
Public Works

Digest

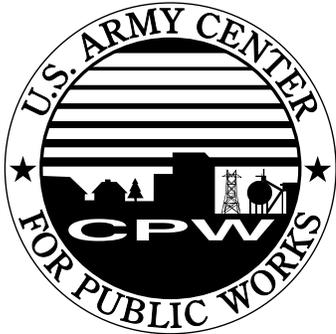
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**Preserving
the environment**



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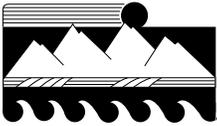
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Changes prepare Army Environmental Center for next century

by Kenneth White

US Army Environmental Center (USAEC) is undergoing several organizational changes that will allow it to provide better oversight of the Army's cleanup program and allow the center to focus its efforts on environmental program management, Army officials said.

The changes, directed by the Army's Assistant Chief of Staff for Installation Management (ACSIM), include:

- Transferring USAEC restoration project execution duties to other organizations.
- Decentralizing the flow of restoration funds.

Internally, the center has merged its Base Closure and Installation Restoration divisions.

The first change, expected to be completed by October 1997, transfers USAEC's cleanup project execution duties. USAEC will continue to oversee and manage the Army's restoration program by providing planning, programming, budgeting and other technical services to Army installations and major commands. However, USAEC will ultimately oversee and evaluate how programs are executed by the major commands and report that information to the ACSIM.

The transition will allow the center to better support the Army's environmental programs, said Dr. Robert York, chief of USAEC's new Environmental Restoration Division. "The ACSIM expects USAEC to be responsible for the overall program management of the Army's restoration program," he said.

Traditionally, USAEC's cleanup activities have focused significantly on project execution. Army officials say most of the on-site cleanup duties will likely shift to the Army Corps of Engineers districts, which execute cleanup projects on many installations. USAEC will work with the major commands

and installations to ensure the smooth transition of projects to the Corps or any other organizations, Dr. York said.

The second change decentralizes the flow of restoration funds. USAEC used to issue and release funding for installation restoration programs within the active sites program, upon installation requests. The new process puts restoration funds in the same channels as most other major funding: with the major commands.

The new funding process requires installations to submit requests that identify restoration requirements and the recommended priority for addressing those requirements to the major subordinate command, which forwards the request to the major command.

"AEC prioritizes and puts together the consolidated budget submission for the restoration account. We then submit it to the Department of Army and justify our request and defend what we have," Dr. York said. "Once Congress has appropriated that money, it goes directly to the MACOM. However, we continue to report installations' progress through quarterly program execution reviews and monthly reports from the installations. It puts ownership of the project where it belongs, directly into the MACOM's and the installation's hands."

USAEC will still give installations technical assistance in developing their installation action plans and help them use that plan to develop the financial requirements to complete restoration programs, he said. "And we are available to help them maintain their Defense Site Environmental Restoration Tracking System (DSERTS)," he added.

The merger of the Base Closure and Installation Restoration Divisions into the Environmental Restoration Division puts all the center's restoration resources on one management team. With the transitioning out of project execution,

the center is also transitioning its people and resources to other high-priority programs, such as pollution prevention, compliance and conservation.

USAEC will continue to use Environmental Services Project Support (ESPS) contracts to complete current workloads, and ESPS contracts are available to the installations or Corps of Engineers to use for environmental studies. USAEC will not seek follow-up contracts to the current ESPS contracts.

Installations will need to adjust to new management styles as USAEC project managers transfer operations to the Corps or other executors. However, those project managers will provide information and expertise that keep the cleanup process running smoothly.

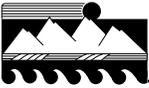
"During the transition, every effort will be made to ensure there will be no adverse impact to any Army installation, no missed deadlines, and nothing that will result in a notice of violation or a penalty or a fine from the regulators. We are doing this in a smart way to protect our customers," Dr. York said.

Army officials said the biggest impact of the USAEC changes will be on contractors, who will be required to contract with each Corps of Engineers district or Army installation.

Putting USAEC's internal changes into the big picture perspective, Army officials say the overall USAEC mission hasn't changed. In addition to supporting environmental stewardship, readiness and quality of life, USAEC is still the key program manager for the Army's environmental programs, providing technical support to all major commands and installations.

POC is Dr. Robert York, Chief, Environmental Restoration Division, AEC, (410) 671-3618. **PWD**

Kenneth White is a public affairs specialist at the Army Environmental Center.



Congratulations to the 1996 Army Environmental Award winners! The award ceremony will take place on 23 April at the Pentagon, Room 5A1070, 5th floor auditorium. All first place winners will go on to represent the Army in the DoD competition.



Army Environmental Awards 1996

Corpus Christi Army Depot, winner of 1996 Army Environmental Award for Pollution Prevention at an industrial installation, uses plastic media blasting, a pollution prevention process which eliminates the use of ozone-depleting chemicals in the paint stripping of helicopter components. The plastic media are recyclable. (USACE photo)

1 The Environmental Quality Award winners for a non-industrial installation are:

- 1st place** — Fort Eustis, VA — US Army Training and Doctrine Command (TRADOC).
- 2nd place** — Fort Hood, TX — US Army Forces Command (FORSCOM).
- 3rd place** — Camp Grayling, MI — US Army National Guard Bureau (NGB).

2 The Environmental Quality Award winners for an industrial installation are:

- 1st place** — Kwajalein Atoll and Missile Range — US Army Space and Strategic Defense Command (SSDC).
- 2nd place** — Tobyhanna Army Depot, PA — US Army Materiel Command (AMC).
- 3rd place** — Badger Army Ammunition Plant, WI — AMC.

3 The Environmental Quality Award winners for individuals are:

- 1st place** — Mr. Ken Stachiw, Aberdeen Proving Ground, MD — AMC.
- 2nd place** — Mr. Ronald O. Barnett, Fort Sill, OK — TRADOC.
- 3rd place** — Dr. Christine Gettys Hull, Fort Polk, LA — FORSCOM.

4 The Pollution Prevention Award winners for a non-industrial installation are:

- 1st place** — Fort Lewis, WA — FORSCOM.
- 2nd place** — Fort Jackson, SC — TRADOC.
- 3rd place** — Fort Campbell, KY — FORSCOM.

5 The Pollution Prevention Award winners for an industrial installation are:

- 1st place** — Corpus Christi Army Depot, TX — AMC.
- 2nd place** — Tobyhanna Army Depot, PA — AMC.



Fort Eustis, the Environmental Quality Award winner for a non-industrial installation, has implemented a HAZMAT system which tracks all hazardous materials on post from cradle to grave. (USACE photo)



6 The Recycling Award winners for an industrial installation are:

- 1st place — Tobyhanna Army Depot, PA — AMC.
- 2nd place — Anniston Army Depot, AL — AMC.

7 The Recycling Award winners for a non-industrial installation are:

- 1st place — Fort Hood, TX — FORSCOM.
- 2nd place — Fort Carson, CO — FORSCOM.
- 3rd place — Fort Eustis, VA — TRADOC.

8 The Recycling Award winners for individuals are:

- 1st place - Mr. Abdeslem Houmina, Tobyhanna Army Depot, PA — AMC.
- 2nd place - Mr. Clarence Best, Fort Eustis, VA — TRADOC.
- 3rd place - LTC William C. Holmes, Arkansas Army National Guard — NGB.

9 The Environmental Cleanup Award winners for an installation are:

- 1st place — Fort Wainwright, AK — US Army, Pacific (USARPAC).
- 2nd place — Schofield Barracks, US Army Garrison, HI — USARPAC.
- 3rd place — Fort Carson, CO — FORSCOM.

10 The Natural Resources Conservation winners for an installation 10,000 acres or less are:

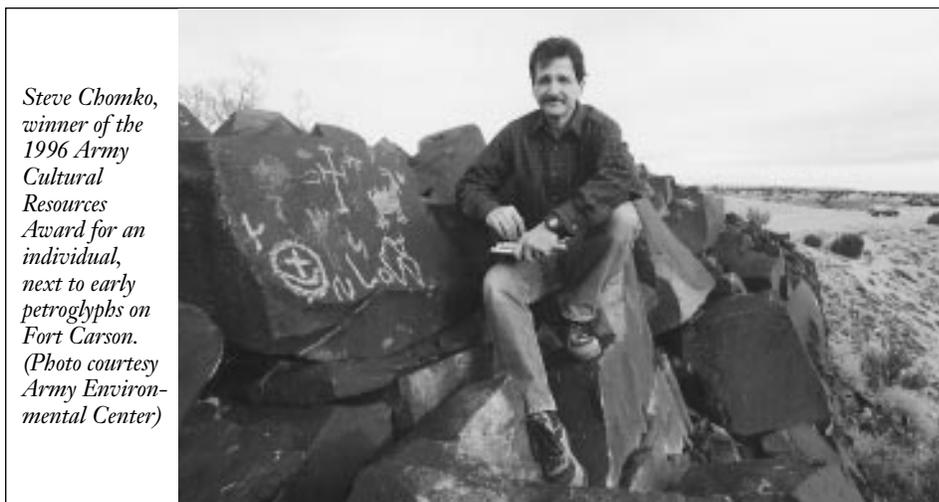
- 1st place — Newport Chemical Depot, IN — AMC.
- 2nd place — Twin Cities Army Ammunition Plant, MN — AMC.
- 3rd place — 417th Base Support Battalion (BSB), Kitzigen, Germany — US Army, Europe (USAREUR).



Gary Belew oversees the natural resources program at Fort Carson, winner of the 1996 Army Environmental Award for Natural Resource Management. (Photo courtesy Army Environmental Center)

11 The Natural Resources Conservation winners for an installation over 10,000 acres are:

- 1st place — Fort Carson, CO — FORSCOM.
- 2nd place — Aberdeen Proving Ground, MD — AMC.
- 3rd place — Fort Polk, LA — FORSCOM.



Steve Chomko, winner of the 1996 Army Cultural Resources Award for an individual, next to early petroglyphs on Fort Carson. (Photo courtesy Army Environmental Center)

12 The Natural Resources Conservation winners for individuals are:

- 1st place — Mr. Karl Dautermann, 410th BSB, Bad Kreuznach, Germany — USAREUR.
- 2nd place — Ms. Donna K. Brandt, Missouri Army National Guard — NGB.
- 3rd place — Ms. Stephanie Stevens, Fort Polk, LA — FORSCOM.

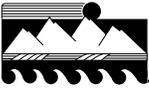
13 The Cultural Resources Award winners for an installation are:

- 1st place — Fort Carson, CO — FORSCOM.
- 2nd place — Fort Bliss, TX — TRADOC.
- 3rd place — Fort Leavenworth, KS — TRADOC.

14 The Cultural Resources Award winners for individuals are:

- 1st place — Mr. Stephan A. Chomko, Fort Carson, CO — FORSCOM.
- 2nd place — Ms. Vicki Hamilton, Fort Bliss, TX — TRADOC.
- 3rd place — Mr. Timothy Hanna, Fort Leavenworth, KS — TRADOC.

15 The Pollution Prevention Award winners for a Weapon System Acquisition Team will be announced at a later date. PWD



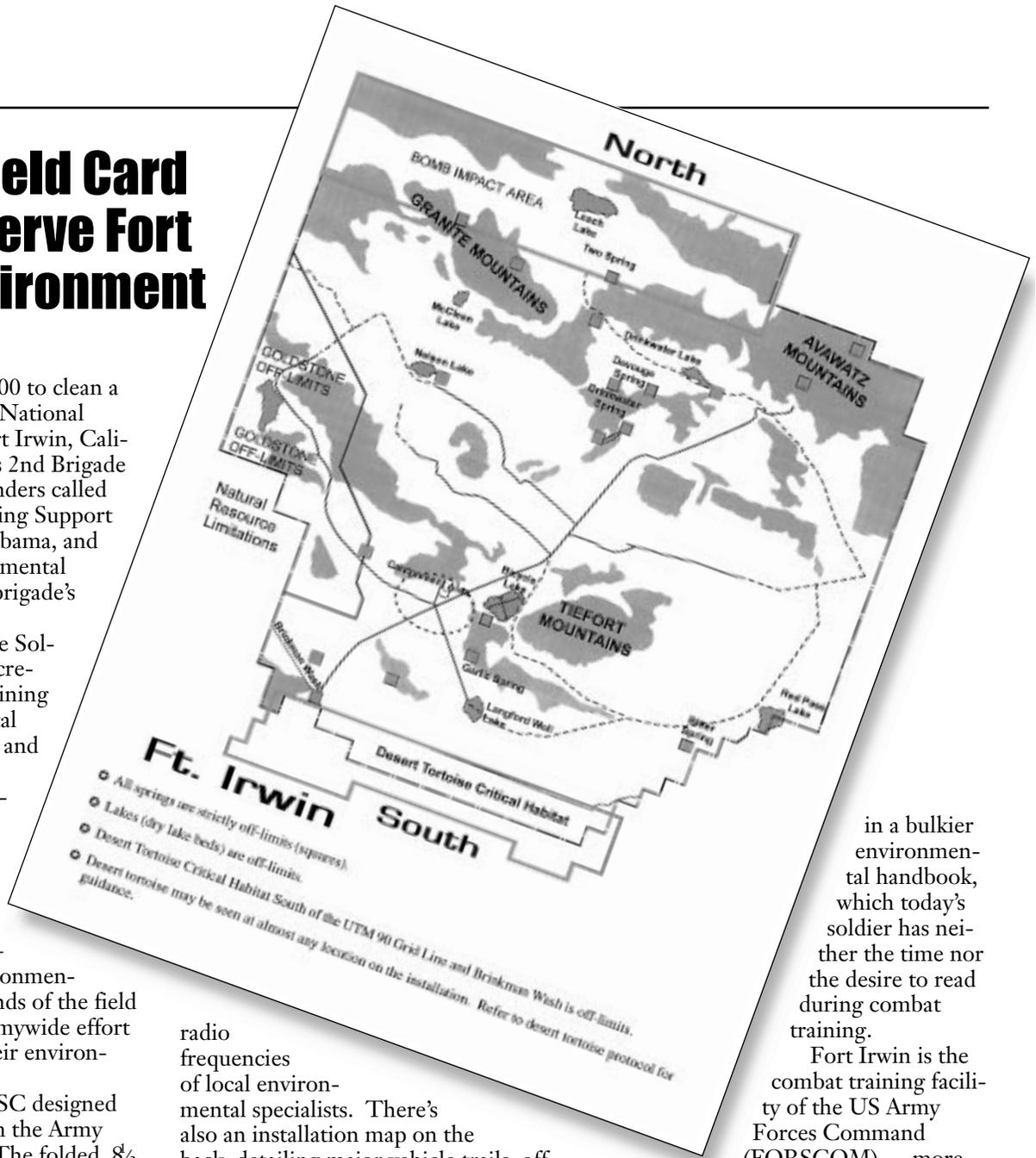
Soldier's Field Card helps preserve Fort Irwin's environment

After spending \$600,000 to clean a 1994 fuel spill at the National Training Center, Fort Irwin, California, Fort Stewart's 2nd Brigade wanted help. Its commanders called the Environmental Training Support Center in Huntsville, Alabama, and asked for a list of environmental "dos and don'ts" for the brigade's next trip to the NTC.

