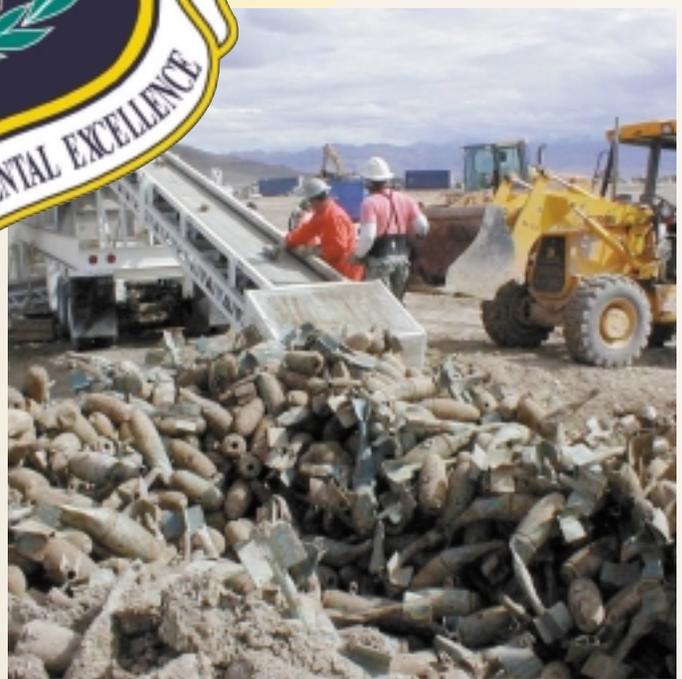


Air Force Center for Environmental Excellence Fiscal Year 2002 Annual Report





Air Force Center for Environmental Excellence

ORGANIZATION

The Air Force Center for Environmental Excellence, with headquarters at Brooks City-Base, Texas, is a field-operating agency of the Office of the Air Force Civil Engineer. A civilian director, a member of the Senior Executive Service, heads AFCEE. The director is assisted by an Air Force colonel who serves as both executive director and commander of the Center's military personnel.

MISSION

AFCEE provides Air Force leaders with the comprehensive expertise they need to protect, preserve, restore, develop, and sustain our nation's environmental and installation resources.

As the Air Force's premier environmental service center, it offers commanders a full-range of technical and professional services in the areas of environmental restoration, pollution prevention, natural and cultural resources conservation, design and construction management, and comprehensive planning.

Also, AFCEE advances excellence in Air Force installations in its role as the service's center of expertise for architecture, interior design, medical facility design and construction management, and military family housing.

PERSONNEL

The agency employs close to 400 persons, 49 of which are military members. The majority of AFCEE personnel have degrees in engineering and the sciences, as well as in such diverse fields as architecture, archeology, planning, and business administration. AFCEE relies also on contractor employees who provide technical assistance in computer operations, data management, and other vital functions.

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From the Director:

Someone once said that the road to success is always under construction. That's as it should be. No one can afford to sit back and be satisfied with what they accomplished yesterday.

We certainly don't take our past successes for granted here at the Air Force Center for Environmental Excellence. Year after year our team of in-house and contractor-partner professionals continue to work smarter, harder, and with much enthusiasm and dedication to provide our customers with the very best services and products. Innovation and creativity are evident to me every day.

As an Air Force agency in a time of great change we cannot be complacent. We are barely into this new century and there will, no doubt, be new challenges as well as new opportunities ahead, particularly when Air Force leadership asks us to take on new roles.

For example, we are now actively engaged in homeland defense and force protection, lending our contracting expertise to support projects and programs that enhance the physical security of U.S. personnel, property, and equipment – both in our nation and abroad. Who would have foreseen this line of business for AFCEE before September 11, 2001?

I'm not sure what the new fiscal year will bring, but what is clear is that FY 2002 was a very successful time, and I know that regardless of what comes our way we will continue with that success.

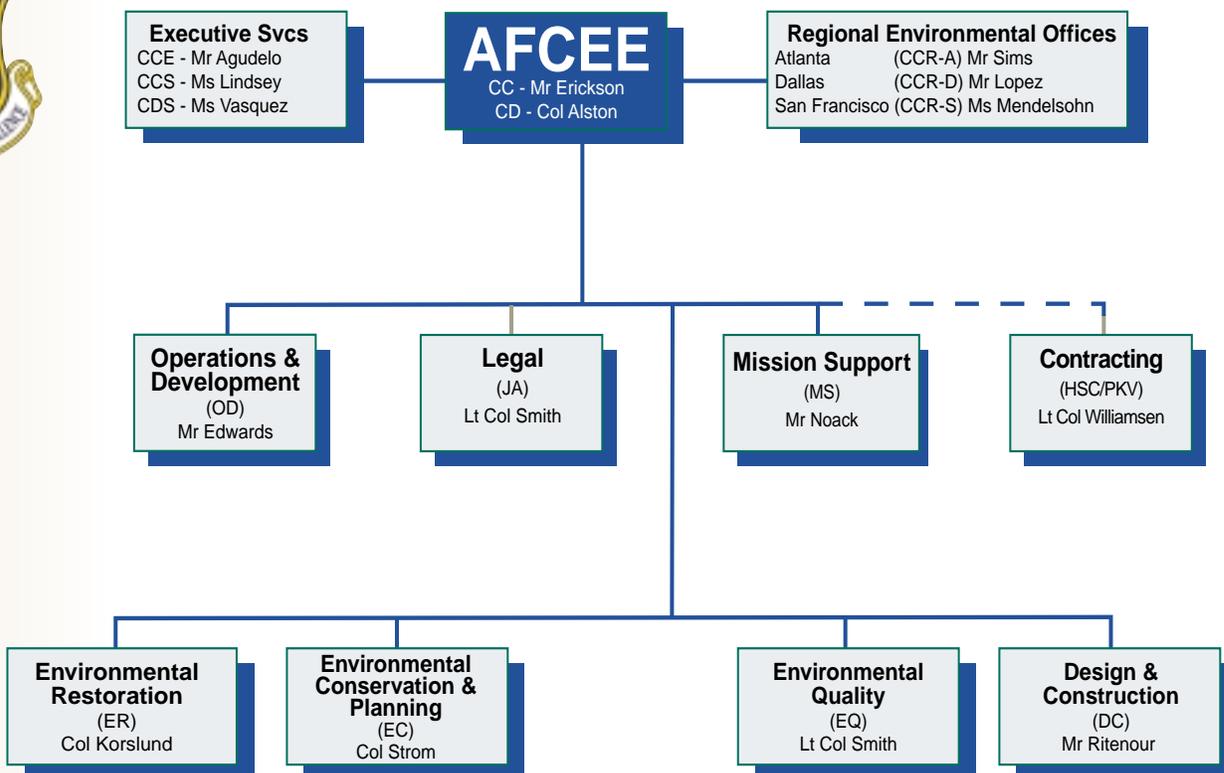
So my congratulations and thanks to our great AFCEE team for another remarkable year. My appreciation goes out to everybody who makes our agency the best environmental service center in the Department of Defense.

Thanks, also, to you our customers. Your faith in our abilities provides us with the opportunities to not only succeed but to excel as well. We appreciate your business and look forward to serving you.

Gary Erickson, P.E.
Director



The AFCEE Organization



FY 2002 Highlights

The past fiscal year was filled with many successes produced by the innovation and hard work of the AFCEE staff, more often than not in partnership with contractor colleagues.

■ In the area of environmental restoration, a massive cleanup was begun to remove hazardous and radioactive waste from a nearly two-acre site at the former McClellan AFB in California. The presence of plutonium in the area has given the project a high profile and drawn the attention of local, state, and federal officials.

At the Fort Worth Naval Air Station Joint Reserve Base – the former Carswell AFB, Texas – AFCEE managed the installation of what is considered the longest permeable reactive barrier (PRB) in the world. It is being used to treat a trichloroethene (TCE) plume contaminating groundwater at a site there.

Testing of innovative technologies and methods has always been an AFCEE hallmark. Projects in FY 2002 ranged from using fish bones to treat lead-contaminated soil to applying food-grade vegetable oil to reduce trichloroethene (TCE) contamination in groundwater.

■ AFCEE assisted major commands with on-time and within-budget environmental impact statements and environmental assessments for a number of critical projects, including an EIS for deactivation of the Peacekeeper missile system and an EA for installation of MILSTAR fixed communication stations of the military satellite communications system.

■ The Office of the Air Force Secretary for Public Affairs presented AFCEE with the Air Force 5-Star Web Site Award, designating the Center's Web page as the best in the Air Force for 2001.

AFCEE's FY 2002 Program

(In thousands)

The following figures include the value of projects obligated in FY 2002 plus ongoing work carried over from previous years.

Organization

Aeronautical Systems Center	\$30
Air Combat Command	1,112,238
Air Force Center for Environmental Excellence	142,825
Air Force District Washington	3,177
Air Education and Training Command	994,833
Air Force Institute, Safety and Occupational Health Risk Analysis	230
Air Force Materiel Command	770,203
Air Force, Office of the Civil Engineer	26,663
Air Force Real Property Agency	514,959
Air Force Reserve	12,954
Air Force Special Operations Command	10,663
Air Force Space Command	326,442
Air Mobility Command	688,514
Air National Guard	6,583
Pacific Air Forces	377,247
U.S. Air Force	4,550
U.S. Air Force Academy	43,096
United States Air Forces Europe	77,961
Army	19,041
Defense Agencies	123,854
National Aeronautics and Space Administration	5,762
Third Party Sites	524
Other	79,167
Total	\$5,341,516



Environmental Restoration Directorate (ER)

(Tel: 210.536.3383/DSN 240.3383)

The Environmental Restoration (ER) Directorate's mission is to offer its customers a full range of environmental cleanup activities. ER is comprised of the Base Conversion Restoration, Consultant Operations, Environmental Restoration, and Technology Transfer divisions. Additional ER offices are located in Alaska, Hawaii, and Massachusetts. To support Air Force needs, our customer support base has increased to include the Defense Energy Support Center and the Defense Logistics Agency.

