cold water lines. The infrared camera will then show you where the leak is.

Old glass makes new windows

Workers in Fort Sill's shade and window shop have found that glass from old windows works fine in new frames. Staffed partly by prison labor, the shop



can save money for the installation by recycling glass from buildings that are being demolished. **PWD**



BOP— real investment opportunity

They've taken BOP to the limit—and they can still see potential. The Fort Sill housing management team was among the first to test the Army's Business Occupancy Program for family housing. They haven't run out of good ideas for exploiting the potential of the tool yet.

"You just can't imagine what a difference it has made to have a predictable, reliable funding stream to work with," said Brenda Pike of the DPW Housing Division.

"We are truly able to improve the quality of our housing here, because we know what our costs are, and what our reinvestment potential is."

A key to the program's success at Fort Sill is the occupancy rate—the highest in TRADOC. "We stay at over 98 percent," Pike said. "That guarantees us a good level of funding." BOP is funded by the basic allowance for quarters turned over to the installation for each family that lives in Army Family Housing.

"We go to great lengths to keep that rate as high as possible so that we can do the best possible job of serving our present and future housing customers," Pike explained.

Renovations made easy— for families too

In Fiscal Year 1996, BOP yielded an annual budget of \$8.6 million, \$5.6 million of which went for recurring operations and maintenance costs. "That left us a full \$3 million balance to be used for nonrecurring maintenance, repair, and improvements," Pike said. "We have been able to do some really good things for our families with that money."

"We have renovated 231 Army family housing units with new kitchens and baths and electrical system upgrades. We are now well along in a project to



3 bedroom/4 bedroom-duplex, Capehart housing on Fort Sill.

do a whole neighborhood revitalization for Capehart housing. It includes interior upgrades to bathrooms and electrical systems. Exterior improvements include replacing overhead utilities with underground utilities, replacing the sewage system, installing security lighting and carports, patios, storage areas and privacy fences. In 1997, the money was less, but in today's Army, \$1.9 million to spend on making things better is still a lot!"

"We have come up with a good way to ensure families suffer a minimum of inconvenience, and to get the work done within the 30-day period, we have to meet to keep occupancy of the quarters," Pike said. "We bought a dozen fully-furnished trailers. When a family's home is due for renovation, that's where they stay. Our contractor moves all their furniture into the center of the rooms of their quarters and encapsulates it in heavy plastic to protect it. The family takes their clothes and dishes and pets to the trailer. They can get a rent-a-fence for the dog if they want to. Their phone, with their current phone number, goes along. The school bus takes their kids to their own school."

"The families are very happy with this. No one has had any damage or loss to their property, there is minimum chaos, and the job is done quickly. The trailers have already more than paid for

themselves in savings and time and money over what any other relocation method would have cost us."

When the renovation project is completed, the trailers will be moved to an installation recreation area. "We will have them available to families to use for a weekend getaway," Pike said. "So we will add to our ability to make life more pleasant for families here, too."

Renewal made possible— if barriers fall

Pike thinks that Fort Sill could do much, much more for its housing residents with BOP funds. "We see no reason why BOP funds shouldn't be used for renewal of our housing stock, not just renovation," she said. "We have worked out a proposal to replace all the 1950s-era Wherry housing in Artillery Village using BOP funds. We could do it over a 12-year period and offer new homes to our soldiers."

The current cost to renovate the Wherry units is \$40 thousand per unit, Pike explained. "But a full replacement with quarters built for the same rank would be just \$65 thousand. We would not change the inventory. The replacements would be done on a one-for-one basis. We would like to foster a relationship with local developers to do this."



To Pike, this is the essence of good business thinking. “We would be working within the funding provided by our own housing customers, to make a good investment that will stand for forty or fifty years. We will not only have the money to build new, but to maintain in fine condition. It makes a lot more sense than spending almost the same amount to patch together quarters that are approaching the fifty year mark, and have spent a lot of those years limping along without enough funds to keep them up the way we ought to.”

She pointed out a recent study by Bill Baldwin of the Corps History Office. “Wherry housing was like the current Capital Venture Initiative idea,” she said. “A lot of housing was built, and no money was programmed to maintain it. After the developer had held it for his term and taken his profit, he handed it over to us—in bad condition. I think we are fixing to do the same thing all over. Why, when we could do something that makes more sense for our soldiers and the Army?”

Pike agreed that Capital Venture housing might make sense in other, more expensive housing markets. “I can see where it would be good to have opportunities like this in communities where the market is different, but here in Lawton and Fort Sill, we have an ideal situation for maintaining the level of housing we have.

“We know that we are low on the list for CVI funding in any case,” Pike pointed out. “And we are required to give up some of our funding to underwrite CVI projects that will never benefit us. We are going to lose inventory, reinvestment funds, and control of some housing stock this way. We think it would be better for the Army to let posts like ours be self-supporting and self-renewing, and directly fund those installations where the CVI option is appropriate.”

POC is Brenda Pike, Fort Sill Housing Office (405) 442-2302, DSN 639. **PWD**

Learning the steps to Beehop—sweet music for the single soldier

Ask Sally Holzhauser how she feels about the consolidated housing management program—she’ll show you! Specialist Holzhauser lives in the serene atmosphere of newly renovated single soldier housing at Fort Sill.

Her room has the look and feel of an upscale efficiency apartment, with a gleaming tiled bath, walk-in closets, built-to-fit wall system for books, computer and stereo, nicely matched oak furniture, coordinated wall coverings, a chair rail, and a freize designed to make it easy to hang pictures without puncturing the walls. Sally’s plants and decorative items look perfect here—there’s nothing wistful and homesick about this room!

Many such single soldier housing units were remodeled three years ago, and look like they just received the finishing touches last week. She and her neighbors each chip in 50 cents a day to buy cleaning services for the common areas of their quarters. If they choose, they can also contribute 50 cents a day to

buy groundskeeping services. But, like many Fort Sill barracks dwellers, they enjoy doing their own gardening and lawn care. Personal housekeeping services for their rooms are also available.

“I love it,” Specialist Holzhauser says. “I’m at home the minute I walk in the door of the building. And I love my room. It’s so quiet.”

While we have been successful in attracting funding and getting the job done, we could have been a lot more successful had we had a predictable, reliable, funding stream to work with. That is why Fort Sill officials have looked to BOP and are trying to convince Army officials that the same success attributed to BOP and family housing can be attained in the barracks if we employ BBOP (Barracks Business Occupancy Program). Under this concept, installation barracks would be funded on occupancy rates, just like family housing is done. The soldier’s basic allowance for quarters would be turned over to the installation for each soldier occupying an



Before moving in or moving out, soldiers work with housing inspector Callie Drives to check their personal hand receipt.



Soldiers customize their rooms to be "like home."

installation single quarters. No occupancy—no money. Through this concept, the Army could guarantee putting its money where it is most needed and getting its biggest bang for its buck. No new money levels would be required. It gives the housing manager a predictable funding source for renovation and sustaining that investment.

"We have a vision that all soldiers, airmen and marines assigned to Fort Sill will receive first-class housing accommodations commensurate with a first-class Army," she said. "And we have a plan to get there."

"When BOP got under way in family housing, our Commander asked what was our plan for the barracks. He could see that we had no organized plan for upkeep or renovation. That wasn't good business. So we developed a ten-year plan to upgrade all Fort Sill barracks to the one-plus-one standard or better and implemented consolidated management."

Fort Sill did not wait for top-down quality of life funding to come on line. "We used every program and every source of funds we could find—OMA, MCA, U-Do-It, Self Help, JOC contracts. Today, we have already programmed half the funds to support our 10-year renovation plan. We have completed one area renovation and we're about to open a second, larger area."

Then, when remodeled barracks opened, the installation put in place a program that will keep them up in good

condition. "There's no point in putting a lot of money against a renovation and then just walking away from it," Pike said.

"We treat our single soldiers just like a family housing customer," Pike explained. "When a soldier arrives at Fort Sill, his First Sergeant does not give him the keys to his quarters, the DPW Housing Office does. We meet with the soldier, assign him the quarters, go through the room and inspect it thor-

oughly. The soldier signs a personal hand receipt for the furnishings in the room. If there's damage or loss, that soldier is responsible. In three years of managing our 2800 area renovated barracks, I've had one loss—a lamp shade."

Gary Butler, the engineer technician who keeps an eye on the renovated quarters, is the Housing Office's friendly answer to Command Inspections. "It's a partnership. The Commander Manages the soldiers," Pike explained, "We manage the buildings. Gary does a regular walk through to check on all the systems, the sisal on the walls, the furnishings."

Butler described his routine. "I can catch things before they break down. Sometimes I just fix them right there. I can also show soldiers on the spot how to take care of things the right way. It's a friendly partnership to take care of their place. They are actually glad to see me coming, and will ask me questions about how to take better care of things or how to fix something."

"You heard Specialist Holzhauser ask me about taking her VCR down and hooking it up to the dayroom TV for the spaghetti supper they were having in her barracks tonight—that's the kind of rapport we have with our customers,"

Electronic entry saves hassles

Electronic key entry is a feature of Fort Sill's renovated single soldier quarters, managed by the DPW Housing Office under the consolidated management program. "The initial expenditure is more," said Brenda Pike, who manages the newly renovated quarters, "but it saves aggravation and money in the long run."

Both soldiers and housing personnel access the barracks and their own quarters with credit-cardlike keys bearing a magnetic strip. The problem of a multitude of keys, floating around the installation completely uncontrolled, is eliminated.

The electronic keys are programmed with specific codes for each customer, thus security is further protected.

"You don't have to rekey a door, and you don't need the expensive ser-

vices of a locksmith," Pike explained. If a soldier loses a key, they simply come to the DPW Housing Office and we reprogram them a new key. The key system also allows us to "interrogate" locks to check for unauthorized entries.

Soldiers love the added security it gives as we now have a record of every time anyone enters the room and who entered. Locksmiths love the reduced maintenance required, and management loves the reduced cost. It is a "win-win" situation for all.

Electronic keys also allow the Housing Office to track housekeeping and maintenance data. "We have a time-tagged way to tell when service personnel enter the building to work." **DPWD**



Pike said. "When they want to try something, they usually ask if it's OK, or how to make it work."

"I also make sure I keep track of all the warranted work in our buildings," Butler said. "I have kept expenditures down to well under a thousand dollars per year in our renovated buildings that way. In one building, we spent only \$30 in six months—we just make sure that if we have a warranty and something goes wrong, our suppliers make it good."

"We instituted this program without any added staff," Pike said. "I started with just myself and one inspector. But it was easy to accomplish. I had the entire Fort Sill Community, Commanders, Sergeants Major and the entire DPW cheering us on. Earlier this year the DPW added Gary for the engineer tech expertise, and he has more than paid for himself by suggesting maintenance and repair techniques and riding herd on the warranties."

One reason this program is such a success, Pike explained, is that the DPW Housing Office did not take over buildings without Commander involvement. "We accept after they have undergone renovation to one-plus-one standard or better," she said. "We don't try to leave Commanders out of the process, nor are the commanders wanting to leave the DPW out. The entire installation



Modernized common areas like this kitchen stay spotless. Residents pay just 50 cents a day for housekeeping!

staff is simply trying to maintain first-class conditions in our renovated quarters, and we are succeeding."

Among the reasons why this program has worked are, the soldiers appreciate being treated like customers. They like the housekeeping services that have been made available to them. "Recently a unit was getting ready to

deploy," Pike said. "A soldier called me to ask how he should take care of his housekeeping fees while he was gone. I gave him a whole range of options, including for us to bill him or to pay in advance. This is how mature these soldiers are—the next day he and several of his deploying friends were waiting in line to pay their housekeeping bill up in advance before they left!"

The Housing Office's pre-move inspection, and the soldier's signature for his or her hand receipt and quarters give each resident a sense of ownership. The high quality, responsive maintenance keeps the level of pride in quarters high. "The typical story has been that single soldiers feel like second-class citizens," Pike said. "We've all heard stories of soldiers getting married just so they can move out of the barracks. Believe it or not, we have turned this story upside down. I recently had one young lady ask if her husband-to-be could move into the new quarters with her once she got married. She was real disappointed when I had to turn her down. To me, that says we are providing real homes for our soldiers!"

📞 POC is Brenda Pike, Fort Sill Housing Office (405) 422-2302 DSN 639. **PWD**



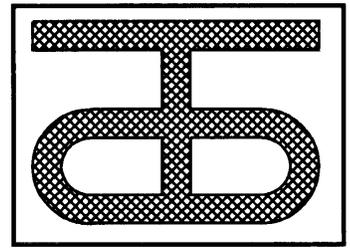
Callie Driver of Fort Sill Housing assigns quarters to a newly arrived soldier.