That request led to the Soldier's Field Card, a joint creation of the National Training Center, the Environmental Training Support Center and the Army Environmental Center at Aberdeen Proving Ground, Maryland. Similar to laminated environmental "cards" at many installations — only easier to carry and much cheaper to make — the guide puts local environmental information in the hands of the field soldier. It's part of an Armywide effort to educate soldiers on their environmental responsibilities.

Staff at NTC and ETSC designed the guide with input from the Army Environmental Center. The folded, 8½ by 11 inch paper includes step-by-step instructions for handling things like fuel spills or "meetings" with endangered species, and phone numbers and

radio frequencies of local environmental specialists. There's also an installation map on the back, detailing major vehicle trails, off-limits areas and places most likely to contain plants and wildlife. It's a concise summary of information you'd find



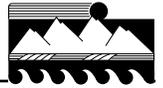
in a bulkier environmental handbook, which today's soldier has neither the time nor the desire to read during combat training.

Fort Irwin is the combat training facility of the US Army Forces Command (FORSCOM) — more than 60,000 soldiers come to Fort Irwin for training every year. The NTC's 640,000-plus acres of Mojave Desert hold more than 500 different plant and animal varieties, many protected by endangered species laws. There's always the danger of killing a desert tortoise or rupturing a fuel tank on the rocky terrain, so the Soldier's Field Card should help thousands of soldiers avoid costly mishaps.

"The idea is to give the soldier something they can take out to the field and refer to," said Katie Edson, a natural resource specialist at NTC who helped develop the Soldier's Field Card. "If they have a spill or find a tortoise, they have the information right on them. That means the spill will be con-



Tortoises blend in very well with their surroundings and can often look like a rock or boulder. (Photo courtesy of Fort Irwin)



tained faster or the tortoise will be saved instead of run over.”

Designers based the Soldier's Field Card on the laminated environmental cards produced at many installations. The major difference is the Fort Irwin model is printed on waterproof, tear-resistant, synthetic paper that folds easily and comfortably into a pocket. It also costs 60 percent less to print than laminated versions, and its quicker to produce.

“We can get one of these together and to an installation in a couple of weeks,” said Lois Adams, manager of ETSC's Environmental Training Management Branch. “You need something the soldier can keep on their person or stick on the dashboard of their vehicle, and we've done that. It's cheap and it's simple.”

Feedback from commanders training at the NTC has been positive thus far.

Leaders understand that environmental cleanups are expensive, and that it will come out of the mission's training money, Edson said. They understand that if they're not good stewards and don't pay attention to the environment when they train, they could lose money for a tank battalion or a company training exercise. So they're motivated to prevent any environmental problems.

NTC officials say soldiers don't have to keep the card forever, and they've built recycling bins for any unwanted guides. Edson said she hopes that each squad will keep some for future trips to the NTC.

“We don't want to see these things floating around in the desert, especially if they're made from waterproof paper,” Edson said. “We have a recycle box, but we'd like it if they would keep at least one or more at the squad level. It might not be necessary for each soldier to have one, but we want a large number of them out there for soldiers to know about.”

One strong indicator of the card's potential: after Fort Stewart's 2nd Brigade received the Soldier's Field Card, the unit went through its next NTC rotation without an environmental incident.

“To us, that meant the card was a success,” Edson said.

POC is Keith Koivisto, (619) 380-5202 DSN 470. ■

Researching and breeding the endangered desert tortoise at Fort Irwin

For many decades, the desert tortoise has coexisted with vigorous Army training on the desert lands of Fort Irwin, California. Over the past several years, Fort Irwin officials have implemented a program to breed, study, and ultimately safeguard the endangered desert tortoise.

The installation conducts the program at the Fort Irwin Study Site (FISS). Researchers at California State University Dominguez Hills and Fort Irwin developed the program in response to a request from the Southern California Edison electric company. The program has since been focused mainly on gaining information about hatchling/neonatal tortoises and helping recover the species.

Results thus far include:

- A hatchling survival rate of greater than 60 percent.
- Developing blood-property parameters for “normal” tortoises.
- Determining the average incubation time for a natural desert setting.
- Delineating food preference in hatchling tortoises.
- Quantifying nest construction in neonatal tortoises.
- Determining water budget suitable for survival, growth, and development of juvenile tortoises.
- Developing an optimal diet to provide necessary growth and development.

Future research is expected to center on translocating juvenile tortoises.

The research will provide important information needed for reestablishing the species back into its natural habitat. Current mortality rates among juvenile tortoises during the first seven years of life are greater than 90 percent.

A ten percent improvement could facilitate recovery.

Captive breeding in seminatural environments such as FISS might serve as a key component in increasing the survival rate.

The researchers are also studying upper respiratory diseases of the tortoises, which have been a major factor in the decline of the species. They are also examining methods to transmit antibodies to the disease from mother to egg.

POC is Carolyn Lackey, (619) 380-4760 DSN 470. PWD



*A desert tortoise hatchling is not much bigger than a quarter.
(Photo courtesy of Fort Irwin)*



Note to DPWs: A key component of Fort Irwin's program to protect the endangered desert tortoise has been a strong emphasis on public education. The following story from the post newspaper is an excellent example of how to get the folks who live and work on an installation to be more sensitive about the plants and animals in their midst.

Spring is the season of the tortoise

Spring at Fort Irwin, California, is the time of the year when the desert tortoise comes out of its winter hibernation and begins to feed on all the delicious flowers and grasses of the desert.

The tortoises are especially active from early spring until around June. So if your unit plans to rotate through the National Training Center during that time, here are a few things to remember if you encounter one of the post's favorite reptiles:

- First of all, the desert tortoise is a federally and state-listed threatened species, and is protected under the Endangered Species Act. The fines and penalties under this Act are very stringent — so anyone who takes, harasses, harms, pursues, hunts, shoots, wounds, kills, traps, captures, collects, alters the habitat that the tortoise lives in, or attempts to engage in any such conduct will be subject to fines of up to \$50,000 and/or one year in jail.
- If you see a tortoise in the desert, you may stop to look at it, and observe it, but stay far enough away so that you do not disturb it. Watch the tortoise and see what it eats, how it eats, travels about, digs burrows or suns itself. Take pictures of the tortoise as well.
- If you are driving on a *dirt* road, be sure to look for tortoises crossing the road. Tortoises blend in very well with their surroundings and can often look like a rock or boulder on the side of the road. Be extra careful and give a tortoise the right of way if you approach one. If you have room to drive around the tortoise you may do so, but do it very carefully.
- If you are driving on a *highway* (such as Fort Irwin Road) be cautious of tortoises on the side of the road or

“Our combined stewardship efforts may turn the trend toward survival of this important desert species.”

crossing the road. If a tortoise is on the side of the road and is starting to cross onto the highway or is already walking into traffic, you should stop, pick it up and carry it into the desert in the same direction it was headed. If you can, carry the tortoise about a football field's length (or 100 yards) into the desert. The further out in the desert it is, the less likely it will return to the road. Be sure to lift the tortoise slowly and gently and carefully set it down in the shade of a bush or shrub. If you have gloves or a towel in your vehicle, please use those to avoid direct contact with the tortoise.

- Most importantly, if you see a tortoise on the side of the road, *do not pick up the tortoise and bring it onto the installation, the MP station or the vet clinic. The only time you may bring a tortoise in from the desert is if the animal has been injured.*

Tortoises in the desert must remain in the desert. Desert tortoises are territorial and are familiar with a particular area of desert. If displaced, they become confused and often attempt to find their home territory. During this process they can die. Prior to removal of an injured animal, note the exact location so when it heals it can be returned to its home range. Other useful information includes your name, address, phone number (work and home) and unit.

Another important point to remember is to *never* take a tortoise out of the wild to keep as a pet at home and *never* release a tortoise that has been kept as a pet at home into the desert. Captive animals carry the Upper Respiratory Tract Disease (URTDS). This disease is highly contagious among tortoises and is partially responsible for the declining population of desert tortoises. If an animal with URTDS is released into the desert, it can spread this disease very quickly to other healthy tortoises.

If you are interested in adopting a desert tortoise as a pet, there are several tortoise and turtle clubs in the high desert. If you currently have a desert tortoise as a pet, and you need to find a new home for the tortoise because you are about to leave the area, call the Natural Resources section of the DPW. It is illegal to take desert tortoises out of the state. Desert tortoises kept as pets must be under a permit or offenders can be prosecuted for a violation under the Endangered Species Act.

Fort Irwin has a Desert Tortoise Visitors Center located in Jack Rabbit Park, which provides visitors the opportunity to see the tortoise up close and observe its daily activities. After the tortoises come out of hibernation in April, they are active during the mid-morning and early afternoon hours.

The staff of the Natural Resources Section, Directorate of Public Works, would like to encourage everyone to take the time and learn more about the desert tortoise and the desert environment in which it lives. Through better knowledge and education, we can all assist in protection. Ultimately our combined stewardship efforts may turn the trend toward survival of this important desert species.

☎ POC is Carolyn Lackey, (619) 380-4760 DSN 470. **PWD**



Recycling offers alternative to disposal of fluorescent lamps

The Army, like private industry, relies heavily on fluorescent lighting to illuminate its offices and work areas. It also faces the same environmental challenges when disposing of the fluorescent lamp tubes, high density discharge lamps, and the ballasts that go with these lamps.

An environmentally sound alternative to disposal is available. Several companies throughout the United States recycle the lamp tubes and properly dispose of the ballasts.

The tubes contain mercury, a toxic metal that for disposal purposes may be classified as a hazardous waste under the Resource Conservation and Recovery Act (RCRA). The Environmental Protection Agency regulates the disposal of wastes containing mercury.

Waste containing mercury is considered hazardous if the mercury content from a leachate of a representative waste sample obtained from the EPA's Toxicity Characteristic Leaching Procedure (TCLP) is found to equal or exceed 0.2 milligrams per liter. The EPA neither lists nor exempts fluorescent lamp tubes as hazardous waste unless they fail the TCLP, in which case the tubes must be handled as hazardous waste.

The TCLP costs about \$140 per lamp, and the lamps typically fail this

test, so it is not cost effective to have this type testing done. Installations should therefore assume that fluorescent lamp tubes are hazardous waste and manage them as such.

The lamp ballasts may contain polychlorinated biphenyls, or PCBs, a carcinogen banned under the Toxic Substances Control Act (TSCA). Fluorescent lamp tube ballasts made before 1979 contain PCBs, and those manufactured after 1979 do not and should be labeled "No PCBs." If a ballast is not labeled "No PCBs," it should be assumed to contain this substance.

The EPA has proposed a rule to modify the waste management of lamps containing mercury. This proposal — published in the Federal Register, July 27, 1994, as 59 FR 38288 — would either include fluorescent lamp tubes in the Universal Waste Rule or exclude them from regulation as a hazardous waste if they are disposed of in facilities that carry the proper permit.

The Universal Waste Rule includes such wastes as batteries, pesticides and other wastes that are not industry-specific. These wastes are generated by small businesses, home owners, etc.

If fluorescent lamp tubes are included in the Universal Waste Rule, up to 35,000 of the tubes

could be stored for up to a year before shipment to a collection facility. A permit would be required for longer storage. Each state has its own regulation for the disposal of these materials, so Army installations need to check the regulations for their state.

As an alternative to disposal, fluorescent lamp tubes and high-density discharge lamps can be 100 percent recycled. The mercury is recovered, aluminum is recycled, and phosphor powder is reused. The glass is used as a filler in asphalt.

Installations can contact their local state environmental department or regional EPA office for a list of companies that recycle fluorescent and high density discharge lamp tubes. When selecting a company for recycling, it is important to find out if the company recycles all of the lamp materials. It is also important to determine if the company has all the necessary permits.

Many of these companies also accept the ballasts for incineration. Some may ship them to another facility for disposal. Again, it is important to determine if the company has all the necessary permits.

The costs of recycling vary, depending on the quantity to be recycled. Prices are often determined on a per-linear-foot basis. Fluorescent tube recycling costs range from 6 cents to 15 cents per foot, with an average cost of 10 cents per foot. High-density discharge lamp recycling costs range from \$1.25 to \$4.50 per lamp, with the average cost being about \$2.50 per lamp.

Disposal costs average about 25 cents to 50 cents per 4-foot lamp, not including costs for packing and transportation, or fees charged by landfill owners to test and evaluate the characteristics of a waste sample.

For more information about disposal requirements and recycling of fluorescent and high-density discharge lamps, please contact the Army Environmental Center's Mark Ditmore at (410) 671-1216 DSN 584 or e-mail: msditmor@aec.apgea.army.mil. **PWD**

Alternative to incandescent lighting

A company under contract to the Department of Energy (DoE) has developed a product that is an alternative to fluorescent, high-density discharge or incandescent lighting.

The lighting units use a mixture of sulfur and argon bombarded by microwaves to produce a light that significantly reduces ultraviolet radiation and closely matches the spectrum of sunlight. This product contains no hazardous materials and can be disposed of without any environmental considerations.

DoE installed a prototype lighting system at the exterior plaza of its Forrestal Building, previously illuminated by 280 175-watt, high-density discharge lamps containing mercury. DoE's con-

tractor was able to replace all 280 of these lamps by installing a light guide the full length of the plaza at its center, and placing one 5,900-watt sulfur lamp at each end of this light guide.

The total system power was reduced from 49,000 watts to 11,800 watts, which is expected to save about \$9,000 per year in energy costs. Additionally, the illuminating power of the new system is more than four times that of the old system. The new system was installed at about 25 percent of the estimated cost of upgrading the conventional lighting system.

POC is Mark Ditmore, (410) 671-1216 DSN 584 or e-mail: msditmor@aec.apgea.army.mil. **PWD**



Environmental compliance and infrastructure renewal—one project, one great idea

The National Training Center at Fort Irwin, California, hosts 12 rotations of troop divisions for field training a year. The maintenance activities associated with these exercises generate large volumes of soil contaminated with petroleum and other lubricants.

The past practice was to stockpile the contaminated soil in an area near the on-site landfill. With regulatory changes, this practice became unacceptable, and the installation was left no alternative but to ship the soil to an off-post disposal facility. Due to “cradle to grave” regulations, which require expensive tracking and record keeping from the point of generation to the point of final disposal, and faced with prohibitively high disposal costs, Fort Irwin environmental staff began to seek other disposal methods.