ER serves as the focal point for restoration, compliance, new remediation technology research, and data quality assurance. The services it provides include remedial investigation, remedial designs, remedial action and long-term maintenance operations, and monitoring for active and designated closure/conversion bases.

To ensure the highest quality services, ER performs technical oversight of each environmental program, a process that includes laboratory quality assurance assessments, field oversight, document reviews, and advice and guidance in selecting remediation technologies. In addition, remediation technology services provide ER customers with evaluations, applications, and transfer from laboratory to the field of both standard and innovative technology solutions. With this wide range of services, customers are assured continued dedicated quality and service – two things for which ER has become known.

As the largest AFCEE directorate, ER performed 1,176 contracting actions totaling more than \$530 million in FY 2002. It has an ongoing program of almost \$1.5 billion.



Workers at a groundwater remediation project.

Base Conversion Restoration Division (ERB)

(Tel: 210.536.5255/DSN 240.5255)

ERB's mission is to clean up contaminated sites at federal bases undergoing closure or realignment. The division seeks those methods that will help it do its job quicker, more effectively, and at lower cost to taxpayers. The focus is always on a smooth transfer of property from Air Force to local control, allowing civic leaders to reuse and develop an installation in ways that will benefit the community. In the course of doing its work, ERB deals with regulators and officials at all levels of local, state, and federal governments – making the division's mission even more challenging.

Testing innovative technologies

As part of the ongoing environmental cleanup at the former Williams AFB near Phoenix, Arizona, AFCEE, BEM Systems, Inc., and subcontractor Praxis Environmental Technologies, Inc., are testing an innovative technology called thermal-enhanced extraction (TEE) which may dramatically expedite regulatory closure and save substantial costs on groundwater remediation, possibly as much as \$23 million.

After more than fifty years as a pilot-training facility, the base was closed in 1993 under the federal base realignment and closure (BRAC) program. The 4,127-acre installation was to have been turned over to new owners for civilian development, but extensive soil and groundwater contamination caused it to be listed on the National Priorities List (Superfund) as a hazardous-waste site. One of the remaining areas of concern is the former liquid fuels storage area, where from 1942 to the early 1980s more than half a million gallons of aviation gasoline and jet fuel were released from storage tanks and distribution lines, contaminating the groundwater and soil with benzene, toluene, ethylbenzene and xylenes (BTEX), and other contaminants.

Remedial attempts, which included pump-and-treat and horizontal sparging wells, were moderately successful but did not remove enough of the fuel contaminant source to achieve the regulatory goals. Meanwhile, the water table at the site rose by some 40 feet in the past ten years, making it harder to remove the contaminants. It also prompted sharply differing views as to the best cleanup method. The Environmental Protection Agency favored an aggressive but expensive steam injection treatment while the Air Force preferred an expansion and enhancement of the soil vapor extraction system already in place.

The TEE technology, based on technologies developed and demonstrated by Praxis and now under joint implementation with BEM, captures the benefits of both approaches. The aim of TEE is to protect and restore groundwater quality by extracting and degrading the non-aqueous phase compounds of concern (COC) through a synergistic combination of soil-vapor extraction, steam/air injection, bioventing, and liquids extraction. This process allows the dissolved phase COCs to naturally degrade in a much shorter time period than previously projected.

ERB has finalized a contract to implement the TEE system pilot study. If it proves effective, the estimated total cost of remediation would be under \$7 million, a fraction of the anticipated \$20 to \$30 million cost for the conventional steam injection method.

Cleanup project expedited

AFCEE completed the Operable Unit-1 (OU-1) Removal Action for contaminated soils at the former Richards-Gebaur AFB near Kansas City, Missouri. The “Big Dig” was truly a Herculean effort, with one contractor (URS) digging, and another (CH2M HILL) sampling. When the decision was made to leave the many holes open until clean results came back, it was imperative that all analysis and validation be done in record time. CH2M HILL, working closely with URS, expedited the removal of more than 65,000 tons of petroleum- and lead-contaminated soil by developing an innovative data tracking software package known as Validated Data Management System, Version 2 (VDMS2). This system provided rapid, automated data validation and reporting of post-excavation analytical results, allowing Air Force risk managers to make prompt and defensible removal action decisions.

The contract laboratory, Columbia Analytical Services (CAS), completed sample analysis and typically forwarded the results electronically to CH2M HILL chemists within two to four days of receiving the soil samples. Minutes after receiving the analytical data, the VDMS2 program created a summary report that was instantaneously e-mailed to project chemists for review and verification. The reports fully summarized the analytical data, determined whether analytical results achieved accuracy and reliability criteria, and highlighted data that indicated contaminant concentrations exceeding project action levels. Reports indicating that action levels were exceeded were generated and distributed via e-mail to the project team. From a practical perspective, if the reported chemical concentrations exceeded project cleanup goals, excavation continued; if concentrations did not exceed cleanup goals, the excavations in question could be backfilled and the project moved forward.

Using VDMS2 meant that validated sample results reached the Air Force team generally within three to five days of sample collection. This rapid turn-around of analytical data – as opposed to the normal two- to four-week turn-around times for sample analysis and reporting – allowed efficient closure of open excavations. By minimizing the time during which excavations remained open, the expedited data validation process reduced final excavation volumes, allayed health and safety concerns, and saved Air Force time and money.

Approved record of decision at O'Hare

Teamwork involving the Air Force, the EPA, the Illinois Environmental Protection Agency (IEPA), and the City of Chicago expedited the transfer of ownership of the former O'Hare Air Reserve Station to the city for redevelopment. Originally developed as Orchard Place Airport in 1942 to support the WWII war effort, the facility was approved for closure in 1995 under the BRAC process. Redevelopment of the former ARS is expected to generate approximately \$3.2 billion in revenue for the city over the next 15 years.

From 1996 to 2002, AFCEE and contractor Montgomery Watson Harza (MWH) conducted extensive environmental studies and remedial actions in support of base closure. Tasks included preparing environmental baseline surveys, remedial investigations, and engineering evaluations/cost analyses; the development of removal action work plans, quality project plans, and construction completion reports; and the implementation of six removal actions.

Once the remedial objectives were achieved, AFCEE and MWH developed a feasibility study that recommended institutional controls to limit the property to industrial/commercial purposes and prohibit future groundwater use. In May the proposed plan was published and a public comment period was conducted. Afterward, the Record of Decision (ROD) was developed and signed by the Air Force and EPA on September 30 and



Cleanup work at O'Hare Air Reserve Station in Chicago.



A worker investigates the O'Hare sanitary sewer system for contamination.



the IEPA on October 14. With this process completed, the Air Force developed a Finding of Suitability to Transfer (FOST) and deeded the property to the city for redevelopment.

The O'Hare ARS project team included AFCEE team chief Charles A. Rice, P.E.; David Strainge, Air Force Base Conversion Agency (now the Air Force Real Property Agency, or AFRPA) base environmental coordinator; and Robert A. Adams, P.E., Robert Kewer, Robert Suda, Jonathan Pohl, and Travis Klingforth of MWH.



The O'Hare team at a meeting.

Norton 2002 water supply contingency program revised

In 1993 the Air Force signed the Central Base Area (CBA) Operable Unit (OU) Record of Decision (ROD) to address the on-base and off-base trichloroethylene (TCE) plume at Norton AFB, California. The off-base TCE plume affects a domestic water aquifer. As part of the ROD, the Air Force entered into the 1993 Water Supply Contingency Policy (WSCP) agreement with local water purveyors. The agreement provides for plume characterization, routine monitoring, and eliminating impacts of the off-site TCE plume on the domestic water-producing aquifer.

The WSCP was initially revised in 1995. AFCEE supported the 2002 revision by which incorporated many of the advancements the Air Force has made in characterization and monitoring. The revisions, made with the input and approval of the local water purveyor, included:

- Using the current conceptual model to establish the off-base plume monitoring well network and sampling frequency, which reduced the number of sampling events from 436 to 159 annually; and
- Designing the monitoring of domestic production wells in the plume affected off-base aquifer based on the current site model, thus reducing the number of production well sampling events from 196 to 68 annually.

The revised 2002 WSCP meets the CBA OU ROD goals and the local water purveyor's expectations while reducing effort and costs for the Air Force.

Work under the 'big top'

Contractors for an AFCEE-managed project are digging up soil and old metal drums to rid a nearly two-acre disposal site of radiological and chemical contamination at the former McClellan AFB near Sacramento, California. The area, called Confirmed Site (CS) 10, was the repository for industrial, radioactive, and other hazardous wastes from a variety of activities at McClellan, including the Technical Operations Division laboratory that monitored the Nuclear Test Ban Treaty. The work is being done both mechanically and manually. An excavator tractor removes soil in one-foot lifts until a drum is encountered, and then workers take over, digging the container out by hand the rest of the way. This is done to minimize content spillage.



A huge tent covers a soil and metal drum removal project at the former McClellan AFB, California.

A weatherization tent, believed to be the largest freestanding aluminum-frame tension-fabric structure in the world, was erected to protect the site from the elements. The tent saves money and speeds up removal by allowing work to continue even in adverse weather. Also, by serving as a rain shelter, the tent avoids costs that would be incurred to treat rainwater runoff from contaminated areas. Other health and safety measures include fans that keep the air circulating and vent heavy equipment engine exhaust from the tent. Filters reduce the potential for airborne contaminant migration.

The CS 10 project involves 37 field personnel – equipment operators, laborers, and samplers – who work under the tent. They share their workspace with seven pieces of mobile equipment and numerous bins that hold excavated materials. Additionally, 20 other workers stage and transport the waste removed from the site. Another 17 people work in other support areas, including the state-of-the-art radiological and chemistry laboratories set up next to the site to speed up the sample-analysis process.