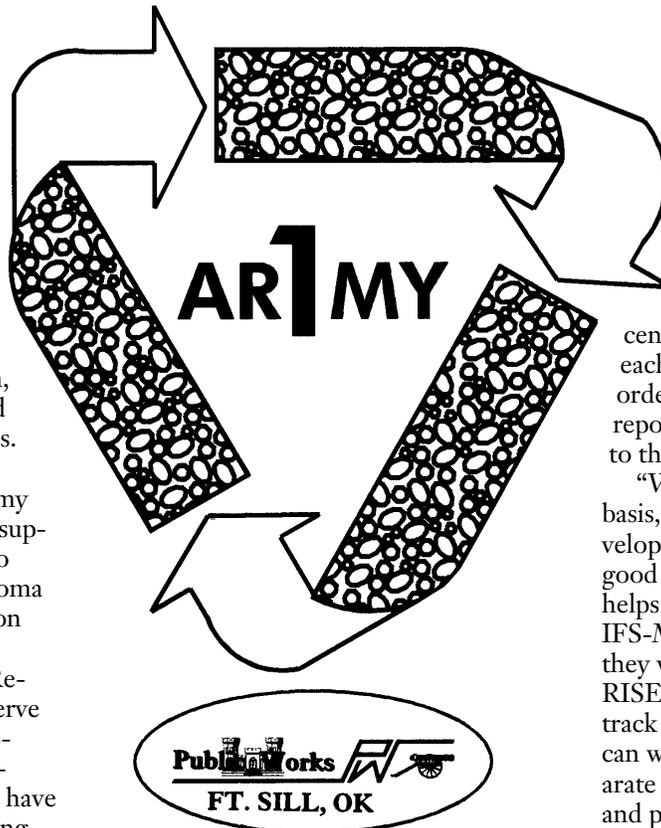
One Army, and growing—Fort Sill supports 90th RSC



HEADQUARTERS
UNITED STATES ARMY RESERVE COMMAND
3800 NORTH CAMP CREEK PARKWAY
ATLANTA, GEORGIA



HEADQUARTERS
90th REGIONAL SUPPORT COMMAND
8000 CAMP ROBINSON ROAD
NORTH LITTLE ROCK, ARKANSAS



Last year, when the U.S. Army Reserve took over its own real property management function, many Army installations bowed out of the Reserve support business. Not Fort Sill.

“We are One Army,” says Tommy D. Grizzle, chief of the 90th RSC support team at Fort Sill. “We used to support Reserve Centers in Oklahoma and Arkansas, now we have taken on Louisiana and North Texas too.”

The Fort Sill team serves 145 Reserve Centers within the 90th Reserve Support Command’s five-state geographical area. “We have an eight-member team,” Grizzle said. “We have three engineer technicians, including me, four maintenance technicians out in the field, and one systems automation clerk who handles our specs and travel and other paperwork.”

These positions are 100 percent dedicated to Reserve support, and perform \$600,000 to \$700,000 worth or reimbursable work each year.

To manage the far-flung centers, Grizzle’s four maintenance technicians live and work in the heart of their geographical territory. “One of my techs lives in Little Rock, Arkansas, another one in Oklahoma City, and so on,” he explained. “Each one is responsible for 17 to 20 centers. They visit their centers at least two times a month. They are WGII multi-skilled journeymen who are trained to spot problems and do preventive maintenance. They know enough to make minor repairs on the spot to HVAC and electrical systems and plumbing. They know to flag a structural problem.”

The maintenance technicians are empowered to get work done at their

center. We do a complete inspection each year, review the status of work orders, give the equipment inventory report, and turn the final product over to the customer.”

“We bill the 90th on a quarterly basis,” Grizzle explained. “We have developed some systems tools to create a good billing and tracking system that helps both us and the 90th. We use IFS-M, and set up the facility codes so they will interface with the Reserve’s RISER system. That way, they can track the costs on each facility, and so can we. We have also been able to separate out items like kitchen equipment and physical security expenditures so that we can track costs precisely and reimburse engineers and other providers properly. We have been able to keep good internal controls without increasing management costs.”

The team also has a special database to monitor HVAC systems, roofs and pavements. “It helps us to stay on a proactive preventive maintenance schedule” Grizzle said. “The Engineered Management Systems are wonderful, but they are too labor intensive for the small centers. Fort Worth District helped us to design a simpler version.”

“Yes, we do work closely with the Corps of Engineers,” Grizzle said. “We need to get rid of the barriers so many see and really live the One-Army concept. We work with Tulsa District, Little Rock District, and with Fort Worth. We do work for the centers under the Fort Sill JOC contract. We turn to our own local design shop here for support. We buy engineer services from our own Engineering Division. We go to our DOC for contracting support. We may have lost ownership of the Reserve pro-

centers using the Government IMPAC card. “They can order work on the spot if it is below the \$2,500 threshold. If it’s over that, they report in to us, and we have a review board that looks at it. If we go to the \$5,000 threshold, they will be able to have that much more authority.”

“The technicians work for me,” Grizzle said, “but as their rater, I get letter input from our reserve customers. We have a prearranged schedule that they call in and consult on Monday, Wednesday and Friday. We have periodic meetings where we consult on projects and review contracts, because they are the experts on their centers.” The maintenance technicians also serve as inspectors on contract work with a value of less than \$100,000.

Grizzle is proud of the team’s well-designed maintenance program. “We have created a good preventive maintenance program for our centers,” he said. “We have developed a spreadsheet checklist that covers each





gram, but we still take pride in supporting them.”

“In fact, we helped the 90th RSC and the 95th Division win Army Communities of Excellence awards. We were invited to attend the dinner where they received the presentation. Then we went on to help develop projects to stretch their prize money as far as possible!”

The team’s success has drawn prospective customers. “Fort Carson would like us to adopt the maintenance techs who serve their former customers in New Mexico,” Grizzle said. “South Texas would like our support as well.

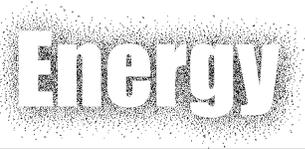
There’s only one thing that stands in the way of developing these and even wider geographic support areas: Office of Personnel Management Rules.”

As far as Grizzle is concerned, modern telecommunications make it possible for him to “reach out and touch” his field technicians any time he needs to. Under an interservice support agreement, he is able to identify the services the 90th RSC Engineer needs, and put together full support.

“We are working on a partnering agreement among Fort Sill, the Corps and the 90th right now,” he said. “And let me just give you an example of the

kind of thing we’ve already done: On one single project, our DPW developed it, the Fort Worth District hired the A/E to do the design, we reviewed it here, Fort Sill DOC solicited and awarded the contract, the Corps performed S&A, and the project was returned to Fort Sill for maintenance by a trained mechanic. We have that kind of partnership in a lot of areas. It’s seamless. We don’t really think about who belongs to what organization. Again, it’s One Army to us!”

POC is Tommy D. Grizzle, 90th RSC support team, (405) 442-5933 DSN 639. **PWD**



Prime Power soldiers help DPWs win

by MAJ Tony Vesay

“Psst— wanna’ save a million bucks?” If someone whispered this in your ear, you would no doubt wonder what the catch was. Well, there is no catch.

Consider that the 249th Engineer Battalion saved Fort Lee more than \$500,000 and Fort Bliss some \$900,000 in 1995 in peak shaving costs alone. Additionally, figures for 1996, and early returns for 1997, show that we have saved other DPWs and base civil engineers from Fort Gordon, Georgia, to Hawaii to Korea similar amounts of money.

On second thought, there is one small catch— figuring out how to best spend the savings.

The 249th Engineer Battalion, headquartered at Fort Belvoir, Virginia, has a diverse and critical mission. We perform missions across the spectrum of military operations—from warfighting to disaster relief to installation support. To do this, we can draw on a significant cache of “war reserve” stock that can fulfill virtually any need.

Our soldiers, however, are our most valuable resource—and our best adver-

tisement—whether they are installing generators or providing needed technical assistance. With units stationed across CONUS, including Hawaii, and overseas—Korea and Germany—we can provide the rapid, responsive service that is demanded in today’s constrained environment... and provide measurable cost savings to the customer.

Providing support to DPWs is a win-win situation. It can give much needed savings to the DPW while providing realistic, battle-focused training for the battalion.

Besides power production, samples of typical support missions include:

- Transformer inspection, testing, and analysis.
- Fixed power plant maintenance and inspection.
- Circuit breaker relay maintenance repair and calibration.
- Infrared survey of electrical systems.

The following articles describe two missions where DPWs realized significant cost savings. The first, a critical mission performed by A Company on the Korean demilitarized zone, repaired the Camp Bonifas power generation system at a cost savings of \$595,000. The second, a CBRM mission performed by B Company, at Fort Lee, Virginia, a mission less visible but just as important, realized \$10,000 in cost savings.

Savings to the installations include not only labor costs, but equipment rental and contract costs. Costs to the supported DPWs include per diem and transportation for the deployed soldiers along with any material costs. But, no matter how you add it up, it ends up adding to the customer’s bottom line.

“Psst— got a minute....”

POC is MAJ Tony Vesay, (703) 805-2469, or Mike Hunter, (703) 805-2239 DSN 654. Check us out on the world wide web—[http://www.usacpw, belvoir.army.mil](http://www.usacpw.belvoir.army.mil) **PWD**

MAJ Tony Vesay is the S-3 of the 249th Engineer Battalion.



Maintaining freedom's frontier

by SGT Raymond Barba

Camp Bonifas, in Korea's Joint Security Area, seems to be separated from the rest of Korea. The approach to Freedom Bridge, with the rows of concertina wire strung along the river, reminds soldiers that they are truly on "freedom's frontier." As you cross the narrow one-lane bridge made of wood and steel, bullet holes remind you of past confrontations.

"Stands alone" are the words sounded by the guards who secure the bridge, and their meaning is clear when you reach the north side.

If the location were not enough to put soldiers on their guard, recent power outages were sure to do the trick. Some outages lasted up to a week, which resulted in serious problems not only to post security and a decrease in soldier morale, but financial losses. Some smaller facilities, such as the Troop Medical Center and Headquarters, were able to use small generator sets to sustain power in these situations. But the larger facilities, such as the dining facilities and soldier barracks, had no power during the frequent outages.

Maintaining power for the post is of utmost importance in accomplishing the mission in the Joint Security Area. Camp Bonifas is outfitted with a back-up power generating system to take over in the event of interruptions in the main power source. The three-unit generating system on Camp Bonifas had not functioned properly for some time, and the initial solution was to completely replace the units at a cost of \$600,000.

To solve the problem more cost effectively, A Company, 249th Engineer Battalion (Prime Power), was assigned the mission to assess the back-up system and, if able, to repair it.

Last fall, SSG Thomas Zyzyk and SGT Raymond Barba from A Company's Fourth Platoon set off from their Camp Humphreys base to assess the condition of the Camp Bonifas power system.

They found that the plant was being serviced by a civilian whose primary responsibility is the water treatment facility. Since helping with the back-up system was an "additional duty," there was

minimal understanding of the complexities of the generators' automatic operation procedures. To further complicate matters, the power plant's control panels had been modified.

The Prime Power soldiers immediately began testing and troubleshooting. They determined the cause of the loss of power to be an inoperable automatic transfer switch, and that the generators' capacity was enough to sustain the post. The soldiers installed new relays and switches to the automatic control system. Finally, during a scheduled power outage to test the system, the power plant operated properly. The cost of the job? About \$5,000.

Following the successful repair of the back-up power system, the soldiers provided further recommendations concerning the maintenance of the power system to COL Spaulding, the Eighth Army Engineer.

Future missions recommended for Camp Bonifas were:

- One-line update providing information on the distribution of power.
- Infrared survey showing potential trouble spots in the distribution system.
- Total systems analysis of the automatic control systems.

To date, the one-line update has been completed for the current system and will be updated again when new additions to the camp are made. The automatic transfer switch now works and the generators are operating as they were designed to operate. The 249th soldiers are working to schedule the infrared survey. With proper, scheduled preventive maintenance, the plant should be adequate to maintain future power outages.

The knowledge, experience, and pride of the 249th Prime Power Soldiers made this mission a success, saved the Army money, and helped the soldiers assigned to Camp Bonifas maintain "freedom's frontier." **PWD**

SGT Raymond Barba is a power station electrician assigned to the 4th Platoon, A Company, Korea.

Fort Lee welcomes Prime Power assistance

by SSG Christopher Woolley

Five soldiers from 5th Platoon, B Company, 249th Engineer Battalion (Prime Power), were recently deployed to Fort Lee, Virginia, to assist the DPW in the maintenance and inspection of the electrical distribution system. The team's primary objective was to perform circuit breaker and power relay maintenance and testing on the post's main switching station, where the incoming electrical power from the commercial utility is divided into eight separate lines or "feeders."

The mission was to **reduce** the possibility of unscheduled power outages due to equipment failure. Maintenance included cleaning contact surfaces and general cleaning and replacement of worn or broken parts. For the older draw-out type breakers, the testing included insulation resistance, breaker contact resistance using the digital low resistance ohmmeter and checking contact gap width. For the newer vacuum bottle breakers, the testing included the above and a vacuum bottle integrity test using a 100kV DC Hi-pot. Induction disk type relays, which provide over-current protection, were tested using the AVO SR-90 relay test set.