The staff decided that a single project might have a two-fold benefit. They chose to “recycle” the contaminated soil by turning it into a usable product through a cold mix asphalt process which encapsulates the petroleum contaminants.

Over the course of a year, the staff conducted a pilot project using and perfecting the technology for the arid Fort Irwin environment. The study produced about 4,000 tons of cold mix asphalt pavement from the recycling of 2,700 tons of contaminated soil. The asphalt was used to pave a road 12 inches thick, 24 feet wide and 1,950 feet long that leads to the installation’s Class III sanitary landfill.

The final product successfully met regulatory requirements for the leaching of petroleum hydrocarbon constituents at less than 5 ppm and all structural requirements for road construction material. The road, in place for a year, receives a high volume of traffic and, to date, shows very little degradation. Thus far, the asphalt made with the contaminated soil compares favorably with asphalt constructed of virgin materials.

The Fort Irwin DPW also recently completed a parking lot which recycled 750 tons of contaminated soil. We plan to use this technology to construct a combined Municipal Recycling Facility/Hazmat Center in April of 1997.

Another use we are considering and discussing with regulators is to cap abandoned landfills. This would make the land usable as a hardstand. Cost savings will come in the form of instal-

lation infrastructure improvements that are being constructed at a cost less than the combined price for off-post disposal of the contaminated soil and construction using virgin materials.

Fort Irwin POC is Justine Dishart, DPW, Environmental Division, (619) 380-3743 DSN 470. CPW POC is Laura Seabeneck, (703) 806-5212 DSN 656. **PWD**

Award winning 1997 DLA *Environmental Products* catalog available

The 1997 Defense Logistics Agency’s (DLA) *Environmental Products* catalog is now available to military and civilian users of the federal supply system. DLA’s Defense Supply Center in Richmond, Virginia, won both a White House Closing-the-Circle Award and a National Performance Review Hammer Award for producing this groundbreaking catalog.

The third edition of the popular catalog now contains more than 800 national stock-numbered items that are grouped into 17 broad product categories. Aqueous Cleaners/Degreasers, Aircraft Cleaning Compounds, Spill Control Products, Natural Resource Conservation Products and Recycled Plastic Lumber are just a few of the categories included.

The *Environmental Products* catalog also contains advice on placing orders, an extensive points of contact section and advice on how to regularly obtain material safety data sheets (MSDSs) on CD-ROM. The catalog is up on the DSCR

home page on the worldwide web. The address is www.dscr.dla.mil. Military and federal civilian agency personnel can browse the catalog, download the database and actually place orders for specific items while on line.

If you would like to learn more about DLA’s *Environmental Products* catalog, please contact Stephen Perez at (804) 279-6054 DSN 695, or e-mail: sperez@dscr.dla.mil. Federal government personnel can obtain hard copies of the catalog by calling the Business Development Office at the Defense Supply Center, Richmond, (800) 352-2852 DSN 695. **PWD**





Synthetic minor permit saves time, money

Title V of the Clean Air Act Amendments of 1990 established a new federal operating permit program for all stationary sources of air pollution. Acquisition and maintenance of a Title V permit requires fiscal resources far beyond those necessary for an existing federal or state air permit program. Resource intensive tasks associated with Title V include:

- Preparation of the permit application.
- Development of an emissions inventory.
- Assessment of compliance.
- Monitoring emission sources.
- Record keeping.
- Periodic reporting.



The permit application must undergo a series of reviews by the regulatory community and the general public before it is issued as a final operating permit. The permit itself then becomes federally enforceable.

A synthetic minor permit is much less detailed than a Title V permit, does not receive the same scrutiny by state and federal authorities as a Title V permit, and does not undergo public hearings and public review.

Fort McPherson is located in the Atlanta metropolitan area, which is designated as a serious ozone nonattainment area. The installation was able to avoid submitting a Title V permit application by imposing relatively simple operational limits on several emission sources. These limits reduced potential emissions of nitrogen oxides (NO_x). Working with US Army Corps of Engineers Norfolk District and the US Army Center for Health Promotion and Preventive Medicine, Fort

McPherson's Directorate of Installation Support, Environmental Division, developed federally enforceable operational limits to keep potential NO_x emissions <50 tons per year.

Under unrestricted conditions, Fort McPherson and Fort Gillem, a subinstallation also located in Atlanta, would both be considered major air pollution sources of NO_x. However, the operational limits reduced potential NO_x emissions below the major cutoff status of 50 tons per year, making Fort McPherson and Fort Gillem "synthetic minor" sources of air pollution emissions.

To become a synthetic minor source, Fort McPherson limited:

- Amount of fossil fuel it could burn.
- Total hours of operation for all stationary internal combustion engines.

To demonstrate compliance, fuel usage and internal combustion engine operation must be recorded on a monthly basis.



As synthetic minor sources, Fort McPherson and Fort Gillem realized the added benefit of not having to comply with reasonably available control technology requirements for the Atlanta nonattainment area. This regulation would have required low NO_x burners, or equivalent control, on all combustion units with potential NO_x emissions greater than 1 ton per year.

Obtaining synthetic minor status represents innovative installation com-

pliance with complex, costly environmental regulations. Synthetic minor status has not limited Fort McPherson's or Fort Gillem's operational readiness in any way. The US Army Environmental Center estimates that by becoming a synthetic minor source, one work year and approximately \$300,000 can be saved annually. By avoiding NO_x reasonably available control technology, Fort McPherson and Fort Gillem saved even more.

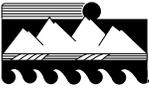
If an installation is too large to limit operations to become a synthetic minor air pollution source, Public Works personnel should still attempt to reduce potential hazardous air pollutant (HAP) emissions to <25 tons per year, keeping their installation from becoming a major HAP source. By staying below the 25 tons per year threshold, the installation would not have to comply with most maximum achievable control technology (MACT) standards, such as the National Emissions Standard for Aerospace Manufacturing and Rework Facilities.

In addition, there are many MACT standards currently under development or to be developed in the near future which address many emission sources at military installations, such as the MACT standard for industrial-commercial-institutional boilers and process heaters. If an installation is not a major HAP source, it will not have to comply with many of these regulations.

For more information on Fort McPherson's synthetic minor permit application, please contact David Heins, Chief, Environmental Division, at (404) 464-3702 DSN 367 or e-mail: HEINSD@ftmcpnsn.emh2.army.mil.

PWD





ETSC offers help with environmental awareness products

If your installation needs assistance with Integrated Training Area Management (ITAM), the Army Environmental Training Support Center (ETSC) in Huntsville, Alabama, can help. Environmental awareness products designed and produced by ETSC help to increase personnel awareness of environmental impacts during training and other activities related to installation land management.

ETSC provides ITAM program support to installations in technical, educational, graphical, and reproduction services. Its resources include:

- Instructional systems specialists.
- Environmental protection specialists.
- Graphic artists.
- Video production specialists.
- Word processors 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 environmentally-related product when using the services of ETSC. Reproduction costs, however, must be paid 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 at ETSC by 1 July



1997. These suspenses are necessary to do a good job for you, the customer, and to meet the fiscal year need requirement within the 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.

ETSC can also develop or modify a product and then provide "camera ready" copies for reproduction by the requesting installation.

If you would like more information about ETSC services, please call L. Adams, (205) 895-7408, FAX: (205) 895-7478 or e-mail: adamsl@smtp.hnd.usace.army.mil.

PWD

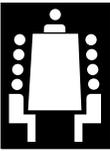
CPW offers environmental compliance support

The US Army Center for Public Works now has an IDTC contract in place for the support of environmental initiatives. Our new solid waste engineering firm, Roy F. Weston, Inc., can prepare and review the following:

- Waste Characterization Studies
- Integrated Solid Waste Management Plans
- Recycling Program Management
- Composting Plans

- Waste Minimization Plans
- Process Reviews
- Spill Plans
- HazMat Pharmacy Designs
- Pollution Prevention Plans

For an installation-specific solution to your environmental compliance concerns, please contact Laura Seabeneck at (703) 806-5212 DSN 656 or FAX: (703) 806-5216, or e-mail: laura.e.seabeneck@cpw01.usace.army.mil. **PWD**



Committed to positive results— Corps Director of Military Programs speaks to GCs

During this year's DOD Garrison Commander Conference, the gathered leaders of military installations heard little to give them hope for more funds to aid them in managing their posts. But they did hear some encouraging words from the Corps of Engineers, in the form of new commitments to help them manage scarce resources more effectively. Here's what BG Philip R. Anderson, Director of Military Programs for the Corps, told the Garrison Commanders about new Corps initiatives in installation support.

The Army theme for your conference is "Managing Installations Like a Business: Managing for Results." Installations are big business with important impacts! The key for you is to make the right choices and manage change effectively.

The U.S. Army Corps of Engineers is committed to positive results for the Army's installations. This afternoon I'd like to speak on these commitments.

Here's my agenda for the presentation:

- USACE Vision
- Vision strategies
- USACE Installation Support.

I'll give you an overview of the USACE Vision that is taking shape today, followed by the supporting strategies. Lastly, I'll describe how USACE is using its vision and strategies to support the installations.

USACE Vision

LTG Joe Ballard, the Chief of Engineers, released his Vision statement for USACE on 14 February 1997. Valentine's Day. He says that's because "he loves you." Here's what the vision says:

We are going to be the world's premier engineering organization. Trained and ready to provide support anytime, anyplace. A full-spectrum Engineer Force of high quality, dedicated soldiers and civilians.

We intend to be a vital part of the Army—the Engineer team of choice, responding to our Nation's needs in peace and war. We want to be a values based organization—respected, responsive and reliable. We are changing today to meet tomorrow's challenges.

Now I'm going to tell you something. This is what the Corps AS-



BG Philip R. Anderson

PIRES to be. We know we are not there yet. We know you know it. But we aspire to those things, and we think that we can achieve them.

To get there, to accomplish the vision set out in that statement, we have put together a master strategy called "Corps Plus" and seven support sub-strategies.

Our "Corps Plus" is this. We are putting together a campaign plan that will enable us to provide better service to the Army and the Nation in traditional Corps mission areas. That's the first part, to do even better what we do now.

The second part is to enhance service through an expanded Corps role in strategically targeted Army and civilian mission areas. We are looking out to

the future, to see what will be needed by the Army-after-next and maybe even after that, and aiming to develop capabilities to serve those future needs.

We have three goals. First, we will Revolutionize our effectiveness. That means dramatic improvement in performance and customer satisfaction. We will serve you better through sound business practices, bold process reengineering and innovative use of technology.

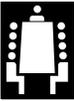
We will Seek growth opportunities. Growth will be strategically targeted to meet emerging Army and national needs and to sustain and enhance core competencies and maintain full-spectrum capabilities critical to the Army.

We will invest in people: Our leaders will devote themselves to develop a talented, focused, and diverse work force. Enlightened leadership and a motivated work force are key to corporateness and customer satisfaction.

Seven sub-strategies have been identified to get us down the road. These are the means we'll use to meet your needs.

Align for success: We will continuously evaluate and realign, as necessary, existing missions, systems, resources and organizations to reinforce our strategies. The command will emphasize activities that support the core missions, align to meet changing mission needs and eliminate outmoded processes. Bottom line? We are going to get closer to our customers at all levels. Closer to you.

Serve the Army: Focus energy on concerns of the Army leadership and challenges to the Army to serve the nation. We will enhance our support of our traditional Army Military and Civil



phasizes the behaviors, actions and decisions which are consistent with a “One Corps” philosophy, quality customer service, and our corporate values of integrity, professionalism, quality, and caring.

Vision strategies

What does all this mean to you, the garrison commander? I will tell you that LTG Ballard brings an unusual perspective to the

missions. We will seek targeted expansion in engineering areas critical to the Army leadership. What does that mean to you? It means enhancing our support to operational forces and to Installation Directors of Public Works.

Satisfy the customer: We will significantly reengineer business processes and leverage leading edge technology to optimize effectiveness from our customers’ perspective. The objective is to produce products and services that fully meet your expectations of quality, timeliness, and cost effectiveness, tempered by appropriate stewardship.

Enhance capabilities: Market and capitalize on opportunities for mission growth. We will build corporate consensus to capitalize on opportunities for mission growth.

Build the team: Leverage the total Corps organization through technology and team work—One Corps, One Regiment, One team—more on this later.

Build strategic commitment: Develop marketing and strategic communication plans to create an understanding and commitment to the Corps strategy. We want Corps partners, customers, and other interests to understand the strategic direction of the Corps and become supportive of our goals.

Reshape culture: Shape a culture that invests in people and supports the strategies. This corporate culture em-

phasizes the behaviors, actions and decisions which are consistent with a “One Corps” philosophy, quality customer service, and our corporate values of integrity, professionalism, quality, and caring.

Corps. He has been an Engineer Officer all his career, but his service has been primarily outside the Corps, at installations. He came to the Corps from TRADOC Headquarters and Fort Leonard Wood. I served as Deputy CG at Fort Leonard Wood. We have both been Corps customers. We know your business. We have seen the Corps from your point of view. Where LTG Ballard wants the Corps to go is to serve you better, the way he knows you want service.

A primary part of our sub-strategy Build the Team charges Corps Districts and Division Commanders to provide customers like you with the best corporate response. Through this approach, Commanders will find that their geographic district is a gateway to the global support capabilities of 30,000-plus Corps professionals.

Virtual Office Support is another part of the build-the-team substrategy. The Corps embraces a “unified team” concept which encompasses Army Engineer soldiers, USACE, and members of the Installation Directorates of Public Works. Customers will only need one door to the Corps to obtain support from the entire Corps team. Response is seamless and integrated through the combined efforts of Corps-wide organizations and skills.

We are also doing several other things to build the team in support of your installations.

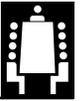
MACOM Advocate Program: Since my arrival as Director of Military Programs I have made a commitment to customer care. My intent is for you, through your MACOM Engineer, to have access to me even when I am out of the office. To meet this goal I have structured my Assistant Director staff along MACOM customer lines (*see page 18*). The assigned Assistant Director will provide an advocate within Headquarters for MACOM Engineers and their issues. The advocates have my full support and will work directly with the MACOM engineer to solve concerns and problems—some of which will be command-wide, and some will belong to your installation.

Quarterly VTCs with DPWs. The Chief of Engineers wants to stay in touch with the Directors of Public Works. They are members of the Engineer team whose voice needs to be heard clearly. His goal is to hear their concerns first-hand several times before next winter’s DPW training workshop in December 97.

Collocation of the DPWs and Resident Engineers. Working with the installation DPW is a high-priority command initiative. Our intent is not to assume the DPW/Base Civil Engineer’s mission, but to provide a full range of support that installations require, regardless of the type of work. Some Corps area and resident engineers have already seen an increase in work that would normally be performed by the DPW/BCE, including service contract management. One way to reinforce the partnership between District and DPW/BCE is the collocation of Area and resident engineer and DPW/BCE offices.