The presence of plutonium at CS 10 has given the project a high profile in the community, garnering the attention of the governor's office, state, and local elected officials, as well as federal and state regulators, and top Department of Defense officials.

Support for the former Kelly AFB

The community involvement program at the former Kelly AFB, Texas, has been an aggressive one, exceeding legislative and regulatory mandates and intent. It has addressed urgent public concerns about cleanup, environmental health, property values, and environmental justice. Tailored to the Hispanic neighborhoods in the Kelly area, the program distributes bilingual publications and provides simultaneous translations at public meetings, and efforts are made to reach out to the Spanish-language media. The program has also established bilingual local and toll-free hotlines, providing greater ease of access to information.

Examples of accomplishments in FY02 include holding seven public workshops to educate and inform the public about groundwater contamination and the cleanup technologies that are available to treat the contaminants. The workshops focused also on regulatory criteria for choosing a cleanup option, and participants were asked to address their own criteria. With this information the AFRPA was able to select the preferred cleanup remedy and then held a public meeting to discuss the option, thus ensuring a greater acceptance of the remedy by the public and government officials.

AFCEE sponsored, also, a three-day, EPA environmental justice course that was attended by government and community members. In addition, AFCEE representatives served on the advisory group that published a brochure founded by an EPA environmental justice grant. As a result of this publication, additional Kelly-area residents were encouraged to attend free health screening at an environmental public health clinic. The Air Force formed a partnership with the local health department to advise community members, many of whom believe that contamination from the former Air Force base has affected their health. This partnership helps the Air Force determine if community health issues are related to Kelly contamination and if the cleanup-remedies-in-place are protective of human health and the environment.

AFCEE executed approximately \$27 million in requirements for Kelly in FY02. A wide variety of contracts were awarded for a number of projects at the installation. One was for inspecting and properly plugging privately owned, abandoned shallow wells. Although generally the responsibility of individual property owners, the AFRPA, through AFCEE, plugged approximately 60 off-base wells to reduce the risk of exposure and prevent additional contaminants from entering the shallow groundwater.

AFCEE awarded an innovative contract for a 650-foot long, 40-foot deep (PRB) along the Kelly base boundary to prevent further migration of contaminated groundwater under the neighboring community. The PRB was filled with 771 tons of iron filings that chemically remove solvents from the groundwater. Contracts to install two additional PRBs in FY03 were awarded also in FY02.

Final work at Gentile

The No Further Action, Final Decision Document was signed on September 11 for the last remaining excavation sites at Gentile Air Force Station in Kettering, Ohio. Unlike many projects, everything came together in a most unusually successful way, with even the weather cooperating. What made this project so successful was the close-knit work of the ERB and the Contracting Division staffs, who did their part in the project and financial planning aspects, and the cooperation of the City of Kettering and Ohio regulators. The most credit, however, goes to the contractor's field crew who coordinated and executed the work superbly, resulting in the project coming in ahead of schedule and under budget.

AFCEE actions were key to attaining the last remedy in place (LRIP) project for Parcel E at Gentile. In May the AFRPA asked AFCEE to award a \$2.2 million contract, stipulating that cleanup of contaminated soils and groundwater at the site be completed in just four months. Normally, a project of this scope would require at least nine months of lead-time prior to contract award. AFCEE responded to the challenge and met the AFRPA goal using these innovative and aggressive actions:

- Selected an "on-board" Environmental Remediation and Construction (ENRAC) contractor who understood the urgency and was committed to meeting completion goals;
- Verbally scoped out the work with the contractor before issuing a written statement of work;
- Streamlined fact-finding by reviewing the contractor's costs within two days of proposal receipt;
- Awarded site startup actions separately with a "not-to-exceed" limit, allowing the site work to be started before the total contract was awarded;
- Used available in-house assets to provide additional field oversight;



- Provided close and constant technical assistance to resolve field difficulties; and
- Used contract support to provide expedited data validation of laboratory results.

These initiatives allowed Parcel E remediation to be completed on September 3 – within five weeks of the start of fieldwork. The final fieldwork inspection was actually done earlier than the award of the total contract.

Eaker property transferred

Three FOSTs were sent to EPA Region 6 and the Arkansas Department of Environmental Quality for nine parcels of land at the former Eaker AFB. The purpose of a FOST is to document environmentally related findings and determine the suitability to transfer the ownership of property by deed from the Air Force to a qualified recipient. By working closely with the AFRPA and federal and state regulators, ERB's goal of helping to finalize the last three Eaker FOSTs before the end of FY02 was realized in September. These parcels, totaling 1,872 acres and consisting of the commercial and weapons-storage areas and airfield properties, were transferred to the Blytheville-Gosnell Regional Airport Authority.

Chanute restoration work continues

Waste consolidation and capping of two landfills at Chanute AFB, Illinois, highlighted the environmental restoration activities that took place through ERB's efforts in FY02. The soil for the landfill caps was obtained from land owned by the Village of Rantoul. The pond resulting from the removal of the soil in the area will become part of the village's storm-water drainage system and be used as a recreation area.

Restoration work at Chanute continues at a sound pace with two additional landfills requiring caps and three remedial investigations under way. Another ERB FY02 initiative was to develop and implement an installation strategy and schedule for achieving LRIP by the end of FY05.

Solar power put to work at Castle

Innovative technology and proactive plume management are speeding up the groundwater remedial action at Castle Airport in California's Central Valley. The use of innovative technology – in the form of a solar-powered mobile groundwater treatment plant – is enabling the Air Force to pursue and clean up isolated contamination. The result is faster response, reduced costs, and better protection of the drinking water used by the nearby town of Atwater.

The Castle solar wagon is essentially a miniature, portable groundwater treatment plant. Trailer mounted, the solar wagon consists of a motor and pump and a granular activated carbon treatment vessel. The system is powered by a photovoltaic solar panel array. Castle's location, with its average of 330 days of sunshine annually, is ideal for off-grid solar applications.

Bergstrom site closed

In FY02, a deed certification was processed for a suspected solvent disposal site and submitted to the EPA and state regulatory agencies for approval. The document notifies the public that the site was closed to industrial cleanup standards in concert with the existing Austin-Bergstrom International Airport operations; however, some contamination does remain in the soil. Consequently, if future landowners want to build houses on the site, they will have to clean it up to residential standards. AFRPA adopted the language of the deed certification as a template for similar TCE and landfill notices at other BRAC bases.

Other Bergstrom highlights for FY02:

- Pump and treat, air sparging, and soil vapor extraction remediation systems lowered TCE plume levels from an average of 230 parts per billion to an average of 35 ppb. This reduction also brought the level of TCE that had, in the latter part of FY01, started to leave the base to below the maximum contaminant level (MCL) of 5 ppb.
- A BRAC Cleanup Team (BCT) meeting was held in April to determine a cleanup strategy for the TCE plume cleanup based upon the results noted above. The BCT decided to run the remediation systems for another year. The team expects cleanup objectives for the site to be reached in FY03, based on the results of the current remediation systems' performance. At that time the site could either be officially closed or reach operating properly and successfully (OPS) status.

Longest permeable reactive barrier installed at Carswell

A 1,100-foot PRB, the longest in the world, was installed at the Fort Worth Naval Air Station Joint Reserve Base – formerly Carswell AFB – to treat a TCE plume contaminating groundwater at one of the sites there.

Preliminary water samples show very positive results.

Risk assessment clears England site

A \$25,000 risk assessment made at a former fire-training area on England AFB, Louisiana, convinced regulators that a remedial action project estimated at a cost of \$800,000 was not needed at the site.

LRIP at Newark

The assignment of an AFCEE field engineer as the BRAC environmental coordinator for Newark AFB, Ohio, was key to completion of environmental programs that led to the final decision document and LRIP status for Installation Restoration Program Site LF02 at the base. AFCEE-AFRPA cooperation made possible this very important LRIP goal.



The largest permeable reactive barrier in the world is installed at the former Carswell AFB, Texas.

Consultant Operations Division (ERC) (Tel: 210.536.5244/DSN 240.5244)

The Consultant Operations Division (ERC) has been instrumental in helping Air Force bases worldwide meet their requirements. Maj. Darrin Curtis and his team of world-class consultants in the specialties of toxicology, engineering, chemistry, and geology have exceeded customers' needs from coast-to-coast and continent-to-continent. Following are just a few of the division's many accomplishments in FY02.

TCE update

The ERC technical staff worked with the Air Force Institute for Environmental Risk Assessment (AFIERA), providing state of science information to Air Force senior leadership about the health effects of TCE and remediation approaches. For example, the staff briefed the DoD Environment, Safety and Occupational Health policy board on technical concerns and potential impact of anticipated regulatory changes based on the revised EPA document *Trichloroethylene Health Risk Assessment: Synthesis and Characterization*. The staff also took part in a formal review of the document and briefed the EPA's chief scientist on the results of the review, describing the technical improvements that needed to be made to the document.

GEITA brings new contractors

ERC spearheaded the landmark five-year, \$150 million Global Engineering, Integration, and Technical Assistance (GEITA) acquisition, which brought in new contractors to provide high-level advisory and assistance services. The GEITA acquisition was conducted as a best value-full tradeoff source selection resulting in two full-and-open and two small business set-aside awards. Under the new GEITA platform, Booz-Allen & Hamilton, Inc; DynCorp Systems and Solutions, LLC; Portage Environmental Inc; and TEAM IE, Inc., provide management and professional support services, studies, analyses and evaluations, and engineering and technical services in support of AFCEE's worldwide mission.

Office to become optimization center of expertise

Together with the Technology Transfer Division, ERC has established a program office to become the center of expertise for Air Force remedial process optimization (RPO) support. RPO is a systematic approach for evaluating and improving the effectiveness and efficiency of site remediation programs so that the maximum risk reduction is achieved for each dollar spent. It is an effective way to evaluate remedial actions, optimize the performance of remediation systems, reduce operating costs, and focus activities on the goal of site closeout. This office will be the consolidated focal point for RPO support, repository of RPO information, and provide cradle-to-grave execution strategy to the Air Force and its major commands.