This particular mission only required a few of the many tests and operations that we can perform. In addition to circuit breaker and relay maintenance, Prime Power teams are also capable of testing and maintaining all aspects of high-voltage electrical distribution systems. These include substation maintenance, transformer maintenance, infrared surveys and one-line updates.

In addition to assisting the DPW, Prime Power soldiers also receive valuable training in the maintenance of electrical distribution equipment not organic to the unit. This training can be applied to the accomplishment of the unit's war-time mission.

In addition to DPW assistance and soldier training, the mission also saves the Army's valuable fiscal resources. Due to downsizing, the DPWs have limited manpower to maintain the electrical distribution systems. The electrical shop at Fort Lee can barely keep up with the work order demand, let alone perform any preventative maintenance. This is where the Prime Power Program can be very valuable. Maintenance that has to be performed periodically, but does not require a full-time crew, can be accomplished by Prime Power soldiers.

Civilian companies can certainly be contracted to do the work, but the cost is many times greater than to have our soldiers do it. An interview with the foreman at Electric Power, Inc., a local company in Chester, Virginia, indicates that the cost of the work involved for Fort Lee would be \$1,500 per day for 10 days. Total cost to the Army: \$15,000. The only costs incurred by the DPW if Prime Power soldiers perform the work are lodging, per diem and transportation. Total cost for this mission: under \$5,000. That's a savings of more than \$10,000!

By using Prime Power soldiers, the DPWs receive much needed assistance, the soldiers get valuable training and the Army saves money. Everybody wins. **PWD**

SSG Christopher Woolley is a senior power station mechanic assigned to 1st Platoon, B Company, Fort Bragg, NC.

Yuma Proving Ground plugs into the sun



The PV solar collectors at Yuma Proving Ground, where the system provides 450 kWp of electricity.

In March, Yuma Proving Ground, Arizona, hosted a ribbon-cutting ceremony for its federal energy award-winning 450-kWp Photovoltaic (PV) Power Station. The system is unique in the Department of Defense (DoD) and represents a 5-year project involving numerous partners in the Corps, Army, Navy, DOD and Department of Energy (DOE). With this renewable energy source, Yuma stands to avoid added costs up to \$400,500 per year in serving a growing electricity demand.

PV systems collect and store solar energy using a series of large collector panels. They convert the solar energy into electricity that can supplement other sources of electrical power. In addition, PV systems can support peak shaving because they generate electricity during the same hours a large consumer has its peak demand—on summer afternoons when the sun is shining and air-conditioners are fully operating.

"We have a ratchet clause in our power bill so that if we exceed our limit during peak demand hours, we're assessed a charge that we have to pay for the next 11 months," said Jack Nixon, Energy Manager in Yuma Proving Ground's Directorate of Public Works. By shifting the maximum 450 kWp to

the PV system, the cost avoidance will be up to \$118,800 this year for peak shaving alone.

Yuma's PV Power Station grew from new energy needs created by Base Realignment and Closure (BRAC). Several Army Materiel Command activities from closing bases were to be moved to Yuma Proving Ground, with a projected 30 percent growth in energy demand. At the time, Yuma was buying most of its electricity as cheap hydroelectric power from the Western Area Power Administration (WAPA). However, purchases were already at the maximum allowable, so the load growth would have to be served by the local utility at a rate costing up to 10 times that of WAPA's when the ratchet clause is considered.

At the same time, WAPA introduced a new policy requiring its major customers to develop Integrated Resource Plans (IRPs) that were to include renewable energy sources. If customers failed to meet the conditions of the plan, WAPA could cut 10 percent from the allocation of electricity purchases.

"With the new energy requirements, the high cost of the local electricity rate, and the need to program renewable energy into the IRP, a PV system became a very attractive option," said Roch Ducey, researcher at the Con-



Advanced software has increased the reliability of today's PV technology.

struction Engineering Research Laboratories (CERL). Yuma Proving Ground had asked CERL to advise on ways to avoid the huge projected increase in energy costs resulting from the new demand. Normally, the cost of a PV system is too high to compete with conventional power plants, even at the local utility's high rates. "But when we factored in the benefit of avoiding the 10 percent loss of cheap WAPA electricity, the grid-connected PV system looked very promising," Ducey said.

According to Nixon, the loss of their 10 percent WAPA allocation would mean buying power from the local utility at an annual cost of \$200,000. Adding together that cost, the avoidance in peak demand charges, and the value of electricity produced free by the sun (\$81,500), Yuma's PV Power Station can save up to \$400,500/year. "That's additional funding we would have had to request to meet our increased energy demand," Nixon said.

The \$7 million PV system leveraged funding from various sources, including \$1.9 million from the Navy under the

Strategic Environmental Research and Development Program and \$5.1 million from the Army under the Energy Conservation Investment Program. The Corps' Sacramento District managed the system's design and construction, and during that phase, the project won an award as a DoD Federal Energy Showcase Facility.

Yuma's BRAC energy growth and other unique circumstances surrounding this project are not expected to be widely duplicated across DoD in the near future. However, the project has greatly advanced systems integration and power conditioning technologies to the point that

more large-scale, isolated grid PV/diesel hybrid powerplant applications can be identified. In addition, there are thousands of smaller applications at DoD installations that could take advantage of the economical and environmental benefits offered by more mature PV products.

For more information on PV technology, contact Roch Ducey at CERL, 217-398-5222 or toll-free 800-USA-CERL, ext. 5222; email r-ducey@cecer.army.mil. **PWD**

"With this renewable energy source, Yuma stands to avoid added costs up to \$400,500 per year in serving a growing electricity demand."

Riley energy office marches on

Good things are happening at the Fort Riley Energy Office.

They've got an aggressive utilities management program, a revitalized energy awareness program, increased command support, and more than \$10 million worth of energy-related projects either recently completed, under construction, or being programmed.

According to Larry Stillwagon, chief of the Energy Branch, Engineering Plans and Services Division, Directorate of Public Works, his office serves as the post's center of expertise on energy-related issues, provides technical expertise to a variety of on-post activities, and maintains working relationships with off-site organizations. The energy office has a history of working with U.S. Army Corps of Engineer laboratories, and is an active member of the Corps of Engineers National Energy Team. Many energy-related projects and studies have been performed at Fort Riley.

The office also has an ongoing relationship with nearby Kansas State University. Students and faculty from KSU have worked in the energy office over the years as temporary employees. Fort Riley buildings have also been used as case studies in KSU engineering and architecture courses.

In order to accomplish its mission of meeting energy reduction goals, and assuring the availability of utilities, the office performs a variety of tasks, which can be grouped into three general areas:

- Acquisition and Sale of Utilities.
- Energy Awareness Program.
- Energy Engineering Program.

Acquisition and Sale of Utilities

Steve Pientka, a public utilities specialist in the energy office, is responsible for this effort, which assures the availability and supply of facility energy at the lowest possible price by managing the procurement of utility services.



In 1996 Fort Riley spent \$6.3 million for electricity and \$4.3 million for natural gas. The \$4.3 million included the cost of the natural gas, as well as pipeline transportation costs. The post gets its natural gas through a contract procured by the Defense Fuel Supply Center. Careful application of this contract has resulted in savings of \$3 million since February 1991. Transportation charges are expected to drop by \$1 million for the current year as a result of negotiations between the energy office and the local utility company.

The energy office also manages the resale of utility services to reimbursable customers such as family housing, Non-appropriated Fund facilities, schools, and contractors. These services include natural gas, electricity, water, sewer and refuse. Reimbursable customers account for approximately 40 percent of total installation consumption. The energy office also plays the leadership role with MACOM-directed investigations into privatization of utility systems.

Energy Awareness Program

ILT Tracey Peterman is the Fort Riley Installation Energy Awareness Coordinator. The program is responsible for a number of awareness and inspection/compliance activities, and promotes awareness by:

- Arranging Energy Council Meetings.
- Providing monthly input to the Unit Status Report.
- Furnishing media announcements.
- Distributing energy literature and posters.

The energy office hosted the Department of the Army Energy Awareness Seminar in October 1996, and annually participates in the Fort Riley Quality of Life Exposition, which attracts more than 3,000 visitors. The office makes energy conservation/building energy monitor training available each quarter to unit energy representatives, building energy monitors, repair and upkeep personnel, and other interested parties.

The energy office's inspection and compliance mission also includes general readiness inspections. Units can contact the energy office to schedule courtesy inspections, but the office also conducts daily unscheduled compliance inspections to identify such items as:

- Fire lights turned on during the day.
- Open windows in air-conditioned buildings.

During fiscal year 1997, the energy office initiated a Brigade Energy Waste Reduction Incentive Program. This program involves quarterly competition between selected unit energy programs. Each of the post's brigade-level organizations nominates one large unit and one small unit. (Units with more than 300 personnel are considered large units.) The energy office selects the winning units based on an inspection that uses the GRI checklist and the results of daily unscheduled compliance inspections. The post's Commanding General presents a certificate and a cash reward to the winning unit in each classification. The installation recycling activity generates the award money.

Energy Engineering Program

Stillwagon and Energy Engineer Mark Imel work together as the post's energy engineers to identify and program projects for energy-saving opportunities. They review work from other offices to ensure consideration of energy-conscious measures. Technical support to other offices includes analysis of system problems and recommendations for energy savings opportunities. The office uses data acquisition systems to diagnose system dynamics and comput-

er programs such as Building Loads Analysis System Thermodynamics and Life Cycle Cost in Design to evaluate potential savings. Development of a database of building energy consumption and detailed weather information is ongoing.

Many energy-related projects have been completed in the last few years, including:

- Natural gas engine-driven chillers at Irwin Army Community Hospital.
- A ground coupled water source heat pump system in a 38,000 square foot historical building.

Projects involving building envelopes include an exterior insulation finish system at the Custer Hill Activity Center; in addition, 20 rolling pin-style barracks were retrofitted with thermally-efficient windows.

Current projects include the CPW CONUS-wide Lighting Project. At Fort Riley more than 7,000 fixtures in 39 buildings are being retrofitted. The Utility Monitoring and Control System at the post hospital is being updated and all the pneumatic control systems replaced under a Federal Energy Management Program-funded project.

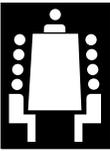
Many projects are under development. Designs are complete for new boiler controls and HVAC modifications at the post hospital. Designs are underway for HVAC retrofits on dining facilities and a major Utility Monitoring and Control System expansion project. A utilities modernization project that will reduce energy waste in a barracks complex central heating and cooling plant and distribution system has been submitted for inclusion in the Department of the Army Utilities Modernization Program.

The Fort Riley Energy Office will remain an active place as efforts continue to reach mandated energy reduction goals. In addition, the ever-changing utilities market demands careful attention to make sure the post continues to get reliable and economical utilities service.

POC is Mark Imel (913) 239-2371 DSN 856. **PWD**

Submit your articles and photographs to the *Public Works Digest*

Department of the Army
US Army Center for Public Works
ATTN: Editor, *Public Works Digest*, CECPW-P
7701 Telegraph Rd.
Alexandria, VA 22315-3862
Phone: (703) 428-6404 DSN 328
FAX: (703) 428-6805
e-mail: alex.k.stakhiv@cpw01.usace.army.mil



Program to "FIT" customer needs

by Dana Finney

Technology users at installations will play a major role in the Army's new Facilities Infrastructure Technology (FIT) program. FIT focuses on customer-defined requirements in setting priorities for research to support installations. It provides a comprehensive approach to technology management that begins with a user-identified need and ends with full implementation of technology to serve that need.

Like "death and taxes" for humans, installations face two certainties: major changes are coming and resources will continue to be constrained. In this climate, installation managers need more than ever to exploit technology that will allow them to do their job in the most cost-effective way. The future also demands reengineering some key business processes if installations are to continue meeting the Army's vision within resource limitations.

The Army's research and development (R&D) program for infrastructure evaluates and develops new technology aimed at improving efficiency and reducing the cost of facility infrastructure activities. Countless products of this R&D have proven potential for doing just that with promise of a huge payback for the research investment. Yet these technologies seldom are fully infused at all of the installations that could benefit.

The FIT program recognizes and addresses obstacles to this technology transfer. Within the Army's research, development, and acquisition community, integrating products of base support R&D differs dramatically compared to that for products of weapons R&D. When a new fighting system has been developed and demonstrated successfully, senior Army leaders may elect to adopt it, after which its use becomes mandated. For the end user, acquisition options are nearly nonexistent—the only action required may be to specify the quantity of an item.

In contrast, installation managers have numerous options for base sup-

port acquisition. There is no enforced mandate to use any R&D product, so their acceptance usually depends on decisions made at the installation level. The funding to purchase new technology faces intense competition with other interests on the base. Further, the base support R&D process has often fallen short at the acquisition phase by not funding development of the training, specifications, scopes of work, and other tools that make it easy (even possible, in some cases) for the facility manager to get the technology.