Now let me tell you just how important the Chief thinks this is. This morning there was a meeting up at Corps Headquarters in which we were trying to determine a way to move 20 OMA-funded spaces to give you direct installation support. We would like to be able to assign these spaces to districts in direct support to you so that you can call on us without us immediately sticking out our hands for money. We





would like to use those spaces to put Corp professionals on call to you for consultation, scoping, maybe some of the early parts of design and concept. That's one way we could move toward collocating support with you. But we would also like to do more using that approach with our existing resident and area engineer offices.

Collocation will help to foster a One Engineer Team environment, providing each organization more opportunities to meet mission challenges; to provide their partner the most effective support possible; and to optimize the benefits of a closer working relationship. Any collocation must be mutually determined and formalized through a Partnership Agreement jointly drafted by the District and DPW/BCE. Some partnerships of this kind are already operating out there—between Fort Hood and Fort Polk and the Fort Worth District is one example. Ideally the stakeholders would also include Project Management and the District Engineer. The final determination should consider what significant cost and management issues collocation of offices will entail.

Installation support programs

Now I'd like to review some of the important installation support programs going on today.

The Barracks Upgrade Program is at the top of the list of the Department of Defense's Quality of Life Initiatives. ACSIM has requested that USACE be the design and construction agent for the program. Mrs. Menig, Deputy Director of ACSIM, told you earlier this afternoon that she has asked us to execute the first \$149 million this year. You want to know "when will you lay the first brick." My answer is that as this is two year money, and as we started to run with this only recently, that this year our hope is to complete the design process.

To expedite contract execution and funds obligation, the Corps is looking at using indefinite delivery contracts for this program. COL Meranda, Director of Facilities and Housing in the ACSIM, emphasizes that these contracts are available to you to make use of any other monies you may identify, beyond the \$149 million the ACSIM has already allocated.

The bid package for the contracts will incorporate a generic design which converts the VOLAR barracks to a 1 + 1 standard. The local district will be responsible for adapting the generic design-bid package to the local geographic conditions for soliciting and awarding the indefinite delivery contract and for issuing work orders to that contract.

It is envisioned that one IDTC will handle all the requirements for each building type at an installation and that the contract will be a multi-year contract with options after the first year. This will eliminate the need for developing separate design packages and for soliciting separate contracts for each project.

The bottom line for you? Generic design and IDTC will assist in reducing the overall cost for renovation. You will be able to make use of the contract if added funding becomes available to you during the year. This method will let the Army upgrade more barracks space, sooner.

Simplified facility support process: Part of being relevant to the Army is to be an integral part of the installation O&M process. The Corps knows your business is not just about putting new structures on the ground, but also about maintaining and running what you have. The Huntsville Simplified Facility Support Process can open new options for the installation. This is a support process which provides low-cost, quick response O&M support to military installations.

This was developed in response to a request from FORSCOM to assist in the design and construction of their energy management and control systems. Results have been remarkable: an 80 percent reduction in time from project request to work initiation.

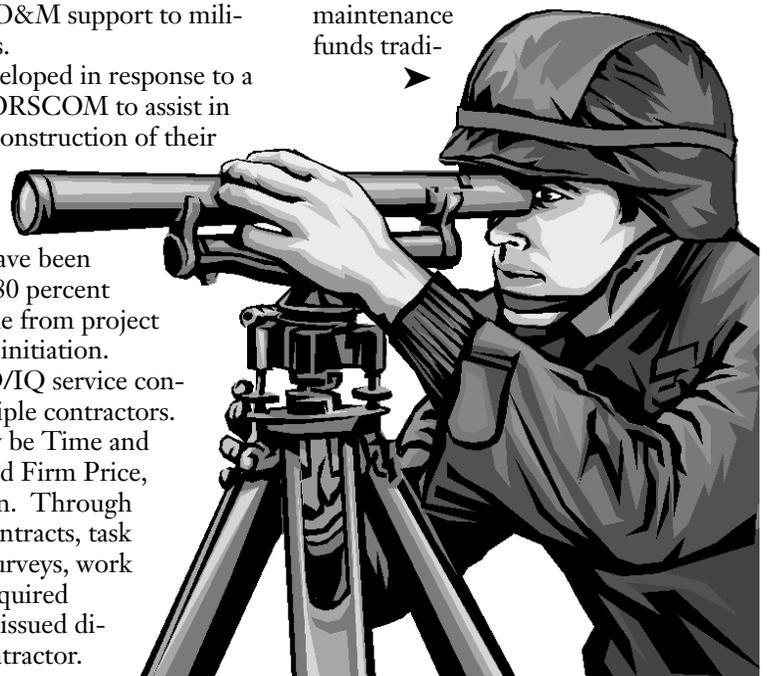
These are ID/IQ service contracts with multiple contractors. Task orders may be Time and Material or Fixed Firm Price, or a combination. Through those flexible contracts, task orders for site surveys, work plans and the required O&M work are issued directly to the contractor.

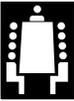
Engineer Services Center Concept: We are looking at moving more services closer to the installations. The idea is for a resident office plus and would vary with location. The office will have additional support in terms of contract support, quality assurance, and design services, maybe even legal. The office will be able to provide turn-key capabilities to O&M projects for studies, designs, contract management and tele-engineering. This focused support would leverage DPW FTEs and services.

Recent legislative changes are making USACE business processes more customer-friendly. In particular, FY 97 legislation permits carryover of FY 98 funds for USACE project orders and contract administration costs. What does that mean to you? Time and money.

Project order authorities: USACE districts produce traditional engineer products daily—studies, designs, product/material testing, and the like—in support of both maintenance and major construction of real property at installations. Project orders offer another way through which installations can tap specialized capabilities available from internal Corps resources.

In addition to plans and specifications, these specialties include such products as dam safety analyses, terrorism/protective designs, testing of engineering and construction materials and seismic safety technical studies. Operations and maintenance funds tradi-





tionally become available near year-end for RPMA type requirements. Use of project orders allows USACE the flexibility to accommodate the installations' critical needs, without the loss of the customers' year end funds.

The bottom line for you: Project Orders allow the DPW to reserve funds for bona fide need projects and to contract with the USACE district just like a commercial contractor for 'in house' engineer work which can cross fiscal years, the same way you could with year-end funds obligated to an IDT contract.

Supervision and Administration Carryover Authorities: Recent legislation allows for Army Corp of Engineers contract administration costs (S&A funds) to carry over into the next fiscal year, similar to S&A for MCA projects. This gives commanders a valuable resource management tool. No longer will they have to pay contract administration costs out of their new-year resources for continued services on old-year business.

Working with you, the garrison commander

As we move forward in this enterprise, implementing our vision, improving our traditional support to you and finding new ways to help you manage your business, it will be important to take azimuth checks.

Your voice is vital, because you alone can answer the questions about what is most important to you. When you come to us, we want you to have both your needs now and ten years from now in mind.

- What are your installation needs—today!
- What is USACE doing for you now? What do you need in the near-term future?

- How can the Corps help improve your installation business?
 - Operations and maintenance?
 - Construction and services?
 - Real estate services, both acquisition and disposal?
 - Environment
 - Contracting

One of the keys to successful installation management is effective communication between the installation and the USACE district. This communication involves understanding the needs

of the installation and the capabilities of the USACE district.

Hopefully, a partnership evolves in which you readily express your concerns, knowing we can provide the required services. The Corps is committed to positive results for the Army's installations. Our business demands nothing less than serving our soldiers with effective results and flexible, responsive services.

Our business orientation is designed to serve you;

Structure: Our districts have offices where you live. There is a resident engineer at most installations.

Policies: Our policies are focused on mission accomplishment.

Cost-accounting: We are able to capture the entire cost, both direct and indirect, for a project.

Locations: We will be flexible to move closer to you if that's what you want. We can be at your staff meeting. We'll continue to partner with the DPWs.

Capabilities/skills: We have the engineer, contract, and other skills to augment your staff.

Results: We are committed to providing quality results on time, within budget, and to the satisfaction of you, our customer. **PWID**

Don't know exactly what questions to ask? Here are the basic desk references that identify your DPW and USACE needs and resources:

- AR 420-10, *Management of Installation Directorates of Engineering and Housing and Personnel*
- CECPW-P Pam 96-1, *The DPW/DEH Reference Book*, April 1996
- EP 420-1-1, *Installation Support Handbook*, 31 Jan 1992

 To obtain copies, call Penny Schmitt at CECPW-P (703) 428-6933.

Corps organizations mobilize to enhance installation support

According to BG Phillip R. Anderson, Director of Military Programs for the Corps of Engineers, the master strategy to enhance current strengths is already being implemented in the installation support arena. In his briefing to the Army's Garrison Commanders, BG Anderson described three organizations that are focusing their efforts on improved installation support.

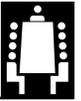
USACE Reinvention Center for District Support to Installations

USACE is looking at ways to assist the installation by means of Reinvention Centers. Currently, the Fort Worth District is our Installation Support reinvention center. They look at the support available from USACE and how it can supplement and enhance DPW activities and provide a quality service at a competitive price.

USACE can provide support for all real property maintenance and management tasks—for example, procurement, resource management, legal, safety, engineering, planning, environment, construction, information management, operations, maintenance, logistics and public affairs. Integrating these USACE capabilities with the installation will reduce duplication of effort and enhance property sustainment.

USACE provides cost-competitive Real Property Maintenance Activities. The commanders do not have to have the burden and risk of owning the work force. USACE services can be acquired to support specific tasks, services, products or projects. This feature provides options to span the peaks and valleys of mission needs and can provide services that are more economical when performed at the regional level.





This support is available as a reimbursable service using project funds versus civilian pay funds. This provides added flexibility for Commanders by permitting same-level real property support while freeing civilian pay funds for less flexible base operations.

Fort Worth Distict

- Mission: "Better – Faster – Cheaper"
- Process:
 - ✓ Define needs-solutions with:
 - installations-districts
 - MACOMs-headquarters
 - ✓ Tailor services to mission
 - ✓ Test beds in Fort Worth Region
- Results

How has this been working in the real world?

Using USACE in-place IDQ contracts, the Fort Worth District awarded \$86.1 million in FY 1996 operations and maintenance contracts. This amount was for 56 Maintenance and Repair Projects (\$42.2 million) 13 Task Orders for various repairs and rehabs (\$17.1 million), 108 task orders for Time and Material Construction projects (\$26.2 million) and 1 task order for time and materials for services (\$.6 million).

More than \$36 million of this amount was awarded near year end, in September 1996.

- Four barracks rehab IDQs awarded 26-27 September. Eight task orders, for \$12.7 million, awarded by 30 September.
- Time and materials for services awarded on 26 September for \$648,000.
- Demolition IDQ task order awarded 30 September for \$385,000.
- Two task orders awarded 29 September for \$2.5 million to replace stairs and balconies.

Transatlantic Programs Center, Europe

The Europe Center is devoted entirely to installation support. Here is what they are doing to work more effectively to support those of you who command installations in USAREUR:

- Collocate Corps "Program/Project Manager" at the DPW: Single point of contact for all programming, planning, contracting, construction. Prototype test is ongoing at 104th ASG DPW in Hanau.
- Command-wide Barracks Upgrade IDT: Contract for CINC's Facilities Improvement Program.

Saved 35 percent on USAREUR's budgeted cost; savings funded common area/furniture upgrades.

Transatlantic Programs Center, Europe

- Collocated Corps' Program/Project Manager at DPW
- Command-wide Barracks Upgrade IDT
- JOCs with optional Corps delivery order preparation
- Project Execution Teams
- Claims Liability Assessment Investigation and Mitigation Surveys

- JOCs with optional Corps delivery order preparation: #1 rated in customer service.
- Project Execution Teams: Collocate engineers, financial analysis and contract specialists. Working in tandem, rather than sequentially within stovepipes, allows timely obligation of one-year money.
- Claims Liability Assessment Investigation and Mitigation Teams: Saved USAREUR more than \$16 million on NATO claims for soil and groundwater contamination.

US Army Center for Public Works

The U.S. Army Center for Public Works is a USACE Military Programs Directorate, Field Operating Agency focused on public works and management support to Army installation customers.

CPW has more than 30 years of evolving O&M and management support programs Armywide and at your installation.

The Center's programs serve as force multipliers that help you meet everyday installation management and public works challenges and save you OMA dollars.

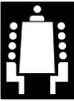
Here are a few examples of the services the Center provided your Directors of Public Works in the past year.

- \$20 million cost avoidance in utilities rates and procurements.
- \$4 million saved through electrical peak shaving projects.
- \$2.9 million worth of energy retrofits with a 3-year or shorter payback.
- 35 utilities privatization actions.
- 270 delivery orders against CPW-held contracts for Operations, Maintenance, Training and A-E services.
- 250 bridge inspections.
- 13 installation-wide roof scans.
- 8,411 days of training for facilities, housing and utilities managers, execs and others.
- \$3 million overhead/admin costs saved with ready-to-use contracts.
- 16 project orders execute year-end resources supported by CPW staff.

PWD

Center for Public Works

- Automating the DPW and installation managers's desktop
- Problem solves and trouble shooters for your Public Works challenges
- Commercial Activities: Technical Support



Army historical properties— nothing to get hysterical about

by Mike Edwards and Caroline Fisher

Quarters One at Fort Myer, Virginia, is home to the Army Chief of Staff. (Photo courtesy Fort Myer)

MYTH: All Army properties over 50 years old are considered historic.

REALITY: Age is the baseline for identifying properties as eligible for the National Register of Historic Places, but it is not the only criterion and there are exceptions. In general, historic buildings must be fifty years old and associated with important events or people, or exhibit distinctive architectural characteristics in order to be eligible for listing on the National Register. There are exceptions for important properties less than 50 years old, which must meet special criteria.

MYTH: Only properties that are actually listed on the National Register must comply with the National Historic Preservation Act.

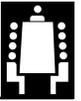
REALITY: All properties that are listed on the Register **or are eligible for listing** on the Register must comply. Properties include districts, sites, buildings, objects and archaeological sites. Federal agencies are required to evaluate the eligibility of a property under Section 106 of the Act and the implementing regulation 36 CFR 800 and under Section 110.

Historic properties within the Army have long been a misunderstood issue. There is a misunderstanding of why tracking historic properties is even important. And more importantly, there is a significant amount of misinformation about what is historic and what that means. This article will try to clear up some of those issues.

Accurate data on historic properties in the Army Real Property Inventory is a critical component for real property planning and management. The data is used in computing the operations and maintenance costs associated with a property, as well as its life-cycle costs. Historic properties may sometimes have costs that are not associated with other types of buildings, such as replacing a slate roof with slate instead of asphalt or repairing old windows instead of replacing them.