Audits ensure data quality

In FY02, ERC's chemistry lab audit team audited more than 30 analytical laboratories performing work for AFCEE programs both nationwide and abroad. The purpose of the audits is to ensure the quality of data generated by these laboratories. The ERC lab audit team is respected nationwide by both federal and state regulators.

Dispute resolution solutions

ERC's toxicologists have been negotiating with California regulators on behalf of Vandenberg AFB, California, on a formal dispute over wildlife toxicity reference values, which installation officials believe are being used inappropriately by the state's Department of Toxic Substances Control. The division has worked on this issue since the beginning of the dispute, providing testimony, documentation, and other assistance to the base and its contractors.

Toxicologist assists with risk-assessment guide

ERC toxicologist Dr. Doris Anders has spent more than three years working with the EPA, the Department of Energy,



DoD, and industry representatives to develop ecological soil screening levels for environmental risk assessment. The Defense Department has put in a great deal of time and energy into this issue, making certain that the science backing decisions for screening levels is sound and defensible. Dr. Anders had a hand in developing the Draft Ecological Soil Screening Level (Eco-SSL) Guidance and Exhibits, and Related Federal Register Notice, which can be found at <http://www.epa.gov/oerrpage/superfund/programs/risk/ecorisk/ecossl.htm>.

Chemists honored

ERC chemists Burt Harrison and Dr. William H. Batschelet were members of a joint DoD team that received a FY02 Secretary of Defense Special Recognition Environmental Award during ceremonies at the Pentagon in May 2002. The two were recognized for their participation on the Environmental Data Quality Workgroup, or EDQW. The EDQW, composed of Air Force, Army, Navy, and Defense Logistics Agency representatives, is tasked with developing and coordinating environmental sampling and testing policy for DoD to ensure that the data are of the type and quality to meet DoD needs.



Burt Harrison, left, and Dr. William Batschelet received the Secretary of Defense Environmental Award.

Environmental Restoration Division (ERD) (Tel: 210.536-5231/DSN 240.5231)

FY02 was the most productive year ever for ERD. The division successfully executed 1,149 Environmental Restoration Account (ERA), Operations and Maintenance (O&M), and Defense Energy Support Center (DESC) projects totaling more than \$354 million – an increase of \$80 million over FY01. A substantial portion of the increase can be attributed to the division's work at Johnston Atoll (approximately \$40 million). This record-breaking activity brought the total value of active projects to approximately \$900 million by year's end. Contributing to this increase were the division's four largest customers: \$120 million for DESC; \$124 million for Air Force Materiel Command; \$132 million for Massachusetts Military Reservation (MMR); and \$200 million for Pacific Air Forces Command (PACAF).

Branch office opens

To better manage the PACAF workload, ERD opened a branch office at Hickam AFB, Hawaii. This new office joins the division's two other existing branch offices at Elmendorf AFB, Alaska, and Cape Cod, Massachusetts. The Hawaii staff hit the ground running, and by the end of FY02 had awarded more than \$32 million in fourth-quarter projects for the various supported bases. As civil engineering requirements continue to expand across the Pacific bases, AFCEE's Hawaii office looks forward to a long and productive relationship with PACAF headquarters.

Construction test program initiated

ERD has initiated a test program of design/build project execution in Singapore, Kadena Air Base, Okinawa, and all Korea bases. The program has been well received in the four months it has been in effect. More than \$9.1 million in design and construction projects were awarded in FY02 plus a \$3.2 million dormitory renovation straddle bid negotiation. Customers indicate that the FY03 program will be in excess of \$35.0 million. The test phase will conclude in 12 months, at which time AFCEE will determine if it will export this business line to the other Air Force major commands.

Banner year for program

FY02 proved to be yet another banner year for DESC's worldwide Maintenance, Repair and Environmental (MRE) program support with awards at \$54.4 million. Work in Korea is nearing completion, as is the work for the 505th Quartermaster Battalion on Okinawa. Support to DESC projects at Air Combat Command has been solidified, and AFCEE is becoming the service center of choice for Nellis AFB, Nevada. Workload in support of spill response also has continued to grow. In addition, a working relationship with the Air Force Civil Engineer Support Agency was initiated to investigate methods to expand and build on AFCEA's policy responsibilities and AFCEE's project execution. Another \$50 million DESC program is projected for FY03.

A clean sweep for 'Clean Sweep'

AFCEE contracting and technical teams assisted the 611 Civil Engineer Squadron with Operation Clean Sweep at Cape Lisburne Long Range Radar Station, Alaska, located 150 miles above the Arctic Circle. Clean Sweep is an environmental restoration program authorizing Environmental Restoration Account funds for demolition of inactive structures that pose health hazards to humans and the environment. Despite a delay in receipt of funds and the short arctic summer, the work was completed within budget and on time.

AFCEE helped cement a strong partnership with the Inupiat village of Point Hope by awarding contracts to Tikigaq Corporation, an Alaska Native-owned small disadvantaged business based there. The total value of the

contracts is \$13 million over three years. With the contract completed in FY02, the government saved more \$5 million with the Clean Sweep removal of all inactive facilities at Cape Lisburne.

MMR update

AFCEE and the Army Corps of Engineers helped a local water district in a time of need. In March the superintendent of the Bourne Water District on Cape Cod, Massachusetts, asked the Air Force for help because of an unexpected summer shortfall in delivery capacity for the district's 10,000 customers. AFCEE responded by providing funds for an emergency project that involved building almost three miles of pipeline to connect the water district to the Upper Cape Regional Water Supply Cooperative, a military-funded water supply project at MMR. The goal was to complete the project by July 1. A contractor for the Corps mobilized three construction teams that laid 800 feet of 16-inch pipe per day from both ends and met in the middle. On June 27 a dedication ceremony was held to mark the project's completion – less than eight weeks from the start of construction, four days ahead of schedule, and just before the beginning of the peak seasonal water demand.

Building on the success of last year's alum treatment in Ashumet Pond, the onsite staff completed a two-year-long pilot test placing iron filings on the pond's shoreline to bind with phosphorus attempting to enter the pond from the Ashumet Valley plume. The test results showing a reduction in phosphorus infiltration were so positive that the staff is considering a full-scale use of the iron filings, further improving the pond's ecological health.

The onsite staff began the EPA-required five-year review of MMR Superfund sites, a huge undertaking considering the number of such sites at the installation. The review will cover all 80 sites for which the Air Force has cleanup responsibility. The review's purpose is to determine whether previous cleanup decisions made to protect human health and the environment are still valid.

With AFCEE funding, the Town of Falmouth and the Bourne Water District each completed nearly 200 conversions of residential private wells to municipal water. This was done to reduce the potential risk of residents being exposed to contaminants from MMR plumes in their drinking water.

AFCEE entered, also, into an agreement with the boards of health of the towns of Falmouth, Mashpee, and Sandwich to pay for the cost of sampling the surface water at Ashumet, Johns, Coonamessett, and Snake ponds during the year's recreational season. Periodic sampling ensures that the ponds are safe for recreational uses. The agreement for the June – September sampling was done in consultation with the Massachusetts Department of Public Health. Sampling did not detect the contaminants of concern.

AFCEE, the Joint Program Office, and the Falmouth town utilities manager coordinated a project to construct a corrosion control facility as part of DoD's commitment to making additional drinking water available to Upper Cape Cod. DoD provided \$645,000 for the design and construction of the facility, and the system went online in late July.

One hundred monitoring wells no longer needed for the Air Force's cleanup program at MMR were closed during a 60-day project conducted by AFCEE contractors. The EPA and the Massachusetts Department of Environmental Protection reviewed and approved the list of wells for closure.

F. E. Warren treatability studies look for best technology

AFCEE will be conducting four treatability studies at F.E. Warren AFB, Wyoming, to determine which technology is best suited for cleaning up the TCE in groundwater there. All four systems will be closely monitored and data collected during the test period. The studies are:

- *In-situ submerged oxygen curtain/in-situ co-metabolic oxidation (iSOC/iMOX™)*. This is an innovative bioremediation process that delivers oxygen and a carbon source, such as propane or methane, to the groundwater. Microbes –“bugs” – that live in soil and groundwater use the carbon contained in gasoline and oils as a food source. As the microbes consume the carbon, an enzyme created and released by the microbes break down TCE and related contaminants into harmless compounds.
- *Potassium permanganate injection*. In this study, potassium permanganate will be injected under pressure into the groundwater through a series of soil borings over a grid pattern. The groundwater will then be monitored over time to determine if the technology is effectively reducing contamination levels. Potassium permanganate is a strong oxidant that has been used to treat drinking water and wastewater for several decades. The oxidation reaction between potassium permanganate and TCE results in the formation of carbon dioxide, manganese dioxide, potassium chloride, and hydrogen chloride – all of which pose no environmental concerns.
- *C-Sparger™ System*. This is another chemical oxidation process, except that it uses ozone as the oxidant rather than potassium permanganate. The system uses a combination of the ozone-contaminant reaction and the physical process of injecting air into the groundwater, called air sparging. The injection of air helps remove harmful vapors from polluted



soil and groundwater below the water table, the level of groundwater below the surface. When air is pumped underground, the chemicals evaporate faster, making them easier to remove. The system will be placed into three newly installed wells and surrounding wells will be monitored to determine its effectiveness.

- *Iron injection.* The effectiveness of an iron-filings wall has already been successfully demonstrated with the operation of a wall at a base spill site. The wall there was installed by trenching, which restricted the depth the iron could be placed. The wall in this study, however, will be injected under pressure into the groundwater through soil borings. This method allows the wall to be installed to greater depths and at less expense. When the groundwater flows through the wall the contamination reacts with the iron, causing the TCE to break down into harmless compounds. After the installation the groundwater will be monitored up and down gradient from the wall to evaluate its effectiveness.