The FIT vision is to provide high-quality technology that is responsive, affordable and timely to support the Army's facility infrastructure vision and strategy. FIT models, in part, features of the successful weapons RDA process. It acknowledges that R&D is only one facet of technology infusion, with funded activities to effect technology transfer being equally critical. FIT's objectives are to:

- Focus available technology resources on customer-defined and prioritized requirements.
- Improve the technology management process through better communication and coordination by establishing a partnership among the key participants based on clearly defined roles and responsibilities.

- Improve technology implementation.
- Integrate and leverage available resources.

FIT is managed through a partnership among the Assistant Chief of Staff for Installation Management (ACSIM), the Corps of Engineers Military Programs (CEMP) and Research and Development (CERD) Directorates, the Center for Public Works, and the three Corps laboratories involved with base support R&D—CERL (FIT program manager), CRREL, and WES.

FIT combines a bottom-up approach—technology customers defining and prioritizing needs—with top-down oversight and commitment from senior leaders responsible for the business of installation management. Customers from installations, MACOMs, and Corps Districts and Divisions provide input to four Technology Leadership Groups in the following areas: Utilities/Energy (uses existing Corps of Engineers National Energy Team—CENET); Vertical Structures; Transportation; and Business Practices. Top-down oversight is through the Senior Infrastructure Leadership Council (SILC) involving the directors of ACSIM, CEMP, CPW, and CERD.

Technology users at installations are critical to the FIT process. Participation includes: providing input on technology needs; giving feedback during technology development so the product is responsive to the way you do business; having input to the technology transfer planning process; and having your installation serve as a test or demonstration site for new technology.

For more information on FIT or to ask about National Teams of interest, please contact Dr. Alan Moore at CERL, (217) 373-7245.

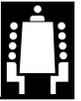
PWD

Dana Finney is the Chief of the Public Affairs Office at CERL.

Are you on the *Digest* distribution list?

If not, give Linda Holbert a call at (703) 428-7931 DSN 328.





New work got you down? Call the Special Studies Team!

Is your future made up of work you've never done before? Do you have to satisfy your own technical requirements but respond to other agencies' procedures and public demands? Are you interested in trying new approaches such as risk analysis, ecosystem management, sustainable development, or watershed planning?

Reinvention may be the current buzz word, but many districts are finding that the types of work being funded are not always the areas where they have in-house expertise. This is where the Civil Works and Military sides of the Corps can help one another by pooling their knowledge to help solve difficult problems.

One of the best kept secrets in the Corps of Engineers is the Institute for Water Resources (IWR), a research, policy and technical studies center of expertise, located in Alexandria, Virginia. Got a unique problem? Call on IWR's Policy and Special Studies Division for a solution. They have a small group of experts who will help you meet the challenges of today, particularly in the areas of environmental conservation and restoration, two of the four pillars of the Army's environmental strategy.

This Special Studies Team is an advance guard of Corps professionals who get involved in emerging problems confronting the Corps. Its members bridge the worlds of policy, research and practice. They help interpret new laws and develop regulations for Headquarters and the Secretary of the Army (Civil Works). Called on internationally as experts in water resources, risk, and en-

vironmental planning, they have working relationships with the best water resources practitioners and scholars in the country.

But what makes the Special Studies Team valuable to you is that its members have decades of Corps field experience among them.

They spend much of their time working with district teams on the most difficult emerging issues. Examples include:

- Water supply and conservation planning.
- Cost-effective environmental restoration.
- Public involvement, alternative dispute resolution.
- Environmental and engineering risk and reliability analysis.
- Wetlands mitigation banking and evaluation.
- Environmental impact analysis.

In short, they specialize in evaluation and decision making and developing the procedures and techniques for those purposes.

Here are a few examples of some recent **Special Studies**:

- Environmental risk assessments have traditionally focused on health hazards, but for the Corps environmental program, the greatest risk may be the risk of wasting money. To help save precious dollars, the Special Studies Team drafted an in-house report, **Risk and Uncertainty in Ecosystem Restoration**, which proposes innovative approaches to restoration that keep costs down and specific methods and models that help to achieve the most risk-effective outcomes.

- Since planning for economically-efficient results that also meet regulatory standards makes sense, the Corps is turning more to Special Area Management Plans to reduce the economic impacts of regulation and the environmental impacts of development. Working with the Seattle District, the Special Studies Team recently ranked 51 alternative wetland management plans for a watershed near Seattle using two multi-criteria decision-making models. The models were used to identify the plans which scored well for most or all stakeholders.

- During the National Drought Study, the Special Studies Team combined collaborative simulation model building techniques with the Corps planning process to create "Shared Vision Planning." They supported it with a modeling framework called IWREMS (Integrated Water Resources Evaluation Modeling System).

- These are also the folks who developed IWRAPS (Installation Water Resources Analysis and Planning System) to assist in planning future water requirements at Army, Navy and Air Force installations and the **Water Supply Handbook**, a comprehensive desktop reference to water supply planning, forecasting and conservation.

IWR's Special Studies Team may not be the answer to all your needs, but they're only a phone call away—and a phone call may be all you need. If you want hands-on assistance, they can work with you and focus their involvement to a level you can afford. Ideally, they like to get involved just enough to have successful technology transfer. Then the district can take over any additional work of the same nature with its own staff.

So, if you're faced with a challenging study or problem, give the Special Studies Team a call. **PWD**

The Special Studies Team:

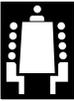
Bob Brumbaugh (703) 428-7069
DSN 328
Wetland mitigation banking, regulations

Ted Hillyer (703) 428-7069
DSN 328
Water supply, shore protection

Bill Holliday (703) 428-7069
DSN 328
Dredged material disposal, flood damage reduction

Lynn Martin (703) 428-7069
DSN 328
Ecosystem restoration, environmental planning

Bill Werick (703) 428-7069
DSN 328
Watershed planning, modeling



Finding temporary space in Europe— no easy task

by Clayton Turner

Belgian Ministry of Defense Ex-Caserne "Wing Meteo de la Force Aerienne Belge" main gate. Facility on right will be the temporary Health/Dental Clinic. (Photo courtesy of the 80th ASG Training Support Center)

Let's pretend you're on an installation in a foreign country. What would you do if you had to provide temporary space for your Health and Dental Clinic while your old one was being renovated and expanded? To make it even more difficult, the temporary space can be located no more than five miles from the present one. And here's the clincher—it has to be rent free.

The 80th ASG in Brussels, Belgium, did all that and more. Here's how:

The current NATO Health and Dental Clinic was housed in a 641 square meter facility located on the DoDDS Brussels American School property in Sterrebeek, Belgium, a suburb of Brussels. The facility, constructed in 1971, was owned by the United States and had never had any major repairs or upgrades performed. It was severely undersized, having only two thirds of its authorized space, which

caused crowded conditions and created difficult work-around situations. The next closest U.S. medical facility was located approximately 50 miles away at SHAPE, Belgium.

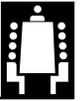
The \$1,300,000 add/alter project was already approved as an FY 96 Unspecified Minor Construction (UMC) project by the Assistant Secretary of Defense. The construction contract was scheduled to be awarded by September 1997, and the NATO Clinic had to be empty by that time.

The alteration/addition to the NATO Clinic project meant relocating existing clinic functions during the extensive renovation and expansion work. Examination and treatment rooms, offices, medical storage rooms, patient waiting area, pharmacy, medical library, x-ray room and laboratory all had to be moved. The search for a temporary facility was on.

To make matters worse, the 80th ASG was also tasked to provide extensive modernization and expansion of the leased NATO Support Activity (NSA) facility, located in Brussels, Belgium. The NSA was currently housed in a 26,399 net square feet facility, which was adequate at the time it was originally leased in 1977, but was now severely undersized with less than one half of the space needed for its current mission. (The most recent space analysis showed a requirement for 58,750 net square feet).

An economic analysis of different alternatives showed that expansion of the current facility was the most cost-effective solution. Final approval for the expansion, along with a five-year extension of the lease, was approved by the Deputy Assistant Secretary of the Army (Installations and Housing) on 1 February 1996. (This approval process,





which normally takes six months to one year, was expedited to three months.)

The expansion requires demolition of the existing 1,200 square meter rear annex and construction of a new three story annex in its place. The entire renovation and expansion will be financed by the landlord and could take up to eighteen months after work is begun.

A search for available space for the clinic and the NSA narrowed it down to two buildings in the recently vacated Belgian Ministry of Defense Ex-Caserne "Wing Meteo de la Force Aerieenne Belge," Wezembeek-Oppem. This site is located less than four miles from the NSA facility and less than two miles from the Health/Dental Clinic and the

Department of Defense Dependent School facilities in Sterrebeek. The USAREUR Real Estate office granted approval to pursue temporary acquisition, and negotiations were begun.

The Belgian Ministry of Defense agreed to release the Ex-Caserne "Wing Meteo" to the U.S. Government

Facility that will be used by the displaced NSA functions; i.e., mini-px, barber shop, video rental, thrift shop, mail room and lounge, as viewed looking toward the caserne.



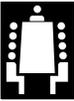
(Photos courtesy of the 80th ASG Training Support Center)



Facility that will be converted into the temporary Health/Dental Clinic.

U.S. NATO Support Activity (NSA) Facility renovation/expansion project. The rear annex will be demolished and replaced with a new annex similar to the main building (front).





rent-free through 31 December 1998. Only minor maintenance/repairs will be required in order for the displaced NSA functions to occupy one of the buildings. More extensive alterations will be required for the Health/Dental Clinic to relocate into the former office building, but no more than would be required to move into any other temporary space.

The alternative was to lease relocatable facilities or equivalent office space on the local economy. Equivalent leased space in the European Community Area of Brussels would cost approximately 5,250 to 6,000 Belgian Francs (BF) per square meter per year. For a 1,200 square meter facility, using the average cost of 5,625 BF per square meter per year, the lease cost would have been approximately 6,750,000 BF/yr or \$216,000/yr.

POC is Clayton Turner, DSN 361-5424. **PWD**

Clayton Turner works in the EPS Division of the 80th ASG-DPW in Chievres, Belgium.

New Rosters are in

The April 1997 edition of the U.S. Army Worldwide Public Works Roster has finally arrived, and your copy should soon be in the mail to you. The updated Roster is also available on the CPW Home Page at <http://www.usacpw.belvoir.army.mil/phone/phone.htm>. If you already have the Adobe Acrobat Reader installed in your Windows, all you have to do is pull up the new Roster on the CPW Home Page, and follow the prompts to save as—then save it as Acrobat Reader. Then you can click on the Acrobat Reader and pull up the new Roster for viewing. Both the Table of Contents and the Index are linked to the corresponding text entries. You can print out all or part of the Roster, and Acrobat Reader will preserve the fonts, layout and format. **PWD**

BOLD Grants program includes more money-saving investments

by Jim Caldwell

Replacing common heat pumps in Fort Sill, Oklahoma, family housing with geothermal heat pumps that cost \$500,000, will provide as much comfort and save more than \$1.6 million over five years.

Buying a \$5,000 battery recharger that can remove corrosion from used batteries to permit recharging will save Fort Gordon, Georgia, \$257,500 over five years.

These are just two of the 59 projects that received funding for fiscal year 1997 through Training and Doctrine Command's BOLD Grants program. The number of projects and the amount of money, \$7.25 million, invested in the projects have nearly doubled since FY 96, the first year of the program.

BOLD, an acronym for Base Operations Opportunities Leveraging and Development, won Vice President Al Gore's Hammer Award from the National Performance Review in January.

The money put into the program will have a five-year return on investment of more than \$60.5 million.

Toni Wainwright, Acting Deputy Chief of Staff for Base Operations Support (DCSBOS) for TRADOC, announced the projects selected for BOLD Grants at the annual Department of Defense Garrison Commanders' Conference in Washington, D.C., February 27. She presented symbolic checks to TRADOC garrison commanders whose projects had been selected.

"BOLD Grants acts as an incentive for commanders and managers to think seriously about reengineering base operations service delivery methods and processes," she said.

"Because these investments produce savings that the installation gets to keep, installation personnel — who are really the experts — are encouraged to 'think outside the box' and come up with dollar and labor saving ideas," she said.

The projects are proposals that commanders would do if their budgets were large enough. TRADOC headquarters provides that money.

"Programs we fund are creative approaches to improving services for soldiers and their families. The projects also enhance an installation's ability to accomplish its mission," said Jim Freeman, chief of TRADOC's Reinvention Center mission support lab.

"One of our garrison commanders told me he likes to attend the Garrison Commanders Conference because he has a good chance of leaving with something tangible," he said.

Freeman said representatives from other services and DoD at the Garrison Commanders Conference showed great interest in how BOLD Grants works.

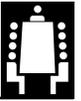
The mission support lab and DCSBOS continue to investigate ways to make the program even better for TRADOC installations.