Also, properties determined to be historic must comply with the National Historic Preservation Act (NHPA). The NHPA, its implementing regulation and Army regulations provide a framework for effective historic property management. The NHPA is the pri-





mary mandate governing federal agency management of historic properties. The implementing regulation for Section 106 and Section 110 of NHPA require agencies to identify historic properties under their control. Historic properties are defined by the NHPA as properties listed on or eligible for listing on the National Register of Historic Places.

There are currently a total of 110 Army individual properties or historic districts (groups of related buildings with historic significance) on the Register. There are many more buildings, roughly 2,400, that are eligible for listing and thus must be treated in the same manner as listed properties.

There are also thousands of archaeological sites eligible for listing on the Register.

Section 106 of NHPA directs agencies to take into account the effect of a proposed undertaking—an action carried out by or for an agency—on any property that is listed on or eligible for listing on the National Register of Historic Places. It also directs agencies to provide the Advisory Council on Historic Preservation an opportunity to comment on that action. Section 106 is implemented through 36 CFR 800, Protection of Historic Properties.

Because compliance with NHPA and Section 106 is required for both listed and eligible properties, evaluation for National Register eligibility and the tracking of that information is key to effective property management.

There are two Army publications that contain useful information on managing historic buildings and other cultural resources:



*Historic properties may sometimes have costs that are not associated with other types of buildings.
(Photo courtesy Fort Myer)*

- Army Regulation (AR) 200-4, Cultural Resources Management, contains the policy.
- DA Pamphlet 200-4, Cultural Resources Management, provides the guidance to implement the policy.

Both documents are still in draft, but, when finalized, will supersede the current guidance document AR 420-40, Historic Preservation. AR 200-4 is being published and should be released in April. The draft DA PAM is currently under review and should be finalized by 30 May 1997. It is available on the Defense Environmental Network Information Exchange (DENIX) at <http://osiris.cso.uiuc.edu/denix/denix.html>.

A variety of useful information sources and publications are available to assist installations with historic property management. The installation cultural resource manager is an excellent place to start. NHPA compliance actions and surveys identifying historic properties are handled by cultural resources personnel.

These surveys contain information that should be included in the Army Real Property Inventory.

Additionally, the U.S. Army Environmental Center has technical experts in historic preservation who are available to provide assistance at no cost to the installation.

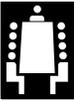
Other resources include publications produced by the Advisory Council on Historic Preservation (Council), one of the regulatory players in the National Historic Preservation Act, and the National Park Service, which maintains the National Register of Historic Places. The Council can be reached on the Internet at <http://www.achp.gov>; this site provides information on the Section 106 process, training and education. The National Park Service can be reached at <http://www.nps.gov>. This site contains National Register publications, 36 CFR 800 and other useful links.

☎ If you need help or have questions concerning historic properties, please contact Mike Edwards, CECPW-FP, (703) 428-7477 DSN 328 for Real Property issues and Derrick Mitchell, CECPW-FP, (703) 428-6083 DSN 328 for Master Planning. For historic preservation technical issues, please contact Caroline Fisher, U.S. Army Environmental Center, (410) 671-1575, DSN 584-1575. **PWD**

Are you on the *Digest* distribution list?

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





As part of his plan to improve communications with and service to our installations, LTG Joe Ballard, the Chief of Engineers, recently instituted an Advocacy Program at Headquarters. BG Phillip Anderson, Director of Military Programs, tasked his Assistant Directors as advocates to each of the MACOMs. The **Public Works Digest** recently interviewed MAJ Deborah L. Nykyforchyn, one of the Military Programs Assistant Director advocates. We hope this profile will help you get acquainted with her and the program.

MAJ Deborah L. Nykyforchyn— an advocate for all seasons

by Alexandra K. Stakhiv

“How did I get here?” said MAJ Deborah Nykyforchyn. “Well, to make a long story short, it was June 1996, and I was PCS-ing from Hawaii. Just as my household goods were about to be shipped out, Hugh Boyd came on line with Engineer Branch and offered me a job. I wanted to come back to the Corps and this was a great opportunity. I started out as a Corps engineer, and I’m very glad to be back after a variety of non-Corps jobs.”

MAJ Deborah Nykyforchyn has been an Assistant Director in the Military Programs Office since July 1996. As a principal advisor to BG Anderson on Army construction projects within TRADOC, MEDCOM, Strategic Space Defense Command (SSDC) and Military Traffic Management Command (MTMC), she evaluates the execution of major programs against schedules and recommends corrective actions to the Director and Deputy Director. She also recently became part of LTG Ballard’s Advocacy Program at Headquarters. As a MACOM advocate, she will be handling problems, concerns, and staff actions and have immediate access to the Chief of Engineers and the Director of Military Programs.

“Although each of the four advocates has been assigned to specific MACOMs, we still try to discuss anything that comes up, so we know which one of us is taking the lead,” MAJ Nykyforchyn said. “Our program ensures someone will be available at all times. For example, LTC Gary Gumm is the key person for West Point actions, since we consider that a MACOM in and of itself. But if something comes up and he’s not available, I will still know whom to track down. The other Military



MAJ Deborah L. Nykyforchyn

Programs Assistant Director advocates are LTC Gary Gumm, Mr. Bob Ross, and Mr. Frank Bizocco.”

The Advocates’ charter is to be the knowledgeable person in Military Programs for the overall program. For instance, regardless of which installation at TRADOC needs help, the TRADOC advocate should know about their program and be able to assist with TRADOC standards. The advocate should know the constraints and policies to be able to assist.

“There have been concerns in the past,” said MAJ Nykyforchyn, “where an installation commander would say I’m a TRADOC installation and it looks like this, but my geographic dis-

trict is giving me advice which may not incorporate my requirements.

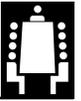
“We’re trying to eliminate those situations by gearing in more to our customer. What does our customer want or need? How can we help him to meet his plans? For example, right now, TRADOC is asking questions about design release. So I’m asking myself, what can I do to help affect design release in the upcoming programs.”

LTG Ballard’s strategy is to concentrate on satisfying the customer. The Corps is no longer looking at the geographic district or division to be the know-all, end-all for what’s best for the customer. The thrust is the division and district commanders providing the customer the **best corporate response**. Through this approach, commanders will find that their geographic district is the gateway to the global support capabilities of 30,000-plus Corps professionals.

The Corps embraces a “unified team” concept, which encompasses Army engineer soldiers, USACE and members of the installation Directorates of Public Works. Customers will need only one door to the Corps to obtain support from the entire Corps team. Response is seamless and integrated through the combined efforts of Corps-wide organizations and skills. The MACOM advocates are at headquarters to help the MACOMs find the “best” corporate response, even if it means someone from the Midwest in the Ohio River District doing something for Fort Benning.

“Sometimes the MACOMs will raise the issues and the advocate will work with the MACOM and the installation to resolve the concern,” said MAJ Nykyforchyn. “Right now I’m working





with the staffs at TRADOC, MTMC, SSDC and MEDCOM. In other words, more with the DCSENGR. But when I go to an installation, I'll be working with the DPW. I have a character from BG Anderson to that effect.

"I've been in positions where some people, no matter what you say or do, want to go right to the boss and tell him what's happening. Being an advocate is like being an 'honest broker' and listening to both sides of the story. It doesn't mean we listen to one side of the story and go straight to the general. It could be the program manager here in the building or at CPW or simply someone who deals with the DPW has heard something that involves them. Whatever it might be, my job is to see the whole picture and try to find the right answer.

"Each MACOM, each installation is just a little different in what its wants or needs are at the time. Hopefully, with our new Advocacy Program, the typical 'too late to do anything, we're in the red' won't happen. We're counting on this opening up more lines of communication, so that the MACOM/installation will tell us, 'We're not red yet, but if we don't get some assistance soon, we will be.' We'll be here for everything—and that includes when things go red, everything."

When asked what kind of projects she'd been involved with so far, MAJ Nykyforchyn said, "Mostly programming. When I say programming, I don't mean that we're trying to take over the job of programs management. The people in program management are still the programmers. For example, take programming for barracks upgrading. If there's an installation that TRADOC thinks should be considered for the Barracks Upgrade Program, but you tell me that it should be a different one, it's up to you to come in and explain the reasons why.

"In effect, the MACOM is saying that the powers that be are giving one direction, but the big picture shows consideration should be elsewhere. If appropriate, the advocates will assist in recommending the change. In this way, we might advance our customer's case by getting the 1391 completed faster or something like that. I try to keep asking myself: What does the customer need?"

used in the video teleconference and faxed or mailed them to the MACOMs.

"We're also working on better quality assurance and better quality control. For instance, I helped put together some briefings based on customer surveys. With the growing concern for the customer, these surveys can help us see where we're doing well and where we need to do better.

"With the downsizing of the budget and military construction, there will be a lot of looking at how can we do it better. How can we take all the technology that is out there and relook at how we do our business. How can we do it better and get a bigger bang for our dollar."

To date, MAJ Nykyforchyn has visited her biggest customer, TRADOC, and plans to visit her other MACOMs very soon. During the DoD Garrison Commanders Conference, she met LTC Anderson from MEDCOM. They're looking for a date that is mutually good to meet in the near

future to discuss his program and where they stand.

So far, the big customers for the advocates are TRADOC, FORSCOM, and AMC. The message MAJ Nykyforchyn has gotten from her customers at TRADOC is that they like the idea of the advocates. "Of course, they've had an advocacy program for a while," she said. "I can't speak for the other three advocates, but I think that the more voices are heard in the building, the better it is for everyone. Besides going to the district or the division, the MACOMs can now go to somebody right at headquarters."

You may reach MAJ Nykyforchyn at (202) 761-8736 or e-mail: deborah.nykyforchyn@hq01.usace.army.mil. **PWD**

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

Do you know your advocate?

Got a problem or a question that needs answering? Remember, your MACOM now has an advocate at Headquarters.

● TRADOC, MEDCOM, MTMC, SSDC
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"What we're doing is a way of completing the loop—from installation to MACOM to district to division to headquarters and back and across," said MAJ Nykyforchyn. "We're trying to talk things out before they become 'issues.' We're here to help with communication, and we have the MACOMs involved. We're sending the military staff notes to the MACOM engineers now. If there's something in there that they like or they want more information on, they can call and say I saw this in the staff notes, please find out more for us. The system is working because I've received e-mail requests for information."

Installations are also getting other information from the advocates. For example, when the Chief's strategy came out recently, rather than waiting until it got filtered down from headquarters to the divisions to the districts, the advocates took the slides the Chief



Former Corps employee is 1997 Federal Engineer

On February 21, 1997, during National Engineers Week, the National Society of Professional Engineers selected William (Bru) W. Brubaker, as the 1997 Federal Engineer of the Year.

Brubaker is presently the Director of Facilities Engineering at NASA Headquarters under the Office of Management Systems and Facilities in Washington, DC, where he is responsible for facility construction, facilities maintenance, and real estate management for the agency. Some of Brubaker's past positions include working for the Corps of Engineers as chief, Construction Programming, Army; chief, Construction Division, Portland District; assistant chief, Construction Operations Division, Sacramento District; and facilities engineer, Nuremberg, Germany.

Brubaker competed against 30 other nominees from various federal agencies. He was selected on the basis of his strategic vision, leadership, and support in converting NASA to reliability-centered maintenance and performance-based contracting for facilities maintenance activities in response to significantly declining budgets and aging infrastructure.

According to the National Society of Professional Engineers, Brubaker's is the first award given for maintenance activities in a facilities engineering organization in the history of the award.

The conversion of NASA's facilities maintenance program into a state-of-the-art Reliability-Centered-Maintenance program uses widely accepted predictive testing and inspection methods such as: vibration analysis, thermography, laser alignment, ultrasonics, and sophisticated electrical testing. These methods minimize time and cycle-based maintenance, while maxi-



Jack D. Hinton, P.E. (L), President, National Society of Professional Engineers and Bill Brubaker, P.E. (R), Director of Facilities Engineering, National Aeronautics and Space Administration and the NSPE 1997 Federal Engineer of the Year at the Federal Engineer of the Year Awards Ceremony on February 21, 1997 in Arlington, Virginia.

mizing the availability of facilities and their systems.

While determining the present condition or trends of components, these methods significantly reduce the cost of facilities maintenance by:

- Extending maintenance cycles.
- Eliminating non-cost effective maintenance.
- Identifying impending equipment failures prior to catastrophic failure.
- Reducing overtime and facility shutdowns.

At the same time, they extend the useful life of equipment and defer premature capital repairs or replacement of facility equipment. These methods have allowed NASA to cope with over \$200 million in maintenance budget cuts since 1992.

NASA did not develop nor was it the first to use reliability-centered maintenance. The underlying technologies were known and practiced by the aircraft industry, nuclear industry, and the Naval nuclear submarine fleet for many years. The more progressive private companies have applied reliability-centered maintenance concepts to their process and production lines with outstanding results. However, while limited application of reliability-centered maintenance technologies has been made by organizations across the nation in the area of facilities, NASA is emerging as the leader in this area for the

federal government.

POC is Charles B. Pittinger, Jr., NASA, Facilities Engineering Division, (202) 358-1114, e-mail: charles.pittinger@hq.nasa.gov. **PWID**

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It's time for start-up checks

by Nelson Labbé

Summer is on its way and many cooling systems will be put back into service shortly. To minimize operational and safety problems with cooling towers systems, several items should be checked.

Any debris, dirt or corrosion products in the cooling tower basin or elsewhere in the system should be mechanically removed. The presence of these can prevent the water treatment chemicals from working to prevent scale, corrosion or biological growth.

The chemical feed system and blow-down controller should be checked and in good working order. The optimum feed system for most systems is a chemical feed pump controlled by a pulsing meter on the makeup waterline. A good feed system helps operators consistently maintain the required levels of chemicals and biocides.

The biocides used must be effective against both bacteria and algae. Bacteria and algae interfere with system efficiency and can contribute to fouling and corrosion. A bacteria which can also have a health impact if not controlled adequately is Legionella Pneumophila. Infection may cause symptoms similar to a three-day flu or full-blown Legionnaires' Disease. It is a common bacteria and not normally a problem, except around a cooling tower that does not receive good biological control. A cooling tower can be a perfect breeding ground for this bacteria.

To keep biological growth under control, maintain a good biocide program, a good scale and corrosion program. Keep the system clean while in operation, and consider adding high levels (minimum 1.5 ppm) of free bromine or chlorine for 24 to 48 hours once a month. The extra bromine or chlorine is in addition to the normal biological treatment. Use chlorine only if the cooling water pH is less than 7.5.

Many chemicals are available that contain chlorine or bromine. Bleach is a common source of chlorine. Bromochloro dimethyl hydantoin is a common source of bromine in tablet form.