Groundwater remediation in Florida

ERD implemented passive diffusion samplers (PDS) to monitor volatile organic compounds in groundwater at numerous long-term monitoring wells across Cape Canaveral AFS and Patrick AFB, Florida. Implementation has resulted in a 40 percent savings in sample-collection labor and waste-disposal costs. PDS data were successfully used, also, to obtain regulatory no-further-action status at two sites.

The division successfully managed the Launch Complex 17 Corrective Measures Study involving chlorinated solvent contamination in groundwater. After the ERD staff demonstrated how difficult it would be to conduct aggressive remediation at an active launch complex, regulators approved the use of monitored natural attenuation as the environmental remedy there. Use of this method saved millions of dollars in remediation costs and avoided impacts to the launch program.

Soil reuse plan saves \$10 million

ERD successfully coordinated and managed the team effort to implement a soil reuse plan that is saving the Air Force \$10 million. Environmental engineers at Lackland AFB, Texas, have chemically treated 70,000 cubic yards of lead-contaminated soil and reused the decontaminated soil as a foundation for a landfill cap. By mixing contaminated soil with a blend of environmentally safe chemicals in a process called maectite, engineers were able to stabilize the lead in the soil to prevent migration.

The treated soil is contained, and, therefore, does not pose any risks to humans or the environment. The reuse plan was the most efficient and economical course of action, benefiting the environment and taxpayers. It kept 3,500 truckloads of untreated soil off the highway, alleviating the fears of citizens who had expressed concern about hazardous waste traveling through their neighborhoods, and eliminated exorbitant transportation and disposal fees and the need to purchase additional soil for the landfill cap foundation.

Fish bones treat soil

In a study conducted at the Camp Stanley Storage Activity in Boerne, Texas, fishbone material known as apatite II was successfully demonstrated to bind lead and other materials to stable and insoluble minerals. Five hundred cubic yards of lead-contaminated soil were treated initially, resulting in reductions in lead to below the MCL. As a result, an additional 2,500 cubic yards of soils were remediated using this process.

This innovative treatment technology can be used also with lead, uranium, plutonium, cadmium, zinc, and other metals. It is an alternative to soil removal and landfill disposal, and can be used in both soil and groundwater remediation.

Project deals with unexploded ordnance

AFCEE contractor Montgomery Watson Harza conducting erosion mitigation at a landfill at Vandenberg AFB, California, had to deal with potential unexploded ordnance (UXO). The project's objectives were to mitigate erosion in a main ravine to keep landfill materials from being uncovered and to divert the water from a secondary ravine away from the landfill's surface. The plan was to install water energy dissipaters, or gabions, along the 3,000-foot length of the main ravine, but doing so required excavating into the sides of the ravine. Because the site is near a World War II munitions disposal area, however, the contractor had to develop a UXO safety plan. Using the plan as guidance, the firm's UXO specialists provided ordnance supervision, clearance, and removal.

Removal required that a 670-foot safety zone be established, with traffic from a nearby road diverted away from the area. In addition, each piece of excavation equipment was fitted with a blast shield that met military specifications. Work continues on the project, with more than 290 tons of metal debris removed and inspected for UXO. Also, over 1,600 landmines, mortar rounds, and other ordnance-related items have been inspected and

categorized for disposal. Potentially live munitions were turned over to the Vandenberg explosive ordnance disposal flight. Information on the location and types of ordnance was gathered for future use in the Vandenberg AFB Range Management Program.

No chemical agents found

An AFCEE contractor, Earth Tech, Inc., completed the excavation of four trenches, which included the removal of a six-foot-wide concrete rail system running the length of the trenches at Edwards AFB, California. The system may have been used for storing and moving materials when the yard was active. However, no chemical warfare agent or other military chemicals were detected.

Helping Brooks AFB become Brooks City-Base

ERD continued its support of the congressionally directed demonstration project to convey the federal property on which Brooks is located to the city of San Antonio, creating Brooks City-Base out of what was once an Air Force base. The division's aggressive handling of the various processes and ambitious schedules plus its ability to respond quickly to new requirements ensured that environmental requirements did not delay conveyance of Brooks AFB to the Brooks Development Authority, a branch of the City of San Antonio. Initial savings of approximately \$5 million are expected to be realized by the Air Force during the first year of the city-base's implementation.

Because of manpower changes at base level, ERD took on the role of environmental coordinator for the city-base project and was able to complete all the necessary environmental processes within a very aggressive 24 -month schedule. To do so required that compliance and cleanup efforts be done simultaneously.

ERD brought environmental regulators in at the start of the process to assure that all areas were covered prior to the Air Force entering into contracts with the city. Doing this eliminated the cost and time associated with contract modifications and then obtaining regulator approval. By getting regulator buy-in up front, ERD was able to obtain approval of the final environmental baseline survey within 30 days of submission, instead of the usual 90-plus days.

In another area, ERD and the Environmental Conservation and Planning Directorate teamed up to do the work required to protect the historical assets at Brooks before the base was turned over to the city. This included an historic building inventory and evaluation as mandated by the National Historic Preservation Act. The completed document then was reviewed by the National Park Service and the State Historic Preservation Office.

After this was done, Julia Cantrell of Environmental Conservation and Planning brought together all the interested parties, including state and local conservation officials, to develop a memorandum of agreement that would protect historical assets while allowing future development of the technology park planned for Brooks City-Base. Although such a memorandum often takes between 18 to 24 month four months to complete, Ms. Cantrell was able to finish negotiations in three months, thus keeping the city-base project on track.

Other potentially serious delays in the Brooks City-Base project were avoided by quick action on ERD's part. For example, just two months before the conveyance date the division took only two days to award a contract to analyze a possible TCE plume at a site on base. The contract required three rounds of confirmation sampling and delineation of the suspected plume. Within ten days sufficient sampling had been done to reach agreement with the regulators that the site should be close with no further action required.

Also, ERD modified an ongoing remedial process optimization contract to create a report required by the EPA before the agency could issue an Operating Properly and Successfully Certificate for a TCE cleanup system in place at Brooks. The report demonstrates to the EPA that the system is operating as designed and is protective of human health and the environment. Without the EPA certificate, conveyance could not take place. But two months after ERD submitted its report, the agency gave initial approval to the Brooks TCE cleanup project. This quick turn-around was possible, again, because of the division's partnering with federal and state regulators at the start of the process, avoiding the submission and revision cycles other installations have endured.



Ceremony marks the change of Brooks AFB into Brooks City-Base.



Technology Transfer Division (ERT) (Tel: 210.536.4331/DSN 240.4331)

The Technology Transfer Division provides evaluations and demonstrations of new emerging environmental technologies that have potential to solve Air Force requirements. New technologies are identified by the division's own efforts, contacts with others, and by direct solicitation using a Broad Agency Announcement. Technologies having significant potential benefit to the Air Force are field tested and validated. Successful technologies have protocols and design manuals developed for their implementation. The division presents its results at its annual Technology Transfer Workshop, through presentations at various conferences, and by maintaining copies of presentations and protocol documents on the AFCEE Web site and the Defense Technical Information Center.

Bioslurper at Diego Garcia

ERT prepared and is executing a cleanup plan for three fuel spill sites on the Indian Ocean island of Diego Garcia. The plan relies on the use of innovative bioslurper technology to recover fuel from the subsurface. Natural attenuation and bioventing are being used to degrade residual fuel that cannot be recovered. ERT and PACAF headquarters are currently executing the plan.

The full-scale fuel recovery systems have been in place and operating, except for system components on the aircraft parking ramp which were disconnected in late September 2001 during Operation Enduring Freedom. ERT is currently constructing a trailer-mounted, diesel-powered bioslurper system to be used on the parking ramp while air operations continue.

More than 100,000 gallons of fuel have been recovered and reused on the island. Total cost of cleanup is estimated at \$385,000. Cost avoidance benefits resulting from this project total from \$7.4 million to \$10.6 million when compared to using other methods.



Bioventing piping on the Diego Garcia flightline.

Technologies testing continues

ERT is running a number of projects to see how effective some promising new technologies are in cleaning up certain types of contamination – an effort that is part of AFCEE's Enhanced Bioremediation Initiative. Demonstrations of these technologies are continuing and technical protocols on their application are being written.

Also, the Center is leading the development of a tri-service principles and practices manual that outlines the criteria for selecting appropriate bioremediation applications and estimating their costs.

In some field tests at contaminated sites, molasses, vegetable oil, and other substrates are applied to the groundwater and soil. Naturally occurring microorganisms that “feed” on the material will then biodegrade the contaminants. Some examples:

■ Chlorinated solvent sites are often difficult and expensive to remediate. ERT, however, has demonstrated that using these less expensive carbon sources – including food-grade vegetable oil, molasses, hydrogen, and bark mulch – can reduce contaminant concentrations at lower costs than conventional methods, including pump and treat. For example, at Altus AFB, Oklahoma, results from a pilot study using a flow-through emulsion barrier containing vegetable oil showed a reduction of more than 90 percent in TCE concentrations within eight months.

■ Bark mulch was the active ingredient in the 455-foot-long, 25-feet deep, and 1.5-feet thick permeable reactive barrier, or biowall, constructed at Altus. Initial results indicated TCE concentrations in groundwater were reduced from 6,200 parts per billion to 48 ppb as the contaminants passed through the permeable biowall. This is a 99.2 percent reduction in TCE concentrations in only four weeks.

Use of sensors demonstrated

ERT in FY02 continued to demonstrate the use of innovative sensors in direct-push equipment such as cone penetrometers and the percussion-driven Geoprobe. Sensor technologies that detect fuel hydrocarbons have been in use on cone penetrometers. Recently, however, these technologies have been hardened and simplified to allow for use on percussion-driven probe equipment as well. Additionally, there are now sensors that can measure solvent and dissolved-fuel contaminants. These technologies can be used for rapidly locating and measuring contaminants for site characterization, monitoring cleanup progress, and rapid response to spill

events.