"Many of the garrison commanders have said their projects could be implemented sooner if they received the BOLD Grants money sooner," Freeman said. "We are looking at the feasibility of awarding the grants no later than December, during the first quarter of each fiscal year."

"Of all the TRADOC programs I've been associated with, this one has, by far, had the warmest reception in the field," said COL Pete Sun, Assistant DCSBOS. "Visible results are on the ground and contributing to more effective and less costly base operations in the command."

POC is Jim Caldwell, (757) 727-3461 DSN 680, e-mail: caldwelj@emh10.monroe.army.mil. **PWD**

Jim Caldwell is a public affairs specialist at Fort Monroe, Virginia.



Fort Drum celebrates a decade of safety excellence

by Penny M. Joels

In 1987, the Fort Drum Directorate of Engineering and Housing (DEH) created the DEH Safety Committee. Ten years later, this committee is still providing valuable, innovative changes in the safety arena.

The purpose of the committee was to reduce accidents and injuries among employees, reduce hazards in the employees' work environment, stress and improve employees' safe working practices and encourage all employees to identify and correct safety hazards when encountering them. The committee name was changed to the Public Works Safety Committee in 1994, when the Directorate officially reorganized and changed its name to Public Works.

The committee consists of a Chairman (Deputy Director of Public Works), a Vice Chairman, Secretary, Public Relations Representative, Administrative Representative, Union Representatives, Installation Safety Office Representative and one member from every Division within Public Works. Members are appointed for a two-year period, which can be extended upon the employee's request.

Since its inception, the Public Works Safety Committee has brought about several positive changes within the organization by reviewing accidents relevant to specific hazards and work sites and making recommended changes necessary to eliminate further accidents or personal injuries. For example, the committee was instrumental in:

- Getting all ladders for attic entry enclosed to prevent workmen from falling off the ladders when opening overhead doors.
- Developing a confined space SOP to protect all employees working in confined spaces throughout the installation.
- Identifying and replacing several types of unacceptable safety equipment.
- Coordinating with the Installation Veterinary Services for formal Rabies Awareness Clinics for all employees within the Directorate during a rabies outbreak in the post's surrounding wooded areas.
- Instituting Emergency Radio Procedures to be used by all Public Works employees during emergencies/accidents. A short training session was conducted for all employees and the procedure is working well.
- Instituting a Light Duty Program which lists light duty positions readily available to injured employees. This program has saved thousands of dollars in compensation costs and lost employee time due to injuries. By having pre-established job descriptions on file, each case is evaluated and employees are brought back to work in a much more timely manner.

The Safety Committee has established an employee awards program, which it uses to reward safe actions by employees based on the amount of time an employee has gone without a lost-time accident. Any employee who holds a position that exposes him to unpreventable hazards,

such as construction sites, hazardous materials handling, fire fighting, or high accident areas such as maintenance crews, mechanics, or equipment operators, is placed in the awards program as soon as he is hired.

At one-year intervals, if the employee has been accident free, he receives an award. Each year is marked by a different award. For example, when you enter into the program, you receive a Public Works Safety Committee ball cap, after one year, you receive a t-shirt, after two years, you receive a sweat shirt, and so on. If an employee has a lost time accident, however, they receive a new start date and the award process begins again.

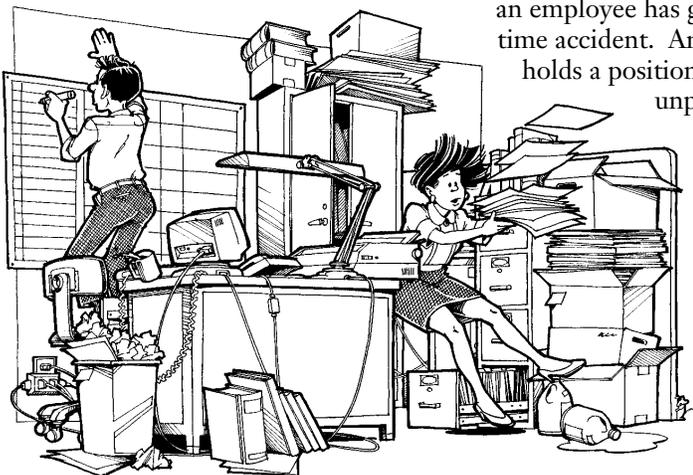
The Safety Committee also sponsors a quarterly safety poster contest (Winter, Spring, Summer and Fall). Each quarter, all employees are encouraged to submit their slogans and ideas for safety posters. The Safety Committee votes on the entries, and the winning poster is professionally drawn, reproduced and posted throughout the Directorate. The employee who submitted the winning entry is given a framed copy of the finished poster and a cash award of \$250.

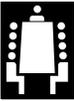
In addition, special contests are conducted to promote safety within our Directorate throughout the year. These contests are used to promote awareness in special areas such as seat belt safety, proper use of hard hats, and safety equipment.

Each year, the committee organizes two Safety Awareness Days. On these days, seminars and presentations are conducted at various times and locations throughout the Directorate for all employees to attend. Several safety-related topics are presented, some by outside sources such as our local power company, local welding companies, and the Sheriff's Department. Employees are encouraged to attend as many seminars throughout the day as possible.

For more information about this program or if you have comments or ideas for the committee, please contact the current Vice-Chairman of the Public Works Safety Committee, Herb Crandall, Jr., at (315) 772-3480 DSN 341 or e-mail: crandallh@drum-emh1.army.mil. **PWVD**

Penny M. Joels is the customer representative in the Public Works Directorate at Fort Drum, New York.





Performance-based contracting

by Bob Hohenberg

Performance-based contracting for services may not be new

to everyone, but for many folks, it's the new buzz phrase for developing an acquisition requirements package.

Performance-based contracting means structuring all aspects of an acquisition around the purpose of the work to be performed as opposed to the manner by which the work is to be performed. Services are defined as the performance of identifiable tasks rather than the delivery of an end item of supply.

Did you know that government policy supports use of performance-based contracting methods to the maximum extent practicable when acquiring services and choosing the acquisition and contract administration strategies, methods, and techniques that best fit the requirements?

Following are the methods for developing performance-based contracting:

Statement of work. When preparing statements of work, agencies shall, to the maximum extent practicable, describe the work in terms of "what" is to be the required output rather than "how" the work is to be accomplished.

Quality assurance. Agencies shall, to the maximum extent practicable, assign contractors full responsibility for quality performance. Agencies shall develop formal, measurable (i.e., in terms of quality, timeliness, quantity) performance standards, and surveillance plans to facilitate assessment of contractor performance and use of deduction schedules.

Selection procedures. In such instances, contracting activities shall give careful consideration to developing evaluation and selection procedures that use quality-related factors such as technical capability, management capability, cost realism, and past performance.

Contract type. Fixed price contracts are appropriate for services that can be objectively defined and for which risk of performance is manageable. In most instances, services that are routine, frequently acquired, and require no more than a minimal acceptable level of performance fall into this category.

Repetitive requirements. When acquiring services which previously have been provided by contract, agencies shall rely on the experience gained from the prior contract to incorporate performance-based acquisition methods. For such follow-on requirements, statements of work shall further describe the services in terms of "what" is to be performed. Performance standards and surveillance plans shall also be more definitive than those for the prior acquisition. Where appropriate, conversion from a cost reimbursement to fixed price arrangement shall be accomplished and, whenever possible, quality assurance deduction schedules shall be introduced.

Multi-year contracting. Multi-year contracting will increase competition by offering a more stable, long-term contracting environment.

This policy emphasizes the use of performance requirements and

quality standards in defining contract requirements, source selection, and quality assurance. Established by the Office of Federal Procurement, Policy Letter 91-2, it helps to ensure that the appropriate performance quality level is achieved. Payment is made only for services which meet contract standards.

For more information about Policy Letter 91-2, the OFPP Pamphlet No. 6 (Revised), which is a compilation of OFPP Policy Letters, or OMB Circular No. A-76, "Revised Supplemental Handbook," please contact Bob Hohenberg, CECPW-FM, (703) 428-6227 DSN 328, FAX: (703) 428-7590 or e-mail: bob.e.hohenberg@cpw01.usace.army.mil. **PWD**

Bob Hohenberg works on contracting issues in CPW's Directorate of Facilities Management.

Reg recommends firm fixed-price contracts

by Bob Hohenberg

A wide selection of contract types is available to the government and to contractors to provide the flexibility needed in acquiring the large variety and volume of supplies and services required by government agencies. Specific contract types range from firm-fixed-price to cost-plus-fixed-fee with numerous combinations.

The Federal Acquisition Regulation recommends using fixed-price contracts, whenever possible. However, DPWs can run into problems when attempting to write a performance work statement or soliciting for a fixed-price contract such as:

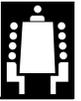
- Insufficient workload data.
- Changes in project work load.
- Indefinites (or non-recurring functions).
- No established preventive maintenance plan.

Without some kind of fix, the solicitation will most likely result in a

cost-reimbursement type contract. The solution is to team up with your contracting folks and try a new approach by developing performance work statements that will support a combination of contract types, such as (1) firm-fixed-price and indefinite quantity or (2) firm-fixed-price, indefinite quantity, with cost reimbursement. You may be surprised how well the solicitation improves contract administration with reduced resources.

The fixed-price portion is used for all quantifiable work and services while the requirements portion is used for indefinite quantity work and services, with reimbursement used for manning and operating utility plants 24 hours a day, 365 days a year.

POC is Bob Hohenberg, CECPW-FM, (703) 428-6227 DSN 328, FAX: (703) 428-6227 or e-mail: bob.e.hohenberg@cpw01.usace.army.mil. **PWD**



Revised environmental protection & enhancement policy

by Robert W. Fenlason, III

The Army has published and printed a revision to Army Regulation (AR) 200-1, *Environmental Protection and Enhancement*, dated 21 February 1997. The U.S. Army Publications and Printing Command (USAPPC) is in the process of distributing official hard copies to organizations that have subscribed to receive it (see ordering instructions below). AR 200-1 is strictly a responsibility and policy document.

Technical and procedural information for AR 200-1 is being written as DA Pamphlet 200-1 (scheduled for printing in 1997).

AR 200-1 is also available for viewing on-line, as well as for downloading in MS Word or WordPerfect format. It is located on the Defense Environmental Network and Information eXchange (DENIX) menu under (Public) (Policy and Regulations-Army), and (DoD)

menu on under (Legislation, Regulations, Policy & Guidance): (<http://denix.cecer.army.mil/denix/denix.html>). The U.S. Army Environmental Center (AEC) is in the process of putting this regulation on the ODEP and AEC home pages as well.

(NOTE: The on-line viewable, and downloadable, DENIX copies could not be laid out to match the official published hardcopy, though all language is identical. You are encouraged to utilize the viewable version for quick access to information. The downloadable/printable versions are in Microsoft Word or WordPerfect.)

To order an official published hardcopy:

AR 200-1 has been revised and is being distributed to all DA 12-Series subscribers who have established DA 12-Series requirements for initial distribution number (IDN) 093190. Those who are not DA 12-Series subscribers and did not receive it through this initial distribution will have to requisition copies through the resupply system. To automatically receive future changes and/or revisions, users should subscribe to or update their DA 12-Series subscription service, by citing the (IDN), as stated above, and the quantity required. All initial distribution subscriptions updates and resupply requisitions must be transmitted to USAPPC, electronically via your publications control person. Electronic transmissions may be made to <http://www-usappc.hoffman.army.mil> or asqzim@hoffman-emhl.army.mil

POC is Robert W. Fenlason, III, CECPW-ES, (703) 806-5201 DSN 656.



Robert W. Fenlason, III, works on water and wastewater issues in CPW's Sanitary and Chemical Division.

Army Environmental Training Support Center offers ITAM support

The Army Environmental Training Support Center (ETSC) in Huntsville, Alabama, stands ready to help installation environmental and operations personnel with their Integrated Training Area Management (ITAM) environmental awareness programs. The ETSC supports the ITAM program by designing and producing environmental awareness products to increase personnel awareness of environmental impacts during training and other activities related to installation land management.

ITAM program support to installations is provided in technical, educational, graphical, and reproduction services. The ETSC resources include instructional systems specialists, environmental protection specialists, graphic artists, video production specialists, and wordprocessors capable of analyzing, designing, and developing a variety of environmental training and awareness materials, programs, and products.

There is no cost for the design and development of any ITAM or other environmental-related product when using the services of ETSC; however, reproduction costs are borne by the installation or activity. Timing is critical. ETSC receives numerous requests during the 4th

quarter and is unable to accommodate every request unless coordination has already begun on development of the product.

Any FY 97 funds required from the installation for reproduction of materials must be received in ETSC no later than 1 July 1997. These suspenses are necessary to do a good job for you, the customer, and to meet the FY bona fide need requirement within appropriations law.

Collaboration between installation ITAM coordinators and ETSC personnel facilitates the analysis, design, development, and reproduction of an installation specific training or awareness product. Some products are designed and developed completely by ETSC while others are modified from products created at installations and activities Armywide.