Following these tips not only helps keep the system operating efficiently, but also protects your workers and others who live, work or play in the vicinity of cooling towers.

 If you have any questions regarding proper water treatment for heating

or cooling systems, please call Nelson Labbé or Crispus Sawyer, CECPW-ES, at (703) 806-5202/5206 DSN 656. **PWD**

Nelson Labbé is a chemist in CPW's Sanitary and Chemical Division.

Technical bulletin discusses plastic pipe problems

Plastic materials have been used for plumbing applications since the mid-1940s. Plastic pipes are lightweight and typically require less labor and equipment to handle and install than metal pipes. Since they're not susceptible to corrosion, they don't need cathodic protection and coatings on linings. They can also be used where reactivity or compatibility problems occur with copper, iron, or steel pipe.

Despite their many advantages, however, plastic, like most materials, has its own set of problems. There are cautions that must be observed to prevent premature failures of plastic pipes. To provide information on specific problems identified with individual plastic plumbing materials along with remedies, CPW recently published a Public Works Technical Bulletin (PWTB), called *Lessons Learned: The Use of Plastic Plumbing Materials*,

The PWTB discusses the following lessons in detail:

- a.** Carefully consider material properties when making the choice of materials for plumbing systems.
- b.** Use plastic pipe designed for the specific application; do not substitute.
- c.** Design for thermal expansion and contraction of the plastic pipe.
- d.** Design for thermal environment.

e. Ensure that plumbers and pipefitters have the training and experience necessary for joining plastic pipe.

f. Record accurate, reliable information on the exact location of buried plastic pipes and ensure any changes are reflected in as-built drawings.

g. Design underground distribution trenches and manholes to reduce the danger of damaging plastic plumbing when maintaining adjacent utility systems.

h. Institute safeguards to prevent damage to plastic distribution and plumbing systems by untrained personnel.

i. When installing fiber-reinforced plastic underground storage tanks (FRP-USTs) in areas with a high water table, install a fabric filter hole liner specified by the tank manufacturer. This allows the flow of water around the tank while preventing the migration and mixing of native soil and backfill material. Do not allow the tanks to remain in the ground in an empty or near empty condition.

j. Carefully monitor an FRP-UST for roundness when it is emptied and refilled.

 For a copy of *Lessons Learned: The Use of Plastic Plumbing Materials*, please contact Nicole Lussier, CECPW-ES, (703) 806- 5211 DSN 656. **PWD**



Attention! Diesel engine alert!

by John Lanzarone

The Army has been notified that the connecting rods on some Cooper Bessemer LSV/LSVB diesel engines are prone to failure. The Mechanical & Energy Division of CPW issued a notice to all Army MACOMs in March 1997 concerning this matter.

A list of sites with these units, obtained from the Hartford Steam Boiler and Insurance Company (HSB), includes some DoD sites and they appear in the table below. While some of these sites may no longer have the diesel en-

gines, they may have moved them to other DoD sites.

Connecting rod failures occur on the 400 RPM version of Cooper Bessemer LSV/LSVB diesel engines. HSB reported five commercial failures that were catastrophic (\$1 million per occurrence), and found cracks in nine engines through UT inspection of the connecting rods. According to HSB, conducting UT inspections of these machines every 500 hours per OEM requirements can prevent major failures,

but the inspections must be done precisely in intervals of 500 hours or less.

If these units exist on your installation, please contact your maintenance provider to ensure that they are being checked on a regular basis. POC is John Lanzarone, CECPW-EM, at (703) 806-6067 DSN 656. **PWD**

John Lanzarone is a mechanical engineer in the Mechanical & Energy Division of CPW's Engineering Directorate.

Serial #	Engine Model	BHP	Application	Purchased By	Location
7239	LSV-16-T	4168	3000 kW Cogeneration	U.S. Army Engineer District	Shemya Air Force Base, Alaska
7240	LSV-16 -T	4168	3000 kW Cogeneration	U.S. Army Engineer District	Shemya Air Force Base, Alaska
8019	LSV-16-GD-T	4095	2950 kW Generator	U.S. Army	Shemya, Alaska
8020	LSV-16-GD-T	4095	2950 kW Generator	U.S. Army	Shemya, Alaska
8021	LSV-16-GD-T	4095	2950 kW Generator	U.S. Army	Shemya, Alaska
8022	LSV-16-GD-T	4095	2950 kW Generator	U.S. Army	Shemya, Alaska
8023	LSV-16-GD-T	4095	2950 kW Generator	U.S. Army - Dept. of the Navy	Adak, Alaska
8024	LSV-16-GD-T	4095	2950 kW Generator	U.S. Army - Dept. of the Navy	Adak, Alaska
6990	LSV-16-T	4228	3000 kW Generator	Department of the Navy	Adak, Alaska
6991	LSV-16-T	4228	3000 kW Generator	Department of the Navy	Adak, Alaska
7058	LSV-16-T	4228	3000 kW Generator	Department of the Navy	Adak, Alaska
7072	LSV-16-T	4228	3000 kW Generator	Department of the Navy	Adak, Alaska

Check your boilers now!

Many AO SMITH HW-670 boilers may have been installed improperly. It is easy for both installing contractors and inspectors to miss the problems associated with these errant installations.

For years, AO Smith BC-670 boilers were installed in large numbers. In these coil-type, copper tube boilers with forced circulation during firing, the flow of water is from top to bottom. Approximately five years ago, contractors began installing the similar HW-670 boiler almost exclusively. In this model, water flows from bottom to top.

As the older BC models fail through normal wear and tear, they

are being replaced with HW models. The HW model will "bolt up" where the BC model was located with little or no piping modification. If the contractor/inspector isn't aware of the difference in flow and physically reverses the circulation pump installation (and moves the flow switch to the "new" outlet), then it won't be noticed that the boiler's temperature controls are actually on the INLET rather than the outlet.

This can and has happened. To the contractor/inspector, the installation can appear to be correct. The flow switch will test properly because the pump is still pumping in the direction that the flow switch "expects." When

the temperature controls are viewed, they appear to be on the outlet of the boiler. But failure to add these two installation/inspection check points together will result in the installation and approval of an incorrect installation.

Installers must keep this in mind for future installations, especially **replacement** installations, of AO Smith coil boilers. Inspectors must do the same as well as take a hard look at existing AO Smith coil boilers **DURING REINSPECTION**.

POC is John Lanzarone, CECPW-EM, (703) 806-6067 DSN 656. **PWD**



It's not quite there yet, but an emerging technology could soon make it much safer for workers to remove lead based paint (LBP) while dramatically reducing the hazardous waste produced. An innovative laser LBP removal system could be especially attractive for use on historic structures, which are usually too fragile to withstand more invasive stripping methods.

The Army owns thousands of structures built before the 1978 LBP ban and having multiple layers of these toxic coatings on outside and inside surfaces. LBP poses a health hazard because exposure can damage the central nervous system, with young children being most vulnerable. A tempting thought is to bulldoze these buildings and have a bonfire, but it's not that simple for many reasons. One unavoidable reason is that the older buildings often must be docu-

Laser system holds promise for lead paint removal

by Dana Finney



Laser unit used at Kelly AFB, Texas.



Above: Before stripping LBP with laser.
Below: After stripping.



mented under the National Historic Preservation Act. After fulfilling those requirements, if the installation decides to keep a building for historic value versus tearing it down, it has to be assessed for LBP hazard. If a lead paint coating cannot be managed in place, it must be stripped and recoated for safety.

Common methods of LBP removal cost a fortune, generate hazardous waste, and require unwieldy worker protection and waste containment/disposal provisions. CERL's research seeks new means of mitigating LBP that are safer and more cost-effective. One technology being marketed by private industry is laser-based equipment, which may hold the key to relief for installations' budgets while causing less environmental pollution.

To assess the current laser systems, CERL did a demonstration project at Kelly Air Force Base, Texas. A commercially available laser stripper was used to remove LBP from a small section of a 1920s Bungalow housing unit. The 60-watt carbon dioxide laser paint removal system uses optical sensors to detect the paint color and a laser beam to remove paint at 0.3 mil layers at a time. A vacuum system pulls waste paint into a self-contained vessel where solids are separated in a filter, resulting in minimal hazardous waste and pre-

cluding the need for worker protection and containment.

The Kelly AFB demonstration showed the laser system can effectively strip wood exterior surfaces of LBP. Since the substrate has a chance to cool after each pass, the underlying wood sustains no damage, making this technology very promising for historic structure renovation. However, the 60-watt unit made for very slow progress. The time involved, plus the high initial cost for the laser system, make this option too expensive to consider at present.

On the up side, developers of this technology are moving rapidly and it may very well be only a short time before improvements make it very cost competitive with other alternatives—especially in light of the environmental advantages. The Army has purchased a 2000-watt prototype laser paint removal system designed to take paint off helicopter rotor blades. This unit operates 33 times faster than the one CERL tested at Kelly AFB and could easily be modified for use on wood surfaces.

Keep your eye on this technology! It has great potential for mitigating LBP at a fraction of the cost current methods demand and with less impact on the environment. For more information, please contact Susan Drozd at CERL, (217) 373-6767. **PWD**



Tips for solving oil/water separator problems

by Dana Finney

In FY 96, installations asked for \$150 million in funding to upgrade or repair oil/water separators for complying with Clean Water Act requirements.

The Army owns thousands of these oil/water separators to pretreat wastewaters containing oily contaminants from the business of military training. And nearly every Army installation has multiple problems with these systems.

Because of the large number of separators Army-wide, the variety of types, and the differences in waste streams, it isn't possible to address every problem. However, CERL has been investigating oil/water separators and has drafted a Public Works Technical Bulletin (PWTB 200-1-5) giving some lessons learned for quick fixes and a longer term smart buyer approach. Some of these tips are summarized here.

Inadequate maintenance.

Up to 80 percent of performance problems reported are due to lack of maintenance. The reason is twofold: first, most of the separators in use today were not designed for easy access to do maintenance (many use manholes) and second, reductions in manpower at DPWs limit the resources available to perform regular inspections and cleaning. The typical separator found at a post is severely under-designed to handle the amount and type of waste streams generated. Sediment and debris require periodic removal to keep the system operating properly. Installations should develop a maintenance schedule that identifies all separators in operation and assures regular attention to each. Rather than setting an artificial schedule, DPWs should consider usage, flow rates, and solids loading to optimize use of resources in performing this maintenance. This work can also be contracted.

Know your waste stream.

Most military activities do not produce simple oil and water wastestreams, but contain many other contaminants, such as dirt, detergents, fuels, and debris. In addition, the contents of the

wastewater vary among functions on the post—a vehicle washrack's effluent will differ from that of a troop support maintenance shop, for example. In procuring new oil/water separators, DPWs should get all possible information about the waste stream to be treated to ensure proper sizing and equipment selection. Pretreatment equipment must be chosen based on performance criteria; that is, the separator must be specified to treat a specific type of wastewater and produce a stated quality discharge.

Storm water adds to the problem.

Separators often are installed at locations where large volumes of storm water infiltrate and dilute the process stream. This can flush oil out of the separator which results in an effluent that does not meet National Pollution Discharge Elimination System (NPDES) permit requirements. (A related issue is that increased discharge volume drives up the cost of treatment and taxes the entire wastewater handling system.) A quick, low-cost way to fix this problem is to install curbing around the separator opening to prevent inflow from storms. Adding a cover to the system costs more, but is still cheaper than buying a new separator.

Don't believe everything you hear.

Allowing a system manufacturer to tell you what you need can be a big mistake. There are no industry standards dictating system performance so that the market has a proliferation of prefabricated units for sale. Beware of vendor literature that bases its claims on ideal flow and concentration conditions. The only way to

make sure the separator being purchased will work properly is to carefully specify performance requirements based on the type of waste stream to be treated and other engineering parameters. If your office does not have expertise to do this assessment, help is available from CERL or CPW. CERL is developing more guidance for characterizing waste streams from various activities, which should be available in late 1997.

Emulsions don't separate.

Despite variances in design, most separators used at Army installations use the specific gravity differential between oil and water to separate the layers and allow water to be drawn off without the oil. Most detergents and cleaners work by emulsifying oils, which enables them to mix with water and wash off the surface to be cleaned. However, that same action prevents the gravity separation process from working in an oil/water separator. DPWs should find out where these cleaning agents are being used and, if appropriate, consider switching to high pressure, hot water cleaning instead. Emulsified or dissolved oils entering an oil/water separator will stay in the waste effluent and contribute to the contaminant concentration, possibly exceeding NPDES limits.

For more information on oil/water separators, please contact Michelle Hanson at CERL, (217) 373-3389. **PWD**





Checklist helps make Fort Rucker facilities accessible

by Alexandra K. Stakhiv

This year, Installation Status Report inspectors at Fort Rucker, Alabama, will be required to fill out the Americans With Disabilities Act Checklist for Readily Achievable Barrier Removal for each facility on post. Once completed, the inspectors will sign and date the front sheet of the checklist.

"The checklist will be a great help to all of us in making our buildings accessible to everyone," said Tom Sizemore, Deputy DPW at Fort Rucker. "People with disabilities as well as those without should be able to arrive at, approach and enter a building freely. Once inside, they should be able to obtain goods and services without any special assistance. This includes the use of restrooms and any other amenities such as telephones."

The four priorities recommended by the Americans with Disabilities Act's Title III regulations for planning readily achievable barrier removal projects are the basis for the checklist. They are:

Priority 1: Accessible entrance into the facility (path of travel, ramps, entrance, emergency egress).

Priority 2: Access to goods and services (horizontal and vertical circulation, doors, rooms and spaces, controls, seat and tables, stairs, elevators and lifts).

Priority 3: Access to restrooms (getting to restrooms, doorways and passages, stalls, lavatories).

Priority 4: Additional access (water fountains, telephones).

Since it does not cover all of the Americans with Disabilities Act's requirements, the checklist is not for use on facilities being constructed or undergoing renovation. The checklist is for use on existing facilities and only covers communications features that are structural in nature.

"The intent of the checklist is to list any barriers found and to give ideas for their removal," said Sizemore. "Listed next to each question are possible solu-

tions and space for your own ideas. If the removal of barriers is not 'readily achievable,' the installation can look for alternative methods for providing access that are readily achievable."

Figure 1 shows a sample page from the checklist for priority 1 facilities. To obtain a copy of this checklist, please contact your local Disability and Business Technical Assistance Center. For the center nearest your installation, dial (800) 949-4ADA.