During the summer of 2002 a Geoprobe mounted sensor system was transported by C-130 aircraft to Galena and King Salmon, Alaska, where numerous sites were characterized. An average of ten locations were probed each day and fuel contamination was displayed and recorded immediately while the probe was in operation.

Diesel vs. gas engine

ERT worked with the Army Fuels and Lubricants Research Lab at Southwest Research Institute in San Antonio to test the feasibility of using diesel engines to destroy fuel vapors. Currently, spark-ignition engines are used for this purpose. Initial testing indicates that significant fuel savings (30 percent) can be expected when using a diesel instead of a gas engine.

Perchlorate problems probed

ERT, as AFCEE's lead agent for perchlorate, has been working with the Navy and the Army to address the problems associated with this contaminant.

Perchlorate salts, such as ammonium perchlorate and potassium perchlorate, are man-made compounds used as combustion accelerants, predominantly in solid-fueled rockets and missiles. Perchlorate salts are found also – but to a lesser extent – in some munitions and pyrotechnics, and are even thought to exist naturally in some nitrate-based fertilizer products. Perchlorate contamination has been identified in several locations in the United States, both on private and DoD properties.



Young trees in a phytoremediation study.

In FY02 AFCEE supported Air Staff and the Secretary of the Air Force in investing in optimizing perchlorate treatment technologies. A survey was conducted of DoD installations that perform activities involving perchlorate, and an analysis was performed to assess the potential future cleanup and site characterization costs DoD might have to bear to address contamination cleanup.

SourceDK monitors natural attenuation

The need for information to determine the efficacy of a monitored natural attenuation project as a remediation alternative is becoming more and more important. To help site managers estimate remediation timeframes, ERT funded the development of a computerized source attenuation decision support system called SourceDK. The software is a screening-level tool that can be applied to a variety of different types of source zones in groundwater.

SourceDK uses three simple approaches to estimate remediation timeframes and the uncertainty in the timeframe estimate. The model can be used to predict concentrations of dissolved constituents in groundwater over time at a particular well or particular zone at a site. The modeling approach is designed to account for the presence of non-aqueous phase liquids in the saturated zone, which typically controls how long organic groundwater plumes will persist in the subsurface.

Phytoremediation study involves 4,000 trees

ERT continued to evaluate the ability or inability of engineered tree plantings to hydraulically control (or phytostabilize) shallow contaminated groundwater. Studies involved planting 4,000 trees at Altus AFB, Oklahoma; Ellsworth AFB, South Dakota; Fairchild AFB, Washington; Hill AFB, Utah; and Travis and Vandenberg AFBs, California.

In FY02 the division continued to monitor and maintain these sites, and the data gathered there will be used to develop a water-balance model for use as a technology-screening tool at other Air Force installations. Also, ERT completed the *Protocol for Controlling Contaminated Groundwater by Phytostabilization*, a document that guides Air Force remedial project managers through the steps leading to design and implementation of phytostabilization as a means to control groundwater movement at a site.

More than 250 environmental professionals took part in the fifth annual Technology Transfer Workshop, March 4-7, sponsored by ERT. The first day of the conference included hands-on demonstrations of sampling procedures for evaluating natural attenuation and displays of equipment used for site investigation and cleanup. The last three days were devoted to presentations of the latest technologies used in site closure and property transfer.



Diesel engine tested for possible use in fuel contamination cleanup.



ER'S FY 2002 Program (In thousands)

Program total for FY 2002: \$534,250

The following figures include the value of projects obligated in FY 2002 plus ongoing work carried over from previous years.

Organization

Aeronautical Systems Center	\$30
Air Combat Command	20,440
Air Education and Training Command	74,652
Air Force Real Property Agency	512,993
Air Force Reserve Command	3,106
Air Force Center for Environmental Excellence	128,310
Air Force District Washington	3,177
Air Force Institute, Safety and Occupational Health Risk Analysis	230
Air Force /Installation and Logistics Office of the Deputy Civil Engineer	1,002
Air Force Materiel Command	135,000
Air Force Reserve Command	1,383
Air Force Special Operations Command	1,301
Air Force Space Command	76,000
Air Mobility Command	49,206
Air National Guard	853
Army	18,817
Army/Defense Energy Support Center	451
Army Corps of Engineers	224
Defense Energy Support Center	115,000
Defense Logistics Agency	4,023
Defense Threat Reduction Agency	3,600
National Aeronautics and Space Administration	4,750
Navy/Defense Energy Support Center	780
Pacific Air Forces	196,397
Third-party Sites	524
U.S. Air Force	644
U.S. Air Force Academy	949
United States Air Forces Europe	73,000
Other	21,139
Total	\$1,445,981

Environmental Conservation and Planning (EC)

(Tel: 210.536.3907/DSN 240-3907)

Much of Environmental Conservation and Planning's work has direct and immediate impact on the Air Force mission. The directorate serves as the center of expertise for the Air Force Environmental Impact Analysis Process (EIAP), executes the Air Force's Natural and Cultural Resources programs, and is the focal point for the Air Force Comprehensive Planning Program.

EC is involved in such issues as environmental impact statements, baseline surveys, forestry, wildlife, archeology, Native American consultations, transportation, air space and range management, and noise. EC also staffs planning assistance teams that travel throughout the world to help Air Force organizations solve base planning issues.

EC is made up of two divisions and two independent program offices: the Program Execution (ECE) and Program Support (ECS) divisions and the Geo Integration Office and Range Support Unit.

EC also manages the execution of the Air Force's General Thomas D. White Environmental Awards.

Project Execution Division (ECE) **(Tel: 210.536.3787/DSN 240.3787)**

Reorganization of EC resulted in the creation of the Project Execution Division (ECE), which replaced the Environmental Analysis Division (ECA). ECE was involved in a number of successful accomplishments in the areas of Environmental Impact Statements (EIS), Environmental Assessments (EA), and Environmental Baseline Surveys (EBS).

On-time and within budget

Division staff assisted Air Force Space Command (AFSPC) Headquarters with on-time and within-budget completion of:

- The EIS process for the deactivation of the Peacekeeper missile system at F.E. Warren AFB, Wyoming. The Record of Decision was signed on September 27, permitting the Peacekeeper deactivation process to begin.
- An EA for the Early Warning Radar Service Life Extension Program (SLEP) at Beale AFB, California; Cape Cod Air Force Station, Massachusetts; and Clear AFS, Alaska. The SLEP sustains the operating life of these Early Warning radars by replacing outdated computer components and software. The radars are essential to deterring ballistic missile attacks against North America.
- An EA for installation of MILSTAR fixed communication control stations at Beale AFB, Cape Cod AFS, and Cavalier AFS, North Dakota. These MILSTAR stations are part of the military satellite communication system that provides worldwide, secure, survivable, and highly jam-resistant communications.

Northern Command EA

Division staff assisted Air Staff and AFSPC in meeting the critical completion of an EA for establishment of the U.S. Northern Command (USNORTHCOM). The organization will coordinate the military's land, air, and sea response to threats against the United States, Canada, Mexico, and part of the Caribbean. The EA was completed in the record time of eight weeks.

Assistance to housing privatization

ECE managed the preparation of an EA and EBS for bases where military family housing is being privatized under the Air Force Housing Privatization Program. The work continues. Currently, ECE project managers are managing, under very tight schedules and in unique situations, EA and EBS projects at twenty-seven bases.

GEM program

William Bushman established the U.S. Air Force Golf Course Environmental Management (GEM) program. The objectives of this program are to minimize or eliminate potential negative environmental impacts, attain and maintain daily compliance with all appropriate regulations, and constantly examine golf course management practice in order to achieve the highest standards of environmental excellence. The first golf course environmental baseline assessment was completed at Gator Lakes Golf Course, Hurlburt Field, Florida.



Air Quality Program achievements

EC manages air quality projects that total about \$4 million annually. In FY02 as in previous years, the division contracted for work in air compliance related projects, such as air emissions inventories, new source review standard operating procedure and training, Title V operating permit support, stack testing, and air quality management plans.

Other technical and contractual assistance included:

- Support of the General Conformity Rule under the Clean Air Act (CAA). Projects that involved housing privatization and bed-down of F-17 aircraft at a heavily regulated installation were two of the most complex analyses undertaken in FY02. The Air Conformity Applicability Model was modified to meet the stringent requirement of quantifying emissions resulting from a federal action.
- ECE is revising the Air Force General Conformity Guide, which helps understand and comply with the CAA's general conformity requirements. It also addresses how conformity relates to the Environmental Impact Analysis Process/National Environmental Policy Act, CAA Title operating permits, and BRAC.
- Frank Castaneda III, a Registered Professional Engineer, received the Professional Category Award for Excellence in Government presented by the Alamo Federal Executive Board in San Antonio. He competed against 13 other nominees in the category. Mr. Castaneda manages the Air Quality Program.

Program Support Division (ECS) (Tel: 210.536.3334/DSN 240.3334)

The Program Support Division is comprised of functional area specialists who serve and support AFCEE customers in the areas of comprehensive planning, noise, natural and cultural resources, traffic engineering, and forestry. This includes professional consultation, program execution, and project management. The division supports the Air Force Civil Engineer in policy formulation and guidance to ensure Air Force programs are properly executed and maintained.

Comprehensive Planning: improvements and support

ECS compiled and assimilated input received during the Garrison Planning Integrated Process Team Workshop, developing a strategic plan that proposes a number of recommendations to improve the Air Force's planning process. The plan is pending review and approval by the major commands and Air Staff.

Division staff supported major commands and installations by leading and completing 15 Planning Assistance Team visits. The majority of the studies focused on flightline development that enhances mission support. The teams provide tailored support to base civil engineer and major command civil engineer planning requirements.

The division awarded and is currently managing a \$2.1 million contract to develop a munitions facility design guide and database for Air Staff. This high-visibility project will provide a framework for future investments and improvements to the Air Force's capability to meet current and future mission munitions storage and delivery requirements.