All of the products can be used as benchmarks for future development of like products. The ETSC can also develop or modify a product and then provide "camera ready" copies for reproduction by the requesting installation.

For more information on the ETSC's services, please call James Mitchell, (205) 895-7408, FAX: (205) 895-7478 or e-mail: adamsl@smtp.hnd.usace.army.mil



Commercial software tested at Fort Eustis

How does IFS-M compare to commercial off-the-shelf software? CPW and the Business Enhancement Software Testing Team are conducting a test at Fort Eustis, Virginia, to determine whether the latest commercial software will:

- Adequately serve DPW business automation needs.
- Replace the IFS-M screens and reports that DPWs are currently using.

A critical condition of the test is that the Army must be able to use the “shrink wrap” version of a commercial software product and must not require a commercial software vendor to customize the software. Once a vendor modifies a system for any reason, the Army’s future flexibility is compromised and any economic savings may dwindle.

The test is not intended to modify any commercial software to make it look or feel like IFS-M. Rather the Army is looking for ways to take advantage of new technology and the vendor’s investment in research and development. After all, the Army cannot develop software for less than it can purchase already-developed commercial software, and commercial software vendors have attempted to get the most utility from their systems by designing maximum flexibility into their products.

But the DPW community is obligated to work within a well-defined set of boundaries. IFS-M and other systems used by DPWs interface with a host of other systems that have narrow and unique applications. Further, most DPWs agree that these interfaces must be sustained as part of doing business.

Process Action Teams for both Facilities Information Systems Technology and Business Enhancement Software Testing had already made the assessment that no commercial software would be able to fully support interfaces to Army and DoD systems without modification. For this reason, the Army has taken a two-fold approach to commercial software testing at Fort Eustis:

- First, the DPW will use commercial software to do what it can do best — to support routine, daily business functions.
- Second, DPWs retain government-created and maintained software to sustain interfaces with other government software. This government software works, and it represents an Army investment in the millions of dollars.

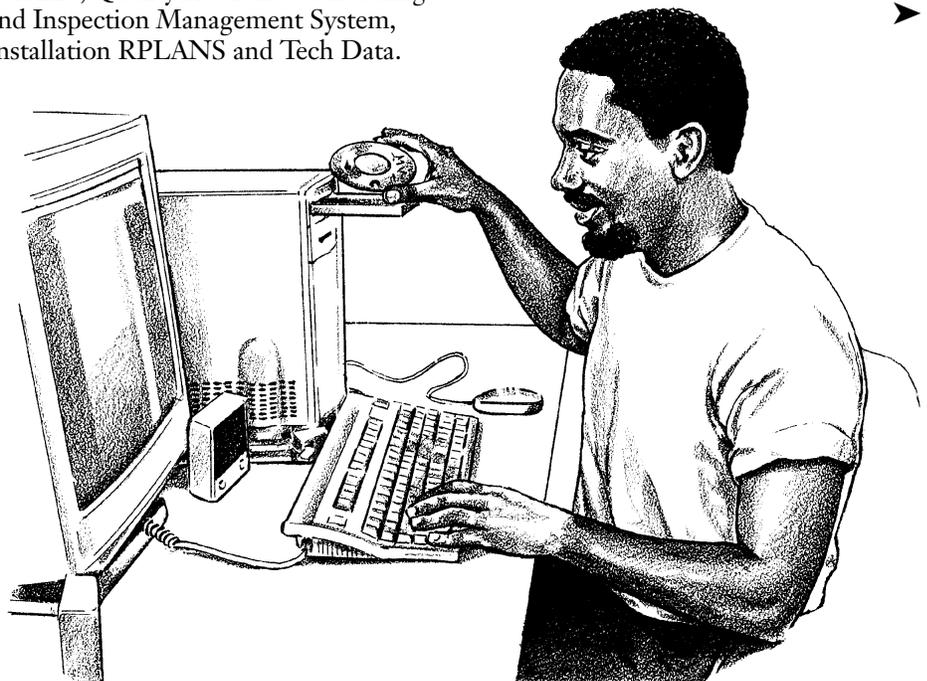
The ideal environment would be one in which DPW personnel see and use only commercial software, while the Standard Army Management Information Systems interfaces process completely in the background.

Today’s IFS-M interfaces directly with 13 Army systems and indirectly with numerous others. The direct interfaces are Standard Army Financial Management System, Standard Depot Systems, Test and Evaluation Army Management-Uniformity Program, Standard Army Financial Inventory Accounting System, Defense Auto Addressing System, Standard Army Contracting System, Oracle Financials, Business Operating Supply System, HQEIS/IFS, Installation EIS, Quality Assurance Scheduling and Inspection Management System, Installation RPLANS and Tech Data.

The Defense Finance and Accounting System is developing additional IFS-M interfaces with CEFMS (which replaces the Standard Army Financial System) and Standard Operations and Maintenance Army OMA Research and Development System (the AMC standard system). Defense Property Accountability System is designing a third interface to provide real property capital asset data as mandated by the Chief Financial Officer Act. The creation and sustainment of these interfaces is one of the primary reasons IFS was developed as a Standard Army Management Information System.

The IFS-M interfaces encompass about a third of all IFS-M data, and the majority of the interfacing data elements are dictated by Army and DoD policy. The DPW community cannot wish them away, short of initiating new policy. Recommendations to this effect could someday be considered as long-term solutions, and certainly should be raised during the Fort Eustis test, but are unrealistic in the short term.

The plan for the Fort Eustis test is to map the IFS-M data elements that now interface with other systems to





comparable data elements in the commercial software. For example, an IFS-M element called "facility number" may map to something called "property" in the commercial software. Users will then be instructed accordingly through SOPs, training, documentation, and so forth. Whenever they see "property" in the commercial software, they will know this element represents "facility" in their own work environment. Similarly, an "APC" or "Job Order/ PCN" may be recorded in a commercial software field called "Fund Code."

CPW hopes the test process will provide a method for recording all essential Army data by using only commercial software. We won't be attempting to make commercial software look like IFS-M. We will only be establishing a home in the commercial software for mandated Army standard data.

To perpetuate IFS-M's current interfaces, CPW will write a Procedural Language/Structured Query Language code that will select the mapped data from the commercial software database and move it to a government-maintained "corporate data warehouse" (ostensibly the existing IFS-M database to start with) on whatever frequency is deemed appropriate. The existing IFS-M interface software will then be used to process the data. Again the objective is to accomplish this with little or no DPW intervention. There will be no attempt to maintain any data in the corporate database other than what is necessary to process the interfaces.

If successful, the Fort Eustis test approach will provide the flexibility to reduce Army reporting requirements without modifying the commercial software, and will also introduce new or replacement commercial software using the same mapping concept. It will ultimately reduce reliance on government-created and maintained software.

The test will attempt to determine the practicality and cost of this concept. It may work flawlessly or it may require numerous compromises. The mapping may be complete or result in sufficient holes to render one or more interfaces unworkable. Either way, we will gain valuable insight about our business, technology and future direction.

☛ POC is Ken Ralph, CECPW-FS, (804) 862-3000, Ext. 4058. **PWD**

EPANET makes water quality and distribution system modeling easy

by Nelson Labbé

Today's water treatment technology generally produces high-quality drinking water. Maintaining that high quality to the user as the water makes its way through distribution systems can be a problem because quality tends to deteriorate in water pipes.

EPANET is a computerized simulation model designed to assist installation operating personnel in predicting and understanding the values of various water quality parameters as water moves through their distribution systems. It is a very important tool for operators or environmental personnel especially where compliance has been a problem or is a potential problem.

The model can be used to determine pipe flows, node pressures, storage tank elevations and disinfectant and substance concentrations throughout the distribution system. It can calculate water age and trace contaminants. It helps operators develop consistent monitoring practices to comply with federal regulations, determine adverse health effects and maintain a safe system. It can also be used to simulate system changes as piping, water tanks or pumps are added or removed from the water system.

Using this model, operators can also structure a monitoring program that identifies key sampling areas. Potentially hazardous conditions caused by hydraulic, chemical or biological environments within the systems can be identified and actions taken to correct them.

Under CPW's FEAP program, the EPANET model was demonstrated at Fort Monmouth to model chlorine residual changes as water makes its way through the distribution system. Using the EPANET software, it was possible to determine an appropriate schedule for system flushing and applying increased chlorine feed during the summer at a remote point in the distribution system.

An initial setup of the software is required. This setup involves providing a complete description of the distribution system into the software database. The description includes data such as pipe

diameter, length, roughness coefficient, pipe elevations, water tank size and pump locations. Once system data is collected, an engineering student should be able to input the data, set up the program, perform calibrations and begin simulations within one or two months. Calibration involves entering data for actual pressure, flow and chemical levels (especially chlorine) at points throughout the distribution system. Once the system is calibrated, it will accurately model your distribution system for years to come and can be easily updated whenever the distribution system is modified.

Other options for setting up EPANET are to do it with operating personnel or by contract. Contract assistance is also available from CPW.

EPANET is a Windows-based program designed by the U.S. Environmental Protection Agency (EPA) to run on IBM-compatible PCs. About five megabytes of free hard disk space are required. It is also available as a DOS program. Copies of the program are free and can be downloaded from the internet at <http://www.epa.gov/RREL/index.html>. Copies are also available through the mail from CPW or CERL.

Last September, the U.S. Army Center for Public Works (CPW) sponsored a EPANET workshop at USACERL. The workshop was part classroom teaching, part hands-on computer tutorial with real-life simulations. The course was attended by 20 DPW personnel. If your installation is interested in better managing your water distribution system using EPANET and you were not able to attend the training session and you would like assistance, CPW can provide in-house or contractor support for on-site training of personnel in the use of EPANET. User manuals are available from the internet site or CPW.

☛ CPW POC is Nelson Labbé, (703) 806-5202 DSN 656. CERL POC is Richard Scholze, (217) 398-5590, e-mail: r-scholze@cecer.army.mil. **PWD**



34 happy installations can't be wrong!

by Dana Finney



Automated Self-Help Centers have typically seen business grow dramatically as a result of better customer service and availability of needed items.

The bottom line for Joe Connors every day is “happy customers.” As manager of the Self-Help Center at Fort Wainwright, Alaska, Connors knows the success of the operation depends on customers’ willingness to use the store, and that means each visit must provide top-notch service. Now thanks to new features in the Self-Help Service Center Management System (SHSCMS), Self-Help Centers have a powerful tool that both improves customer service and makes life easier.

“We had a reorder report before, but still had to decide how much of everything to restock, so we often ran out of items on the shelf,” Connors said. “With the automatic reorder calculation program, our shelves rarely run out and the customers can get what they need.”

SHSCMS uses barcoding and a computer system to automate Self-Help Centers on installations. The Self-Help program reduces the demand on DPWs by encouraging personnel in family housing to do their own maintenance and remodeling through items supplied by the Self-Help store. It also creates a sense of ownership in the property which results in better care and a longer service life.

Developed by CERL with support from CPW and input from a User Group, SHSCMS has been available since 1991 and is now in use at 34 installations. While most users are at Army posts, some other DoD agencies are also using the program (Navy, Army Materiel Command, and Corps of Engineers).

The recently added features make it easier to maintain a 60-day supply of items and to satisfy customer needs even when an item is unavailable. The reorder calculation program determines average usage rates and length of time from reorder to receipt. Based on these estimates, it automatically reorders the correct amount to supply the shelf at a level determined by usage.

“Besides the common items we stock, we order a lot of fringes as the need arises,” Connors explained. “The system tracks usage and if the rate increases enough, it automatically makes it a stocked item. It’s been a real blessing.”

Another enhancement allows the Self-Help store to issue Want Slips (like rain checks) to customers when an item is not stocked or is out of stock. Once the Want Slip is produced, the system automatically orders it. When the item is received, a receipt is generated with the customer’s telephone number. “It shows the customer that we’re being responsive—that even if we can’t provide something right now, we’re going to get it for them,” Connors said.

SHSCMS is now available from Resource Center Enterprises (RCE) in Champaign, IL. According to RCE Director Jeff Moll, two pricing options



The newest version of SHSCMS has an automatic reorder feature that keeps popular items stocked at adequate levels to serve customers’ needs.



are available. For a complete support package that includes software and upgrades, installation, phone support, and user manuals, the annual subscription will cost just under \$3,000.

“For operations that are more self-sufficient and have multiple stores, we’ll offer a license that will allow one central manager to load and network the system at all the stores, which will save 30 to 40 percent per store,” Moll said.

The Self-Help Center at Fort Wainwright has grown dramatically since SHSCMS was implemented, from stocking only 23 items to routinely stocking some 2,100 items. The store handles over 27,000 visits each year. Besides serving customers in family housing, the center has reimbursable accounts with users such as troop units

“SHSCMS uses barcoding and a computer system to automate Self-Help Centers on installations.”

and the post hospital. SHSCMS supports easy funds transfer within the various accounts. The system’s strong inventory control features also make it useful for managing functions such as warehousing, office supply, and computer equipment tracking.