For more information on how Fort Rucker is using the checklist, please contact Dennis Power, Fort Rucker business manager, (334) 255-9364 DSN 558. **PWID**

Figure 1



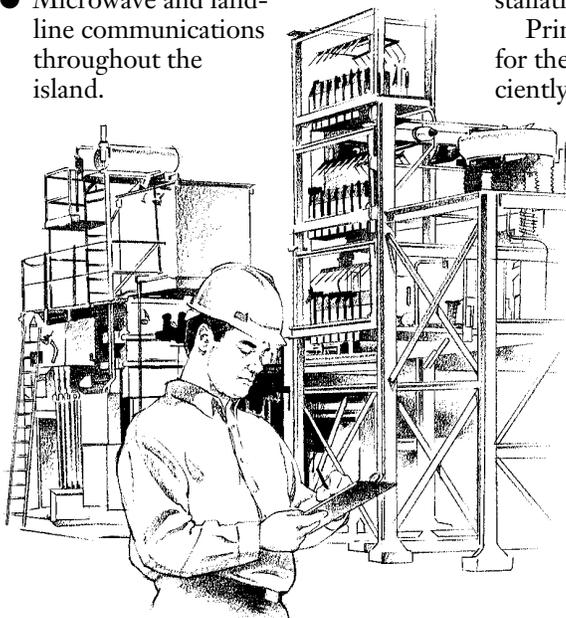
Prime Power soldiers light up Fort Buckner

by CPT Andrew Backus

Once again, our Prime Power soldiers are off on one of their worldwide missions. This time they are at the Fort Buckner Satellite Communications (SATCOM) site in Okinawa, Japan. Sixteen *Black Lions*— one Warrant Officer and fifteen Noncommissioned Officers from Alpha Company, 249th Engineer Battalion (Prime Power)— are ensuring total power reliability for the U.S. Army Signal Command and the U.S. Army Space Command.

The U.S. military operates many installations on the island of Okinawa, a tropical region south of mainland Japan. The Army has a small presence there, located on Tori Station for the 1st Battalion, 1st Special Forces Group. Fort Buckner is a U.S. Marine Corps owned, U.S. Army operated site on Okinawa, consisting of less than 100 acres with a satellite and microwave communications station, one microwave tower, a power plant and various support buildings. The SATCOM site provides:

- Satellite communication and control for the Defense Satellite Communication System located over the Western Pacific and Indian Ocean theater.
- Microwave and land-line communications throughout the island.



- Backup power for the dual AN/GSC-39B satellite earth terminal, the primary technical control facility, fiber optic and microwave transmission nodes, and the DSN nodal switches.

In January 1997, the Army Signal Command contacted the 249th Engineer Battalion and requested assistance in modernizing their backup power supply.

A pre-site survey conducted by 2nd Platoon, Alpha Company, 249th Engineer Battalion (Prime Power), from Fort Lewis, Washington, concluded that the reliability of the backup power system was not up to standard and the equipment was extremely outdated.

The original communications station and the power plant were built in the early 1960s. They each used four 500 kW Enterprise generators (made by a company that went out of business in 1976) and connecting switch gear for their backup power supply.

The Army Signal Command estimated that the total upgrade and modernization of the backup power supply would cost \$1.5 million. This figure included purchasing new generators and switch gear and contracting out for installation of the equipment.

Prime Power personnel moved in for the rescue! They recovered sufficiently-sized generators and compatible switch gear from an Army Signal Command station that had closed down in North Carolina. Through careful planning and execution, they were able to transfer this equipment to the SATCOM facility in Okinawa and install it as the primary backup power supply.

By having the 249th Engineer Battalion perform this work, the United States Government will save an estimated \$1.1 million in equipment procurement, installation and transportation costs.

The 249th Engineer Battalion's mission began on Febru-

ary 8, 1997. It required the Prime Power soldiers to move the four outdated generators and install four new ones; inspect, service and calibrate all the power systems and switch gear equipment; and perform service and maintenance on the existing Exide uninterrupted power system. They are also teaching the local national power plant staff the proper operation and preventive maintenance of the new equipment.

To successfully complete all phases of this on-going mission, the Prime Power soldiers must share their ideas and expertise to create a cohesive and productive team. Some of the problems they've encountered include:

- Removing 20-ton generators from the power plant with only block and tackle and 4 inch pipes.
- Reinforcing the plant floor to prevent the generators and equipment from falling through.
- Completely tracing, modernizing, and upgrading the entire electrical system without schematics or wire diagrams.
- Communicating with the local national power plant personnel.

The 249th Engineer Battalion soldiers were able to maintain their "Hard Chargers" mentality and overcome these obstacles to complete the mission within the scheduled time frame.

The effectiveness of our nation's forces, mainly the Pacific Theater forces, weighs heavily on the continuous and proper operation of the SATCOM site on Okinawa. Thanks to 16 Black Lions, total power reliability is being ensured at Fort Buckner.

POC is CW2 Kevin Sargent, Power Station Commander, DSN 357-4019, 2nd Platoon, A Company, 249th Engineer Battalion (Prime Power), Fort Lewis, Washington. **PWD**

CPT Andrew Backus is Alpha Company Commander, 249th Engineer Battalion (Prime Power), Fort Lewis, Washington.



APG finds new ways to save energy and environment

by Shebreyar Husain

In the spring of 1990, the Aberdeen Proving Ground (APG) Directorate of Public Works (DPW) began investigating the installation of a natural gas line on post by the local utility, Baltimore Gas & Electronic (BGE). APG provided BGE with detailed information about the annual fuel consumption at every location in the Aberdeen area of APG. This attracted the utility company for prospective future gas revenue.

The Aberdeen area of APG was consuming over 5 million gallons of #2 fuel oil per year. Additionally APG was beginning to install dual fuel burners on all new boilers. After some initial meetings, both APG and BGE expressed interest in implementing this project. Backing from the commander down to division chief level was very encouraging for the successful implementation of the task.

In FY 95, APG contracted with BGE to run a gas line to the post's main boiler plant and 16 other locations. The installation of the new gas main was completed in FY 95.

By the end of calendar year 1996, 10 boiler plants had been converted to dual fuel use. This has dramatically increased the number of buildings served by natural gas heat. By October 1997, over 175 buildings will be on natural gas heat, representing approximately 70 percent of the total heating load.

For an initial investment of about \$1,600,00 for the conversion, APG is saving over \$800,000 per year. We have the additional benefit of reduced environmental emissions, while lowering the maintenance cost of fuel oil systems, its administration and hazards. Overall, this has provided a very significant return on our investment.

The Clean Air Act Amendments of 1990 have put tighter constraints on emissions from most industrial sources, particularly combustion sources. Yet despite the rate of facilities growth here at APG, we have reduced the Nitrogen Oxides (NO_x) emissions level by about

20 tons per year. Even with the significant real property additions, APG has reduced its overall emissions. The use of natural gas has been a big contributor to APG's success in making the environment cleaner and exceeding our environmental goals.

By changing from oil to natural gas, the APG NO_x emissions have been reduced by 32 percent. APG is installing state of the art low NO_x burners on all new boilers. With low NO_x gas burners NO_x emissions are reduced by 80 percent as compared to using #2 fuel oil.

APG with the help of Johnson Controls has selected the basic Energy Monitoring Control System (EMCS) components for the main boiler plant. The DPW HVAC shops will install and

maintain the system. This system will save on fuel consumption and identify symptoms before they develop into problems.

The Directorate of Safety Health and Environment (DSHE) has a requirement to track environmental information. With the installation of EMCS and these devices, information could be transmitted electronically in a timely manner to DSHE and avoid the printing of extensive reports. Here again, there are many spin off benefits.

Use of the latest technology is helping APG to do more with limited resources. Innovative ways and team effort are helping APG succeed.

POC is Shebreyar Husain, DPW, Aberdeen Proving Ground, MD, (410) 278-7896. PWD

Shebreyar Husain is a mechanical engineer in the Engineering Plans and Services Division of APG's Directorate of Public

Public Works problem?

Call us first!

1-800-RING-CPW



Peak shaving saves money at Fort Jackson

by Dana Finney



Storage tank for Fort Jackson's chilled water cooling system.

When large energy users install demand-side management (DSM) equipment, the local electricity provider can avoid building more expensive, potentially polluting generation facilities. In South Carolina, this prospect was so appealing to Fort Jackson's utility company that they provided an incentive totaling \$750,000 in support of the fort's new chilled water storage system. With this rebate and annual savings of \$400,000, the system will pay for itself in just over 3 years. The savings can help offset continually rising power bills at the post.

Storage cooling technology saves money and energy by making ice or chilled water at night, during off-peak demand hours. Electricity suppliers assess demand charges on major energy consumers for usage in peak demand times—usually daytime business hours. Storage cooling systems like the one at Fort Jackson run their chillers at night, then shut them off during high-cost peak demand times while the chilled water air-conditions buildings. They also save energy by operating chillers during the cooler nighttime temperatures.

Fort Jackson commissioned a 2.25 million gallon chilled water storage system during 1994 in a partnership with CERL, CPW, and the Corps Savannah District. They received primary fund-

ing under the Defense Department's Energy Conservation Investment Program (ECIP), which provides Military Construction funds for energy-efficient technologies as new equipment or retrofits.

"Our storage cooling system serves nearly half the buildings on Fort Jackson," said Jerry Fuchs, Chief, Energy Management Branch in the Directorate of Public Works. "The projected annual outyear savings of \$400K is conservative and could be even more with some added equipment. We have a proposal in for adding variable volume pumping in the field which will let buildings draw chilled water on demand instead of constantly circulating it."

The local electricity provider, South Carolina Electric and Gas Company (SCE&G) contributed the \$750,000 to acknowledge reduced demand by 3 megawatts during on-peak hours, and also as an investment in the future. The company understands that Fort Jackson competes for missions with other installations and that dollars saved for energy are available for training support. Gaining missions at the fort ultimately means a bigger energy demand and economic growth for SCE&G.

Fort Jackson's energy bill has been climbing and increased from \$4.8 million in 1994 to \$5.3 million in 1995.

Savings from the storage cooling system helped Fort Jackson contain the growth of the energy bill in 1996, when it stayed at \$5.3 million. As a power projection platform, the fort's energy requirement is growing continuously. The DPW actively seeks new opportunities to use technologies that can help slow the rising energy costs.

Counting the rebate from SCE&G, Fort Jackson's system cost \$1.2 million. Besides the 3-year payback (Army criteria require a 10-year or less payback for funding), the storage cooling system operates efficiently at night, improves occupant comfort in the buildings it serves, and gives Fort Jackson the flexibility to take advantage of future utility company rates under ongoing electric deregulation/real time pricing. With deregulation, electric rates will fluctuate constantly based on supply and demand. Having the ability to store cold water and shut off the chillers during times of high prices will allow Fort Jackson to avoid some of those costly charges.

For more information on storage cooling, contact Dr. Chang Sohn at CERL, (217) 398-5424, e-mail: c-sohn@cecer.army.mil. **PWD**

Dana Finney is the chief of Public Affairs at CERL.



Micro PAVER pairs with GIS

Micro PAVER Geographic Information System (GIS) is the latest PAVER product produced by the US Army Construction Engineering Research Laboratory (CERL) and funded by the US Army Center for Public Works (CPW).

Linking with GIS gives the Micro PAVER pavement management system several advantages:

First, it helps present road, street, and airfield data on installation maps.

Second, Micro PAVER GIS can now produce a visual representation of Micro PAVER analyses such as:

- Pavement Condition Index (PCI).
- Projected PCI for program years.
- Multi-year work plans by M&R activity.
- Pavement surface type.

And **third**, Micro PAVER GIS can be modified through Arcview to show an assessment of pavement condition in a pavement network for the Installation Status Report (ISR) format. This gives commanders the opportunity to use an objective and consistent approach for ISR evaluations based on engineering technology.

The Micro PAVER GIS can be used by installations that have implemented Micro PAVER and digitized Network Identification maps in AUTOCAD or INTERGRAPH format. The following is needed:

- 86/66 Mhz computer or higher
- Windows program
- Micro PAVER program and database
- ArcView program

This is a very promising technology that can help show Micro PAVER information and results in a simple graphical format. It will be particularly helpful in displaying pavement programs and decision criteria to garrison commanders.

For more information, please write USACPW, ATTN: CECPW-ER, Alexandria, VA 22315-3862, or contact Ali Achmar at (703) 806-6058 DSN 656; FAX: (703) 806-5219; or e-mail: ali.a.achmar@cpw01.usace.army.mil. **PWD**

CPW offers pavement evaluation and micro PAVER database update

Does your installation need a pavement evaluation and micro PAVER database update? If you answered yes, consider using the US Army Center for Public Works (CPW) indefinite delivery type contract.

All installations should assess the condition of their pavement network on a regular basis, not to exceed three years on any section. This permits the proper scheduling and accomplishment of preventive maintenance (crack sealing, seal coats) and emergency work (repair of pot holes and shoulder drop offs) in a timely manner. Further, pavements exhibiting early stages of structural deterioration can be repaired before rapid deterioration sets in. Early detection of structural problems is critical, since for every dollar spent maintaining good pavements, four to five dollars are required to repair pavements which have deteriorated to a poor condition.

Micro PAVER users can accomplish condition assessments by utilizing cpw indefinite delivery type contracts. CPW has developed standard scope of work specifications that can easily be modified for specific installation needs. CPW

will help finalize the specifications and assist in developing cost estimates, negotiating with the contractor to keep costs within budget, and in contract administration. The two firms under contract with CPW are very experienced in this type of work and can accomplish the work in a short period. In addition, CPW can assist in the development of defensible short and long range work plans and in defining the ARR for programming purposes.

On the average, annual condition assessments of one third of the pavement network can be accomplished with an investment of just two to three percent of the annual OMA funds expenditure for pavements maintenance and repair. This is a good investment if the data obtained is systematically used to develop and defend the pavements program, prioritize maintenance and repair requirements and fund identified major repairs.

For more information, please write USACPW, ATTN: CECPW-ER, Alexandria, VA 22315-3862, or contact Ali Achmar at (703) 806-6058 DSN 656; FAX: (703) 806-5219; or e-mail: ali.a.achmar@cpw01.usace.army.mil. **PWD**

Technical manuals on USACE home page

CPW's Electrical Division's now has three of its four Technical Manuals available on the USACE home page. They are:

- TM 5-683/NAVFAC MO-116/AFJMAN 32-1083: *Facilities Engineering, Internal Electrical Facilities*
- TM 5-684/NAVFAC MO-200/AFJMAN 32-1082: *Facilities Engineering, Exterior Electrical Facilities*

- TM 5-685/NAVFAC MO-912: *Operation, Maintenance and Repair of Auxiliary Generators.*

The web address is <http://www.hq.usace.army.mil>. Look under P for publications. You will have to download Adobe Acrobat, which is on the same web page in order to view these documents in detail.

POC is Peter Cascio (703) 806-5169 DSN 656, FAX (703) 806-5020. **PWD**



Army to host 1997 Combined Services Recycling Workshop

by William F. Eng

Mark your calendars. Start your travel orders. Get out your recycling "war stories."