Noise program

The division continued to support the Air Installation Compatible Use Zone (AICUZ) program and meet environmental noise analysis requirements by collecting aircraft operational data at installations worldwide and developing updated noise footprints. The noise team interviewed aircraft operators and maintainers at Homestead Air Reserve Base, Florida; Misawa Air Base, Japan; Ripsaw Range Japan; and Hurlburt and Duke fields in Florida.

In-house environmental noise analyses were conducted at a number of installations worldwide. These included: Andrews AFB Maryland; McConnell AFB Kansas; Gray Auxiliary Air Field, Washington; Westover Air Reserve Base, Massachusetts; Selfridge Air National Guard Base, Michigan; and Kelly Field Annex at Lackland AFB, Texas.

ECS supported the Air National Guard by conducting in-house environmental noise analyses for two military operating areas (MOA): Buckeye MOA, Ohio; and Hersey MOA, Michigan.

The division provided administrative and technical support to update an aircraft noise contract at two training ranges in South Korea. What set this study apart from the others the division conducts is that it combined aircraft and weapons noise. The division also provided technical support for contracted AICUZ studies at Charleston AFB, South Carolina, and Air Force Plant 42 in Palmdale, California.



The AFCEE noise team at Misawa Air Base, Japan: From left, Diane Majors, Frank Castaneda, Nancy Mabie, and Bob McKinley.

ECS funded additional mapping and operational improvements to FPView, the computer flight profile projection software. These improvements enhance the validation of aircraft flight and performance data and contribute to improved noise prediction accuracy.

Division personnel assisted Air Staff in revising DoD Instruction 4165.57, *Air Installations Compatible Use Zone*; the interim change to the AICUZ AFI 32-7063, *Air Installation Compatible Use Zone Program*; and revitalization of the AICUZ program.

ECS provided technical assistance to a number of contractors who encountered problems using the NOISEMAP computer program while performing noise analyses for the Air Force and other services.

The USAF School of Aerospace Medicine's Bioenvironmental Engineering Officer's course at Brooks AFB benefited from ECS development and presentation of an environmental noise module. The session provides students with insights on aircraft operations and their associated community noise impacts and affects.

Natural/cultural resources

The division received funding to develop a database for tracking natural and cultural resource data integral to higher headquarters' annual reporting requirements. The database will facilitate future data collection, collating, and formatting.

ECS completed final drafts for AFI 32-7064, *Integrated Natural Resource Management* and AFI 32-7065, *Cultural Resource Management*. The documents, reviewed by the major commands, were submitted for final publication.

ECS supported Langley AFB, Virginia, by preparing an environmental assessment to control phragmites (common reed), a serious invasive species in the Chesapeake Bay watershed. Staff recommended environmentally sound control measures, with local regulators fully concurring. Other DoD sites in the bay watershed have tiered off this document to control infestations on their own properties.

ECS co-hosted the 2002 Air Force Cultural Resource Managers' Workshop in conjunction with the annual meeting of the Society for American Archaeology in Denver. More than thirty installation and major command cultural resource managers attended the two-day meeting. New models for Integrated Cultural Resource Management Plans (ICRMP), funding issues, American Indian consultation, and other topics were discussed.

ECS worked with specialists from Luke AFB, Arizona; Air Education and Training Command (AETC) Headquarters; and Eglin AFB, Florida, to complete a draft ICRMP for the Barry M. Goldwater Range in Arizona. The team successfully drew together data collected by contractors over several years to write the draft plan during the two-week-long staff assistance visit to Luke.

The division continued to support Air Staff and the major commands by providing expert consultation services on a wide variety of subjects and issues. A major division effort was tracking, monitoring, and assisting with INRMP coordination and completion in accordance with the Sikes Act Amendment.

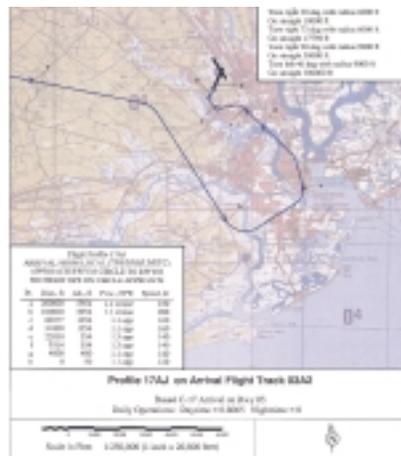
ECS drafted a Memorandum of Agreement between the Texas Historical Commission, the City of San Antonio, the Brooks Development Authority (BDA), and the Air Force regarding the maintenance of historic properties affected by the transfer of Brooks AFB property to the BDA. MOA terms allow the BDA to exercise the greatest flexibility in managing, repairing, renovating, and leasing the former base's 17 historic properties while maintaining their historic fabric.

ECS assisted Air Staff in compiling a complete accounting of the number of historic properties either eligible for, or formally listed in, the National Register of Historic Places. The inventory, which included both housing and non-housing units, assisted the Office of the Air Force Civil Engineer in responding to congressional inquiries and supporting programming and planning requirements.

The forest and the trees

ECS provided administrative and management support to Air Force forestry, agriculture, and grazing, hunting, and fishing programs. Proceeds from these programs, totaling \$4.6 million in FY02, were used to support ongoing conservation activities throughout the Air Force. Approximately \$604,000 in forestry proceeds went to public schools and road projects in the communities surrounding Air Force installations.

A total of \$749,000 in proceeds from the leasing of Air Force lands for grazing and crop production was distributed to Air Force commands to support conservation program initiatives in FY02.



Aircraft flight track produced by the FPView computer software.



Installation hunting and fishing programs generated \$595,000 to support conservation program management and other wildlife management initiatives.

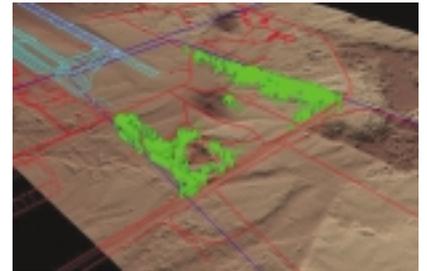
ECS continued to provide technical support to installations that had trees encroaching into airfield flight surfaces. The division used GIS/GPS and laser technology to identify trees that penetrate approach-departure, lateral, and transitional flight surfaces. Some examples of other work by the division staff in FY02:

- Conducted airfield tree surveys at Charleston AFB, South Carolina, and Scott AFB, Illinois.
- Facilitated a Light Detection and Ranging (LIDAR) survey at McChord AFB, Washington. This remote sensing technology shows promise as a method to quickly detect and analyze flight safety obstructions over large areas.

ECS partnered with AETC Headquarters and TreesAmerica, a non-profit organization, to develop improved systems for managing the numerous landscape trees on Air Force installations. The partners developed a tree management tool that integrated GIS/GPS technology in a hand-held pocket PC that will save time and money and ensure that installation trees receive proper care. The system implements the Air Force GeoBase concept by providing a “living” geospatial database with “real-time” applications. The new methodology was implemented at Randolph AFB, Texas.

ECS staff actively participated in the Alamo Forest Partnership to enhance the urban ecosystem. Also taking part were San Antonio, federal, state, and county organizations, as well as public utilities and non-government conservation organizations. A study produced by the partnership included an estimate of how much of a dollar value tree cover provided by ameliorating air pollution, reducing energy consumption, and preventing storm water runoff.

ECS staff chaired the Natural and Cultural Resources Field Working Group of the CADD/GIS Technology Center. The group is developing new spatial data standards for historic buildings and structures. When implemented, the new standards will facilitate the tracking and upward reporting of information on historic structures as required by the National Historic Preservation Act and its implementing regulations.



EC helped develop technology for managing trees on installations.

Geo Integration Office (GIO) (Tel: 210.536.5675/DSN 240.5675)

The GeoBase vision is “One Base...One Map.” While not a stand-alone system, GeoBase provides the capability to integrate imagery, mapping, databases, and applications (computer programs) into a single integrated picture in a geo-referenced format. This common operating picture of an installation facilitates command and control decision-making, daily planning, and operational decisions that require data about a particular location.

GeoBase and GeoReach are supporting Operation Enduring Freedom as the visual foundation for providing real time situational awareness to garrison and expeditionary units worldwide. The AFCEE office has been tasked to support the Headquarters Air Force GIO by implementing the program’s integration requirements. The EC-GIO contract management program has grown from \$2.4 million in FY02 to more than \$5.5 million as work begins in FY03.



Maj. Ken Rogers, is technical assistant of AFCEE’s Geo-Integration Office.

The EC-GIO reached out, through a series of meetings and projects, to the communications, security forces, safety, and surgeon general communities to integrate their requirements into the GeoBase geo-spatial platform. The AFCEE office continues to partner with sister agencies, including the CADD/GIS center, to facilitate adoption and integration of spatial data standards, and with the Air Force Engineering Support Agency to integrate the Automated Civil Engineer System requirements into the GeoBase program.

Range Support Unit (RSU) (Tel: 210.536.5522/DSN 240.5522)

Range issues are receiving visibility all the way up to the Office of the Deputy Under Secretary of Defense (Installations & Environment), and AFCEE’s RSU is quickly being recognized as an efficient and effective

provider of solutions for Air Force range operator issues and problems.

Some examples of FY02 successes include:

- The RSU's Environmental Restoration Directorate team provided significant support to Air Staff in developing the Munitions Response Program. This support will continue over the next few years.
- Worked with the Technology Transfer Division, Environmental Restoration Directorate, on a state-of-the-art ordnance detection equipment technology demonstration project. The equipment, developed by the Naval Research Laboratory, was demonstrated in a field production environment – proving the equipment's utility in the munitions response program.
- The RSU's team in EC advised Air Staff on a number of issues, including the development of range plans. EC will continue to support the completion and/or updating of integrated natural resource and cultural resource management plans; and the Air Force timber management and agricultural out-lease programs at ranges across the nation.



A helicopter fitted with technology to detect buried ordnance flies over a closed Air Force range.