The Fifth User Group will convene at CERL June 4-5 in Champaign, Illinois, to train users on newly-added functions and begin identifying requirements for a new Windows version of SHSCMS. Fort Wainwright serves as one of the beta test centers for the system and Connors is a member of the User Group. “We use every function of the program—there isn’t a single feature we don’t use. Everything included in the system to date is what the User Group told CERL we wanted. If it has some benefit for our customers, we’re going to use it.”

For more information on SHSCMS, please contact Jeff Kirby at CERL, (217) 373-6730 or toll free (800) USA-CERL. To learn more about acquiring the system, contact RCE at (800) 428-HELP or (217) 367-0137. **PWD**

It's COTS to be good!

by Martha Sharpe and Dick Farmer

The Assistant Chief of Staff for Installation Management (ACSIM) is the proponent for Management Information Systems (MIS) that automate the tasks of public works management at U.S. Army installations. The ACSIM and the U.S. Army Corps of Engineers initiated a Process Action Team (PAT) to review current Directorates for Public Works automation and provide recommendations for improvement.

The PA team was designated as the Facilities Information Systems Technology (FIST) team. Its efforts to improve the Army automated systems included the search for a commercial-off-the-shelf (COTS) software package to replace IFS-M, the installation’s facility maintenance management system. The team identified AEC FM, the facilities management software package developed by AEC Data Systems, Inc., as the most feasible candidate for further testing by the DPW. This application is an enhanced version of the Delivery Order Contracting (DOC) System, for which the U.S. Army already has a license for Army Directorates for Public Works to use.

The Business Enhancement Software Testing (BEST) team, the successor to the FIST team, will test the AEC FM application this summer at Fort Eustis, Virginia, with assistance from CPW. The purpose of this test is to determine if this COTS will adequately serve DPW business automation needs and if it can replace all or part of the application software currently in use at Army installations worldwide. We must be able to use this product without modification; once a product is modified, either by the vendor or the government, the benefits of a COTS are lost. Based on the test results, the Army will consider upgrading its license with AEC to make AEC FM available for all Army installations.

The Integrated Facilities System - Mini/Micro (IFS-M), the government-developed application that currently automates facilities management functions, is undergoing a conversion from a mini-computer-based architecture to a client/server architecture, using Microsoft Windows technology to replace

the present character-based Oracle forms with a graphical user interface (GUI). This is an architecture in which the client (personal computer or workstation) is the requesting machine and the server (in this case, a high-speed microcomputer) is the supplying machine, both of which are connected via a local area network (LAN).

The client will contain the IFS-M application and will perform most of the application processing. The server will maintain the database and process requests from the client to extract data from or update the data base.

The Oracle database management system (DBMS), operating on the server, is responsible for data integrity and security. Since the early 1990s, client/server architecture has been the recommended approach for building applications on LANs, in contrast to centralized minis and mainframes with dedicated terminals. The AEC FM COTS application uses a client/server architecture similar to that planned for IFS-M.

The challenge in improving DPW automation is:

- 1 to implement a COTS without modification of its coding or properties.
- 2 to continue managing the complexity of the current processes without sacrificing current capabilities.
- 3 to continue to satisfy our existing interface requirements.
- 4 to be in a position to satisfy future needs as they are identified.

In meeting this challenge, we must guard against the possibility of becoming completely dependent on a single vendor for automation support. The approach described below will provide a solution that will satisfy both our challenge and our concern. The overriding theme of this approach is to ensure a valid evaluation of the COTS being tested so that the outcome clearly shows the best combination of resources necessary to bring DPW automation into a more commercial environment.

To ensure a valid evaluation, it is important to identify requirements



for effective test preparation. These requirements, listed below, will be developed more fully in workshops comprised of subject matter and technical experts:

- Hardware and software must be identified, acquired, and installed at the test site to support the test.
- Required (core) business processes must be identified, including the information needs to support these processes.
- Criteria that will be used for evaluation during the actual test must be developed and weighted.
- Scenarios must be defined to demonstrate the COTS ability to satisfy the criteria.
- Test conditions and data must be developed to run the scenarios.
- Evaluation factors and logic must be defined to ensure a fair evaluation.
- Data requirements of external systems must be identified; and sources must be found for all essential information, i.e., COTS, Government system, or other source.
- Unique data and processes must be challenged, and unnecessary requirements must be eliminated.

The COTS test will have two phases. The first phase will test the ability of the COTS to perform in the DPW work environment and will determine how well it supports the DPW business processes. During this phase, the IFS-M system will continue to be used and will satisfy the external system requirements. Test scenarios and test data developed during the workshops will be run through the COTS to provide the basis for evaluation of the predefined criteria. Following the test, the BEST team will analyze the results and will host an IPR to determine the feasibility of continuing further.

Assuming that results from the first phase show that the COTS continues to be a feasible alternative to replace all or part of the present system, a second phase will be run. In this phase, the COTS will be used for actual transactions and will be the source for external needs. The purpose of this test is to determine the COTS ability to satisfy the data requirements of external systems. Following this final test, the BEST team will conduct a complete analysis

of the total test results and provide a recommendation to the IFS-M Configuration Control Board (CCB) regarding the deployment of the COTS beyond the Eustis test site. The CCB will make the final decision.

If the CCB recommends deployment of the tested COTS, the application will be utilized to support the DPW in those functions that it performs well, as determined by the test results. For those business processes that are not adequately supported, due to software deficiency or unique government business rules, the appropriate portion of our IFS-M client/server system will provide the automated support function. Data that is maintained by government applications and needed by the COTS or other applications will be extracted from the government data base and made available for importing into the applicable database.

AEC FM will not provide the capability to send and receive information to and from other government systems. IFS-M interfaces with 15 other systems, and those systems provide data to 22 others. In effect, IFS-M has 37 known interfaces.

The requirement to interface with other systems will be satisfied by a process that is external to the COTS. The process is composed of four parts:

- 1 Taking snapshots of data from the COTS database at predetermined frequencies.
- 2 Translating that data into existing standard formats.
- 3 Loading the translated information into a temporary holding database where it waits for execution.
- 4 Running government-maintained routines that accomplish the interfaces.

This approach will allow us to continue to use our interface software without modifications.

The recent great strides in technology, including industry standards, relational data base managers, the Intel chip, and client/server architecture, are making it possible for automation to become the effective management tool that was promised in the 1950s. The automation initiatives on behalf of the DPWs are perfectly aligned with these technological trends and will surely bring about the promised benefits.

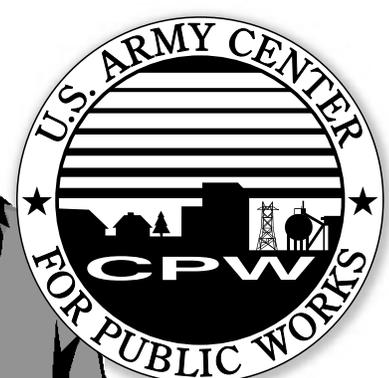
POC is Leo Oswalt, CECPW-FB, (703) 428-7120 DSN 328. **PWD**

Martha Sharpe manages the IFS-M Acquisition Program at CPW. Dick Farnar is a technical advisor in the area of automation for the Directorate of Facilities Management.

Public Works problem?



Call us first!



1-800-RING-CPW



Buying computer equipment on the web?—you bet!

Can the Army buy computers, servers and networking equipment using the web?

The answer is yes! There is a new and easier way for government agencies, **including all of DoD**, to identify and purchase computers, servers, a wide range of networking equipment, cabling, and more. This should be a tremendous help in purchasing IFS-M Client/Server computer equipment.

Several U.S. Army Center for Public Works (CPW) employees recently attended a procurement seminar given by the General Services Administration (GSA) in Washington, D.C. This seminar highlighted how the government is streamlining its procurement methods. The emphasis is on:

- Providing access to needed technology.
- Easing procurement efforts.
- Reducing turn-around time between ordering and receiving products.



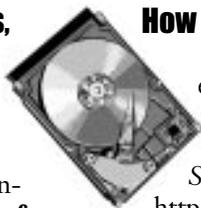
With IFS-M moving to the Client/Server environment, CPW has identified two contracts which are well suited for Army installations to use for any computer-related procurement.

Note: Regardless of how you elect to procure computer items, CPW is available to assist in the configuration of your IFS-M system. The "IFS-M Cookbook to the Future" is also a good configuration source.

What contracts has CPW identified?

1 Scientific and Engineering Workstation Procurement (SEWP-II) Contract

2 National Institute of Health (NIH) Computer Acquisition Center Contract



How can they be accessed?

Sign-on to the Internet and enter one of the following addresses:

SEWP-II Internet address is:
<http://www.SEWP.NASA.GOV/>
NIH Computer Acquisition Center Internet address is: <http://www.nih.gov/od/oirm/nihecs.html>

For additional Government contract sources, visit Fort Monmouth's web site at: <http://www.monmouth.army.mil/scp>. (Note: You may wish to set bookmarks.)

📞 **Army POC for SEWP-II** is Anthony Addeo, (908) 427-6609, Fort Monmouth, NJ.

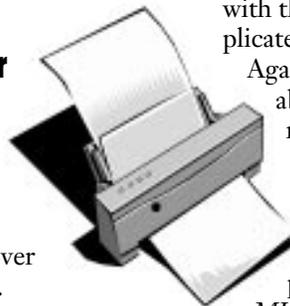
📞 **NASA POC for SEWP-II** is Doug Hanson, (301) 286-7018 or e-mail: doug.hanson@gafc.nasa.gov, Greenbelt, MD.

📞 **Army POC for NIH Computer Acquisition Center** is Cynthia Adams, (908) 427-6609, Fort Monmouth, NJ.

📞 **NIH POC for NIH Computer Acquisition Center** is Julius Tidwell, (301) 402-3074 or e-mail: manny@bos-m.nih.gov.

Can a purchase order be used?

Yes, however, if the purchase is for \$5,000 or more, a separate MIPR must accompany the purchase order to cover assessed percentage fees.



Can the government IMPACT (VISA) charge card be used?

Yes, contact the appropriate Fort Monmouth POC for details.

What if I don't have Internet access?

Call the above telephone number(s) for guidance.

SEWP-II Contract Synopsis

SEWP-II Consists of NASA contract numbers:
NAS5-96002-7 and 9-13
NAS5-96150-51
NAS5-32898



There are 17 vendors associated with this contract, and until you access each vendor's site (via the SEWP-II homepage), you won't believe the range and variety of computer items offered for government purchase.

Fort Monmouth charges a 1.75 percent processing fee for any purchase of \$5,000 or more. This processing fee **MUST** be provided via a MIPR, and it **MUST** be sent as a separate MIPR containing only the processing fee.

Please contact the above POC(s) for any questions concerning this contract.

NIH Computer Acquisition Center Contract Synopsis

There are also 17 vendors associated with this contract and very few are duplicates of the SEWP-II contract.

Again, the range and variety of available computer items is multitudinal.

Fort Monmouth charges a 2 percent processing fee for any purchase of \$5,000 or more.

This processing fee **MUST** be provided via a MIPR, and it **MUST** be sent as a separate MIPR containing only the processing fee.

Please contact the above POC(s) for any questions concerning this contract.

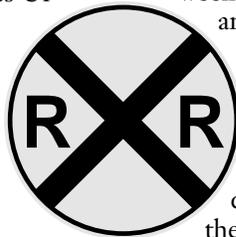
📞 For any questions concerning this article, please contact Jim Webster, CECPW-FB, (703) 428-7101 DSN 328, e-mail: jim.f.webster@cpw01.usace.army.mil. **PWD**



Let CPW help you manage your railroad network

If you need to know:

- ✓ Where to obtain free 1-3 day site assistance visits for emergency and site-specific maintenance problems.
- ✓ Where to acquire an all-inclusive contract for safety and/or maintenance track inspections that includes Ultrasonic Rail Detection Testing, Automated Track Geometry Testing, and a great deal more.
- ✓ How to obtain tailored inspections to various railroad track components, such as crossing signals and turnouts.
- ✓ When safety and maintenance inspections must be accomplished.
- ✓ Where to obtain on-site hands-on specialized inspection training.
- ✓ How and where to obtain Army railroad inspector certification.
- ✓ How to interpret Army railroad policies from a technical viewpoint.
- ✓ Detailed information on work classification of your railroad job orders.
- ✓ Explanations to Army railroad performance standards.
- ✓ How to better manage your network.
- ✓ Where to obtain complete or partial implementation of the RAILER management system.
- ✓ Answers to questions on the new developments in RAILER.



"Railroad Track Standards," and TM 5-627, "Maintenance of Trackage." We can draw on individuals with 20 to 40 years experience with maintenance and inspection of class I railroads.

USACPW is the proponent of agency and assists in teaching the two-week "Army Railroad Track Standards and Maintenance Course" required for railroad track inspector certification, which is being conducted at the U.S. Army Waterways Experiment Station. We will ensure that you have the latest class schedule and information on the contents of the course.