This year's annual gathering of all Defense Department recycling officials, from program managers to affirmative procurement proponents, will converge at Lake Buena Vista, Florida, beginning on September 20, 1997.

1996 ushered in a highly-acclaimed merger of the six-year annual DoD Joint Service Recycling Workshop with an effort by the Office of the Federal Environmental Executive (OFEE). This was the first Federal Recycling Confluence Program at the National Recycling Coalition's Annual Congress and Exposition. Pittsburgh is history and the Navy did a great job at the helm. DoD has asked the Department of the Army to host this year's meeting, so a large turnout of DA professionals is expected.

All Defense Department folks will convene at a pre-NRC General Session on Sunday afternoon, September 21, followed by concurrent Service breakout sessions. Early arrivals are invited to an Army-hosted ice breaker the evening before.

The main NRC Congress and Exposition runs from Monday through Wednesday, September 22 to 24. Departing from previous DoD-NRC programs, this year's will be a fully integrated agenda. The DoD and OFEE sessions won't be off in the corner of the conference, but right alongside and interweaved with traditional NRC workshops. Sessions with a DoD or federal theme will be highlighted in the program and open to all Congress participants. This will allow DoD/Army recyclers to attend other sessions and network with their peers.

The NRC will be mailing out a program preview with conference and registration information in the next few

months. Watch for it in your mail. A special federal conference registration fee rate is being worked out just as last year. A large number of per diem rate rooms are being blocked for DoD and federal employees at hotels in the area. Just be sure you use the NRC form for both housing and conference registration and send it in early.

The NRC will try not to process the conference fee charge to your government credit card too far ahead of the meeting, so you can attend the conference before you see the charges on your next American Express bill.

Program agendas, topics, and speakers are now being finalized. A call for papers went out in early March, but last minute entries are always welcomed, even after the April 30th cutoff date. If you have a idea for a recycling presentation that fits in with waste minimization, overcoming barriers to recycling, buying and selling recycled products, cooperative marketing, contracting your recyclables or direct sales of recyclables, then send in a brief abstract with your name, address and phone number.

While the Office of the Assistant Chief of Staff for Installation Management is the DoD host for this year, the Army Center for Public Works (CPW) will be doing a lot of the heavy lifting. Laura Seabeneck at CPW will be contacting MACOMs and installations for material for the Army Recycling exhibit booth and will be accepting your abstracts and speaker information. You may reach her at (703) 806-5212 DSN 656, FAX: (703) 806-5216, or e-mail: laura.e.seabeneck@cpw01.usace.army.mil.

Who knows, we may be reading about you after the 1997 DoD Recycling Workshop. Don't forget. Make your plans to attend now and set aside travel funds.

☎ ACSIM POC is Bill Eng, (703) 428-7078 DSN 328, FAX: (703) 428-6197, or e-mail: engw@pentagon-acsim3.army.mil. **PWD**

William F. Eng is the Headquarters proponent for recycling and the Army representative to the Combined Services Recycling Working Group.

1997 DPW Combined Training User's Workshop

The 1997 DPW Combined Training User's Workshop is tentatively scheduled for 3-7 Nov 97, in Orlando, Florida. The hotel site is being finalized and will be announced in the near future. Early notification of the workshop should be helpful for your FY 98 training/travel funding consideration, so please disseminate this information to all installation DPW personnel.

An information packet containing pre-registration and survey forms will be distributed within the next few months. Please seize this opportunity and participate, so that we can all make this workshop a great success.

☎ If you have any questions or suggestions, please contact Tom Pitchford at (804) 862-3000, ext 4059, FAX: (804) 733-378, or e-mail: tom.pitchford@cpw01.usace.army.mil. **PWD**



Engineers! Camp Zama wants you!

The Directorate of Engineering and Housing, Camp Zama, Japan, is looking for two general engineers, both GS-11. This directorate designs roughly \$8 million worth of repair and maintenance projects annually, and there is a lot of varied and challenging work.

The first position (Announcement No. Z-37-97-A) is in the Engineering and Services (EP&S) Branch. Major duties include guiding and assisting Japanese branch engineers, architects, and administrative personnel. No knowledge of Japanese is required. The EP&S Branch is responsible for providing engineering drawings, speci-

fications, and cost estimates to support repair, maintenance, and minor construction of real property facilities within the 17th Area Support Group. The duties of this position include:

- Helping to formulate individual project scopes-of-work, budget estimates, and project timelines for contract preparation activities.
- Preparing and reviewing project documents for technical and practi-

- cal completeness and accuracy.
- Coordinating designs between Japanese designers and American customers.
- Assisting the Branch Chief in daily operations.

The second position (Announcement No. Z-60-97-A) is in the Real Property Planning Branch. The major duty is to be the Chief of the Master Planning Section, providing indirect supervision to a professional and technical staff performing a variety of master planning functions for the 17th ASG. The Real Property Planning Branch is responsible for planning, programming, coordinating, and executing the real property master plan and associated major construction programs. The work involves all facilities engineering functions for which the command has responsibility. This position also requires developing the technical requirements and the concept designs for all mobilization and contingency plans.

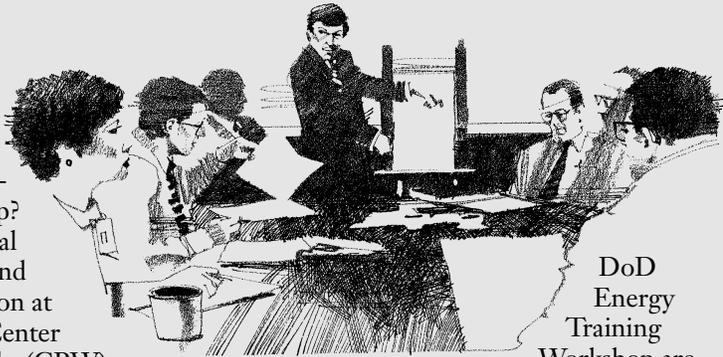
There are numerous perks that make these two jobs especially attractive. First is the American-style housing, which is provided rent free, on-base, and includes utilities (except telephone) and cable TV. Employees also get commissary and PX shopping privileges, and children can attend on-base schools (K-12). Camp Zama has a golf course, bowling alley, gymnasium, arts and crafts center, and numerous restaurants. While the Japanese train system is probably one of the best in the world, contrary to popular opinion, cars are not expensive. Finally, there is a cost of living allowance.

Overall, a 3-year tour in Japan can be a very rewarding experience both in work and your personal life. If you're interested in applying for one of these positions, please visit your personnel office.

☛ If you have any questions, please e-mail Alan Huntley, Chief, EP&S Branch, at: HuntleyA@Zama-emh2.army.mil or APAJ-GH-EH-E-ES1@Zama-emh1.Army.MIL or FAX: 011-81-462-52-1242. **PWD**

CPW offers conference, meeting, and workshop support

Are you planning a conference, meeting or workshop? The Professional Development and Training Division at the US Army Center for Public Works (CPW) can help. We will:



DoD
Energy
Training
Workshop are

only a few examples of the conferences the Professional Development and Training Division supports.

General information required to accomplish our services includes the type of meeting, dates, time and location as well as audio/visual requirements, transportation, and number of meeting rooms. Our primary focus is in the Washington, D.C., area, but we can support other locations.

☛ If you're interested in finding out what we can do for your conference, meeting, or workshop, please contact Jim Ott at (703) 428-7587 DSN 328, e-mail: jim.f.ott@cpw01.usace.army.mil or Tom Cook at (703) 428-6036 DSN 328, e-mail: tom.f.cook@cpw01.usace.army.mil. **PWD**

- 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.
- Provide administrative support (welcome letters, reproduction of materials).

We can provide these services to anyone within CPW and non-CPW agencies within the Washington DC area for a fee. The DPW Training Workshop, "Army Day" at the Professional Housing Management Association Seminar (PHMA), the Combined User's Workshop, and the



USACPW Training Schedule

Here's the USACPW third and fourth quarter training schedule! To register for a USACPW course, please fax a copy of your completed DD Form 1556 to the registrar at (703) 428-7541 DSN 328, or mail a copy to Center For Public Works, ATTN: CECPW-FT (Registrar), 7701 Telegraph Road, Alexandria, VA 22315-3862.

If you have any questions concerning course descriptions and prerequisites, please contact the registrar at (703) 428-7593 DSN 328 or e-mail: cpw-ft.registrar@cpw01.usace.army.mil.

FY 97 USACPW Third and Fourth Quarter Training Schedule

Date	Course	Location
March	3-14 Mar 97	Army Housing Operations (101-701).....USAREUR
	4-6 Mar 97	IFS-M Real Property (507-002).....Kingman Bldg, Alexandria, VA
	10-13 Mar 97	Job Order Contracting Basic Course (450-704)..... "Canceled"
	17-20 Mar 97	USAREUR Homes QueryUSAREUR
	17-21 Mar 97	Community Homefinders Relocation Referral Service (CHRRS 140-002)Holiday Inn, Fair Oaks, VA
	18-21 Mar 97	IFS-M Job Cost Accounting (506-002)Kingman Bldg, Alexandria, VA
	24-27 Mar 97	IFS-M Job Cost AccountingUSAREUR
	*25-27 Mar 97	DPW Functional Course Dry Run—Invitation Only (340-000).....Comfort Inn, Springfield, VA
31 Mar -4 Apr 97	Army Housing Mid-Level Management (112-002).....Days Inn, Springfield, VA	
April	7-11 Apr 97	Engineered Performance Standards (503-002)Kingman Bldg, Alexandria, VA
	7-18 Apr 97	Public Works Management Orientation Course (310-003).....Comfort Inn, Springfield, VA
	*7-18 Apr 97	Army Housing Operations (101-003).....Days Inn, Springfield, VA
	8-10 Apr 97	Job Order Contracting Advanced Course (451-002).....Holiday Inn, Fair Oaks, VA
	14-17 Apr 97	IFS-M Work Estimating (510-002)Kingman Bldg, Alexandria, VA
	14-17 Apr 97	IFS-M Job Cost AccountingUSAREUR
	14-17 Apr 97	Job Order Contracting Basic Course (450-003).....Holiday Inn, Fair Oaks, VA
	18 Apr 97	IFS-M Customer ServiceUSAREUR
21-25 Apr 97	Army Housing Mid-Level II Management (112-702)USAREUR	
28-30 Apr 97	IFS-M Contract AdministrationUSAREUR	
May	5-6 May 97	Basic SQL For IFS-M (502-002).....Kingman Bldg, Alexandria, VA
	5-7 May 97	IFS-M Contract AdministrationUSAREUR
	5-16 May 97	Army Housing Operations (101-002)Kingman Bldg, Alexandria, VA (Overnight Stay) Days Inn, Springfield, VA
	6-8 May 97	Job Order Contracting Advanced Course (451-702)On-Site Avail
	7-9 May 97	IFS-M Real Property (507-003)Kingman Bldg, Alexandria, VA
	12 May 97	IFS-M Customer ServiceUSAREUR
	12-15 May 97	Job Order Contracting Basic Course (450-705).....Marine Corps, Quantico, VA
	13-15 May 97	IFS-M Real Property.....USAREUR
	13-16 May 97	IFS-M Job Cost Accounting (506-003)Kingman Bldg, Alexandria, VA
	19-23 May 97	DPW Functional Course Pilot Course—Invitation Only (340-00).....Comfort Inn, Springfield, VA
20-22 May 97	IFS-M Real Property.....USAREUR	





FY 97 USACPW Third and Fourth Quarter Training Schedule (continued)

	Date	Course	Location
June	2-3 Jun 97	<i>Basic SQL For IFS-M</i>	USAREUR
	2-6 Jun 97	IFS-M For Senior DPW Managers (508-002)	Kingman Bldg, Alexandria, VA
	2-13 Jun 97	<i>Public Works Management Orientation Course (310-702)</i>	USAREUR
	4-5 Jun 97	<i>Basic SQL For IFS-M</i>	USAREUR
	9-13 Jun 97	DPW Skills Course Dry Run—Invitation Only (350-000)	TBD
	16-19 Jun 97	Job Order Contracting Basic Course (450-706)	On-Site Avail
	*24-25 Jun 97	IFS-M Customer Service (505-002)	Kingman Bldg, Alexandria, VA
July	8-10 Jul 97	Job Order Contracting Advanced Course (451-003).....	Holiday Inn, Fair Oaks, VA
	14-18 Jul 97	IFS-M Supply (509-002).....	Kingman Bldg, Alexandria, VA
	14-17 Jul 97	Job Order Contracting Basic Course (450-004).....	Holiday Inn, Fair Oaks, VA
	*14-25 Jul 97	Public Works Management Orientation Course (310-004).....	Comfort Inn, Springfield, VA
	22-24 Jul 97	IFS-M Contract Administration (504-002).....	Kingman Bldg, Alexandria, VA
	28 Jul -1 Aug 97	DPW Functional Course (340-001-97).....	Comfort Inn, Springfield, VA
	*28 Jul -8 Aug 97	Army Housing Operations (101-004)	Kingman Bldg, Alexandria, VA (Overnight Stay) Days Inn, Springfield, VA
August	5-7 Aug 97	Job Order Contracting Advanced Course (451-703)	On-Site Avail
	*11-15 Aug 97	Advanced SQL For IFS-M (501-002).....	Kingman Bldg, Alexandria, VA
	11-15 Aug 97	<i>Public Works Management Orientation Course (Panama Specific Presentation) (310-703)</i>	Panama
	11-15 Aug 97	Army Housing Facilities (150-002)	Holiday Inn, Fair Oaks, VA
	11-14 Aug 97	Job Order Contracting Basic Course (450-707)	On-Site Avail
	18-22 Aug 97	Army Housing Mid-Level Management (112-004) Tentative Based on Enrollment.....	Days Inn, Springfield, VA
September	8-12 Sept 97	<i>Advanced SQL For IFS-M</i>	USAREUR
	8-12 Sept 97	<i>IFS-M for Senior DPW Managers</i>	USAREUR
	15-26 Sept 97	<i>Army Housing Operations (101-702)</i>	USAREUR

NOTE: There are several courses still under development. As soon as they are available for enrollment, we will make changes to the schedule. Look for any updates on the world wide web at <http://www.usacpw.belvoir.army.mil>. Hard copy changes will also be sent to MACOM's for distribution.

* Dates and locations are subject to changes.

NOTE: Courses listed in italics are for USAREUR ATTENDEES ONLY. **PWD**

Public Works

Digest

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BG Anderson speaks to garrison commanders



1996 Army Environmental Awards



AEC transfers restoration projects & funds to MACOMs



Fort Jackson's storage cooling systems keep energy costs down



Fort Irwin's Field Card protects environment



APG converts to dual fuel use