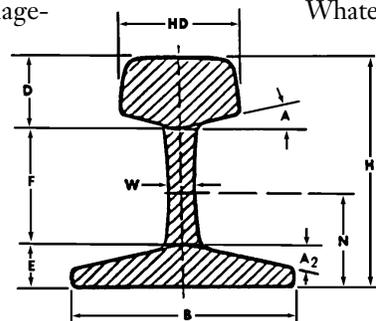
We are also the proponents and work with the U.S. Army Corps of Engineers Construction Engineering Research Laboratories in the continuing development of RAILER Railroad Track Engineered Management System (RAILER EMS).

For those of you who are not familiar with the RAILER program, here's a brief explanation. RAILER is a railroad track engineered management system that helps engi-

neers and managers assess infrastructure problems, determine maintenance and repair requirements, and direct resources to those needs which will result in the greatest return on investment. It assists with the railroad network inventory, systematic inspections, assessment of facility conditions, and identification of maintenance and repair needs. The automated RAILER program requires a computer with 640k RAM and a hard disk with a minimum of 30 megabytes of storage. The objective of the program is to provide installations with improved railroad track condition and performance, reduce backlog of maintenance and repair, and create a basis for allocating funds where they will field the greatest return and develop Annual Work Plans and long-range budgets for the installation's railroad network.

Whatever your railroad track rehabilitation needs are, we are here to assist you in turning your problems into solutions.

POCs are Jim Routson and Mike Dean, CECPW-ER, (703) 806-5995 or 806-6050 DSN 656. **PWD**



STOP throwing away solvents

by Robert W. Fenlason, III

Stop pouring money down the drain and allowing solvents and other chemicals to collect in the domestic wastewater collection system. Contact the Sanitary and Chemical Division at CPW to find out how recovering used solvents or using a substitute solvent can save scarce O&M dollars.

That's right! By examining your solvent needs, a Pollution Prevention Opportunity Assessment (PPOA) can be performed that can ultimately reduce costs. Each process that uses a solvent can be evaluated. After an equally-effective substitute is identi-

fied, the resultant savings can be documented.

To conduct the PPOA, CPW has established several Indefinite Delivery Type contracts with qualified Architect-Engineer firms. CPW provides and manages the basic contract. The requesting installation provides the funds for each contract task. The contract firm conducts the PPOA for an installation-wide assessment or a limited assessment, depending on the need.

POC is Robert W. Fenlason, III, CECPW-ES, (703) 806-5201 DSN 656. **PWD**



CPW's Professional Development and Training— not your little red schoolhouse anymore

by JB Nolen

As the repository for expertise in the DPW arena, the U.S. Army Center for Public Works (CPW) provides many unique and valuable services. The mission of the Professional Development and Training (PD&T) Division of CPW's Facilities Management Directorate is to provide integrated training management and professional development services to support excellence in facilities and housing management. PD&T is made up of four teams (Professional Development, Training, Support, and The DPW Academy) working cohesively to provide functional and managerial training and career development.

The Professional Development Team assists with all areas of professional development questions and problem solving. Jack Spittal is the proponent for marketing of professional career development and professional development. His expertise extends to the CP27 career field, which provides professional development information for all DPW employees. The Professional Development Team has a multitude of human resource management services available upon request, such as:

- Position management and organizational studies.
- Master intern training plan.
- Career management assistance.
- Other support activities.

The Training Team is composed of facilities and housing functional experts, including Milt Elder, Rod Flath, Johann Grieco, Dennis Milstead, JB Nolen, and Philip Reed. Our Facilities Training Team conducts many essential and fundamental courses such as the two-week Public Works Management Orientation Course, the various IFS-M courses, and Job Order Contracting (JOC) Basic and Advanced courses.

Our JOC Basic and Advanced courses have grown into a widely-accepted DoD training necessity and are presented over 10 times annually. Our Public

Works Management Functional course has been under development for the past two years, and we debuted its pilot course in March 1997. This will soon be followed by The Public Works Management Skills pilot course in FY 98. These two courses have been designed by the IDEF model and will immensely assist all branch chiefs in the DPW family. We are currently completing a two-level Performance Based Contracting course and a Quality Assurance course dealing with "outsourcing" and the swing to contracting services.

One of the latest courses that we offer deals with customer focus in the DPW field. The course was developed within the guidelines of the Disney "Magic Moments" concept and the President's Award and is available on an as-requested basis. Johann Grieco is the proponent for this course and the marketing of its training products. These courses are all crucial and essential additions to our curriculum.

Our Housing Team currently has courses in CHRRS, Facilities, and Furnishings to ensure all personnel are kept up-to-date on the latest in each area. Level I, II, and III functional courses dealing with the increasing demands placed on housing personnel are also available. The UPH course is being revised and is scheduled for the 4th Quarter time frame. This will be the first UPH course offered in three years.

With the changing demands of Capital Venture Initiatives and public-private ventures, we have partnered with the National Development Council and the University of Maryland to provide five courses covering financial certified and public-private ventures.

Led by Jim Ott, the Administrative Support team is responsible for providing assistance and guidelines in the execution of Professional Development Workshops/Seminars and scheduled classes. The team is also responsible for

various ad hoc conferences and seminars dealing with the multitude of Public Works duties. Team members coordinate with prospective hotels, ensure logistical support is identified and accomplished, work with convention services to locate the best conference location, coordinate audio visual support and provide administrative support (welcome letters, reproduction of materials, etc.). The DPW Training Workshop, "Army Day" at the Professional Housing Management Association Seminar (PHMA), the Combined User's Workshop, and the DoD Energy Training Workshop are only a few examples of conferences that the expert team supports.

The final team of PD&T is the CPW USAREUR DEH Management Academy. Due to the high demand for training, the Academy team was established three years ago as a centralized liaison within USAREUR for DPW/DEH training for the USAREUR DPW/DEH community. Overseen by Karen Marinov, the program has become the primary source of DPW/DEH training in USAREUR and a complete success. The Academy Team has managed the execution of 25 CPW courses, 33 at-large courses, 25 workshops, and numerous meetings. Attendees included USAREUR, USMTM (Saudi), ARCENT (Kuwait), DLA, NATO, Contracting Command-Europe (CCE), USACE Engineer Center Europe, Navy, Air Force, and USACHPPM (environmental personnel).

The future of PD&T will include work on staff assistance visits and the development of certification programs. Visit us on the CPW Home Page at <http://www.usacpw.belvoir.army.mil> and see what our future holds. As we leave the "little red one-room schoolhouse," come and join us and the world on the WEB. **PWD**

JB Nolen is the Acting Chief of the Professional Training and Development Division.



O&M training for HVAC controls

On-site workshops for training mechanics to operate and maintain standard HVAC control panels offer hands-on learning at the students' own installation. Besides avoiding travel time, mechanics can gain insight for making immediate fixes that improve HVAC system efficiency. "Standard HVAC Control Systems Operations and Maintenance" workshops focus on the HVAC control systems currently mandated for Corps use.

CERL recently conducted a 36-hour training workshop at Fort Campbell, Kentucky. Twelve mechanics from the DPW's Operations and Maintenance Division participated. According to Roger Chism, mechanic in Fort Campbell's DPW who attended, "The course gave us a clear picture of the whole



On-site HVAC controls workshops allow mechanics to gain valuable experience with the systems they are responsible for maintaining.

HVAC operation. By knowing what the controls are doing, you can tell what's going on in the HVAC system."

All O&M workshops contain the basics for instruction, but can also be tailored to meet the installation's specific needs. Training materials include the course text, "Standard HVAC Control Systems Operation and Maintenance," a workbook for lab exercises, Technical Manual (TM) 5-815-3, which provides design guidance for HVAC control systems, and Corps of Engineers Guide Specifications (CEGS) 15950 for HVAC control systems.

At Fort Campbell, the workshop included lectures and hands-on lab exercises. Instructors covered HVAC control theory, overviews of standard control systems and components, and O&M requirements during the morning sessions. In the afternoons, students completed lab exercises. CERL helped students with practical HVAC problems that required them to configure controllers that perform proportional, hot water reset, and economizer control functions.

Each participant also completed self-study lab problems that included configuring a time clock, calculating parameters for configuring hot water reset controllers using a personal computer

and a calculations diskette, and performing control panel inspection. Several exercises involved using TM 5-815-3 and CEGS-15950 to resolve questions.

Pre-tests and post-tests were given to measure the effectiveness of the workshop. "I recommend the workshop to all installations," said Chism. "Any chance you can get training like this is worthwhile and helps you do your job better."

The on-site workshop at Fort Campbell per student was considerably less than for other training courses when travel and per diem costs are considered. Besides the 4-1/2 day workshop and training materials, the cost includes an optional week-long follow-up visit by CERL to assess the mechanics' progress. And there's an added benefit to on-site workshops using actual HVAC systems at the installation: instructors and students often can find and fix problems that waste energy or create occupant discomfort in buildings.

For more information on the course, please contact Richard Strohl or David Schwenk at CERL, (800) 872-2375, ext. 7570 or 7241, e-mail: r-strohl@cecer.army.mil or d-schwenk@cecer.army.mil; or Phil Conner at CPW, (703) 806-6068 DSN 656. **PWD**

PROSPECT Registrar changes

There's a new name, phone number, and address for the PROSPECT Course Registrar. The Corps' former Huntsville Division has been reorganized and a new Professional Development Support Center established. The new address is:

USACE Professional Development Support Center
ATTN CEHR-P-RG
PO Box 1600
Huntsville, AL 35807-4302

The new phone numbers are:
Voice: (205) 895-7424
FAX: (205) 895-7469 **PWD**



Air Force Institute of Technology (AFIT) training

The Civil Engineer and Services School (CESS) at AFIT accepts all applications on a "first-come, first-served" basis. There are no tuition costs for U.S. government employees attending CESS courses. Employees of companies or corporations under contract to the Armed Services may attend on a "space available, tuition pay" basis.

MACOMs have been provided an application, a complete FY 97 schedule,

course descriptions, and registration procedures. For course registration, please process a DD Form 1556 through the U.S. Army Center For Public Works (CPW). The Design and Environmental Management training courses offered by AFIT are conducted at Wright-Patterson Air Force Base, Ohio.

☎ For more information on AFIT courses, Army employees can contact

Tom Cook, CECPW-FT, (703) 428-6036/DSN: 328; e-mail: tom.e.cook@cpw01.army.mil; FAX: (703) 428-7541 DSN 328. **PWD**

Note: Effective April 1, 1997, Johann Grieco is no longer the POC for the AFIT course registration. Registration responsibilities have been transferred to the new U.S. Army Center For Public Works (CPW) POC, Tom Cook.

4TH Quarter FY 97 Course Schedule

Course No./Title	Offering No.	Class Dates	Application Acceptance Date Begins
ENG 464 - Energy Management Technology	97B	07-11 Jul	1 Apr
ENG 520 - Comprehensive Planning Dev	97A	11-22 Aug	1 May
ENG 555 - Airfield Pavement Construction Inspection	97C	11-19 Sep	1 Jun
ENG 590 - Corrosion Control	97A	07-18 Jul	1 Apr
	97B	08-19 Sep	1 Jun
ENV 022 - Pollution Prevention	97D	21-25 Jul	1 Apr
ENV 025 - RACER	97C	18-19 Aug	1 May
ENV 400 - Commanders ENV MGMT	97C	03-05 Sep	1 Jun
ENV 417 - Environmental Rest Project MGT	97B	11-15 Aug	1 May
ENV 418 - ENV Restoration Contracting	97B	04-20 Aug	1 May
ENV 419 - ENV Planning, Programming, and Budgeting	97C	15-17 Jul	1 Apr
ENV 531 - Air Quality Management	97C	25-29 Aug	1 May
Hazardous Waste Seminar	97C	01-03 Jul	1 Apr
	97D	16-18 Sep	1 Jun

DOE sponsors life-cycle costing workshop

The Office of Federal Energy Management Programs, U.S. Department of Energy, will present a Life-Cycle Workshop and an overview from 19-21 May 1997 in Rockville, Maryland, and on 3-5 June 1997 in Dallas, Texas. The two-day workshop provides the framework for evaluating and comparing the economic performance of alternative energy conservation strategies. It includes classroom instruction, exercises and computer use of support software.

The one-day overview provides an introduction to whole building energy analysis methods, using DoD's ASEAM, a simplified energy analysis program for Windows or DOS users that simulates the heating, cooling and lighting loads of residential and commercial buildings and computes the effects of selected energy conservation modifications.

☎ POC is Amy Tilton, (509) 4520.

PWD

Public Works

Digest

In This Issue:

Fort Sill—keeping standards high



**249th Engineer Battalion—saving money
with power boosts**



Yuma Proving Ground—tapping solar energy



Fort Riley—expanding energy projects



80th ASG—relocating NATO health clinic



Fort Drum—putting safety first



**Fort Eustis—testing commercial
software**