Expanded services

With the expansion of the RSU team in the Environmental Quality Directorate, support to customers now include both range residue resource recovery and range operations support services. Residue recovery is being provided to the Air National Guard, Air Force Reserve Command, the U.S. Marine Corps, and the Nevada Test and Training Range.

Range operations support services are being provided to the Air Force Reserve Command's Falcon Range in Oklahoma. This is the first such foray into this arena for AFCEE, and the customer is very happy with the services provided. EC expects this service area to grow over the next few years.



The Range Support Unit supports recovery operations, such as the one that uncovered some old ordnance.

Environmental management programs get boost

The Automated Civil Engineering System (ACES) Environmental Management (EM) program is being designed to manage programs in all environmental media. As a key member of the Integrated Process Team chartered to identify the business practices and data requirements, EQP representatives identified environmental areas requiring automation. A key part of the ACES-EM system is a module that will incorporate the functionality of AF-EMIS.

Much of the AF-EMIS activity during FY02 involved getting the system ready to transfer to ACES-EM. This included release of Versions 7.1 and 7.3, which modernized the HAZWASTE module, and adding numerous new capabilities and interfaces.

EC'S FY 2002 Program (In thousands)

Program total for FY 2002: \$20,000

The following figures include the value of projects obligated in FY 2002 plus ongoing work carried over from previous years.

Organization

Air Combat Command	\$903
Air Education and Training Command	3,657
Air Force Real Property Agency	870
Air Force Center for Environmental Excellence	2,039
Air Force Materiel Command	8,000
Air Force Reserve Command	1,489
Air Force Space Command	2,965
Air Force Special Operations Command	200
Air Mobility Command	4,026
Air National Guard	670
Air Staff	2,099
Pacific Air Forces	1,474
United States Air Forces Europe	3,661
Air Force Reimbursable Conservation Program	3,906
Other	7,283
Total	\$43,242

Environmental Quality Directorate (EQ)

(Tel: 210.536.3371/DSN 240.371)

The Environmental Quality Directorate supports compliance and pollution-prevention programs worldwide. Through its Compliance and Pollution Prevention (P2) Services and Programs divisions, EQ identifies, supports, and develops a multitude of compliance and pollution prevention programs for both major commands and base installations.

New tools and programs attracted many new customers. These were the key to EQ's record-setting contract year. An emphasis on project execution and increased leveraging of resources allowed the directorate to increase the annual dollar value of customer projects executed in FY02 by more than 40 percent. In addition, over 43 percent of all dollars spent in EQ went to small businesses. FY02 was definitely a banner year for the Environmental Quality Directorate.

Programs Division (EQP) (Tel: 210.536.3340/DSN 240.3340)

EQP is home to many of the directorate's most popular and lasting programs, and in FY02 the division sought to make them even better. Whether it was improving old favorites such as the Environmental Compliance Assessment and Management Program (ECAMP) or modern classics like PRO-ACT or implementing programs to lead the Air Force into the future, EQP really set the pace.

PRO-ACT: a continuing success story

DoD's premier environmental clearinghouse and research service continued to be an EQ and Air Force success story. PRO-ACT provides real-time, on-line assistance to active-duty Air Force, Air National Guard, Air Force Reserve, civilian personnel, and Air Force contractors that hold active work orders.

During FY02, PRO-ACT answered more than 973 technical inquiries in such areas as regulatory compliance interpretation, product substitutions, hazardous materials management, and the identification of education and training resources and requirements. The number of technical inquiries to PRO-ACT since its inception total more than 20,000, and its Web page received more than 1.1 million hits, generated by 55,450 separate Internet user sessions.

But PRO-ACT is not stopping there. Increased marketing, partnerships with the major commands and Air Staff, as well as more outreach, solidified PRO-ACT as a growth business. In the second year of a new contract, the PRO-ACT contractor has hit high gear and has brought a new emphasis to customer service. As a result, PRO-ACT will continue to be the Air Force's best source of environmental information for years to come.

Web University curriculum grows

Through FY02, over 5,000 students have accessed Web University, with more than 80 percent completing all lessons. Launched in August 2001, Web U offers structured, self-paced Web classes; a repository of distance learning courses; and links to a wide range of civil engineering and environmental management resources and tools.

Registered students can take classes, update student records, or obtain transcripts using the Internet. Course owners, on the other hand, can obtain reports used for assessing user trends and calculating the return on investment, cost per student, and other data.

Now available on Web University are a substantially revised P2 shop-level course as well as courses on affirmative procurement, Emergency Planning and Community Right to Know Act-Toxic Release Inventory (EPCRA-TRI); and Air Force Environmental Management Information System (AF-EMIS) Version 8 courses.

Plans for early FY03 include the addition of a course on quality assurance project planning. Additionally, dialogue continues with the Army on the addition of eight Army-developed natural and cultural resources courses.



PRO-ACT researcher Pam Jernigan at work.



The Web University station at the 2002 Pollution Prevention and Hazardous Waste Management Conference and Exhibiton.

ECAMP key to compliance

Every Air Force installation with significant environmental activity must annually conduct either an internal or external compliance audit. That is the purpose of the Environmental Compliance Assessment and Management Program managed by EQP. ECAMP did more than \$9 million in business in FY02, enabling all required internal and external compliance audits to be conducted in the Air Force worldwide.

EQP is the Air Force representative on The Environmental Assessment and Management Team (TEAM), a group of government agencies responsible for updating and coordinating the TEAM guide and supplemental environmental protocols. Quarterly protocol updates provide installations with current environmental laws, guidance, policy, and practices to assist them with their ECAMP audits.

EQP also tracks the root causes of all the environmental assessment audit findings. In FY02, the majority of findings were in the areas of hazardous waste management, hazardous materials management, and storage-tank management. Specifically, audits found that a majority of the findings resulted from procedures not being developed, or, if developed, were not effectively implemented. Other significant findings included personnel not fully understanding their responsibilities or not being properly trained.

The Environmental Management Self-Assessment Tool (EMSAT2000) continued to be popular in FY02, particularly with the updates made to the program. EMSAT2000 allows people with Microsoft Access 2000 to use the guide to evaluate their environmental management programs and assess how these conform to the international standards set forth in the ISO 14001 protocols. The new version of the program and user guide is available for downloading from the AFCEE/EQ Products WEB page at www.afcee.brooks.af.mil/eq/emsat/emsat.htm.

Compliance and P2 Services Division (EQT) (Tel: 210.536.4222/DSN 240.4222)

New contracts meant new opportunities and many new customers for EQT in FY02. In particular, the Environmental Minor Construction and Operations and Services (EMCOS) contract proved to be an almost limitless resource. Primarily designed for small dollar, non-complex base level projects, the EMCOS contract supports AFCEE and its customers in achieving environmental objectives in the areas of compliance, restoration, conservation, and other services at government installations and locations of interest to the United States government worldwide.

With five basic ID/IQ (indefinite delivery/indefinite quantity) contracts sharing and competing for \$45 million over three years, EMCOS impacts the way AFCEE customers conduct their business. For example, EQ's wastewater/storm water section employed new EMCOS contracts to correct environmental compliance problems, instead of just identifying them. With the ability to repair lift stations, steam pits, and wastewater/storm water pipes and install storm water sampling devices, EQT became a one-stop shop for identifying and fixing customers' environmental problems.

Protecting the force

In light of the heightened interest in force protection, AFCEE and its sister organization the Air Force Civil Engineer Support Agency (AFCESA) combined the expertise of their engineers, along with a large number of ID/IQ contracts, to help customers implement force protection initiatives.

Following the events of late 2001, EQ was named AFCEE's central point of contact for force protection efforts, with program execution accomplished by the appropriate AFCEE directorate. Specific types of services that AFCEE began offering in FY02 included:

■ Vulnerability Assessments

- o Threat evaluation/impact to people/facilities/mission
- o Risk management plans
- o Installation of major command force protection programs

■ Installation/facility anti-terrorism response and contingency plans

- o Design and construction of force protection projects
- o Relocation of roads/parking
- o Physical barriers
- o Blast mitigation, facility treatments to minimize blast fragmentation, etc.
- o Chemical/biological sampling and analysis, incident cleanup, and decontamination

In FY02 force protection projects were executed in these areas: access gate redesign and construction; traffic/parking re-routing; utility/facility/housing vulnerabilities studies; and fence upgrades. Additionally, the Design and Construction Directorate completed a draft of the *Entry Control Facility Guide* for Air Staff.



Ranges and military munitions

EQ continued to play a major role in the Range Support Unit, with the directorate's range program more than doubling to \$3 million in FY02. With support from the AFCEE RSU, EQ provided range residue support to the Air National Guard, Air Force Reserve Command, and the Marine Corps (see page 21).

Other areas of range support provided by EQ include development of a range-planning template for Air Force Headquarters, which should result in a Web-based tool that allows users to easily generate comprehensive range plans.

Conference largest, best to date

The seventh annual Joint Services Pollution Prevention and Hazardous Waste Management Conference and Exhibition was the largest and best to date. The conference plenary session brought together policy makers and regulators from several agencies including DoD, Air Force, the EPA, and the State of Texas. The 2002 event was unique in that AFCEE and the CAD/GIS Technology Center (based in Vicksburg, Mississippi) combined tradeshows and held side-by-side conferences. Total attendance was an astounding 3,500 participants and had a record setting 295 exhibitors. The synergy between the two conferences was evident and resulted in a decision to re-unite in 2004.

Green procurement and facilities

The affirmative procurement and sustainable facilities programs continued their maturation, reaching more people than ever via the World Wide Web. The two programs are included in the Defense Environmental Network and Information Exchange (DENIX) listserv, or mailing list. E-mail sent to a listserv is forwarded to every interested party on the list, thus ensuring wide distribution of communication about a particular subject. The affirmative procurement and sustainable facilities programs continued to attract additional users in FY02.

Also, work continued on the new *Sustainable Facilities Guide*. The publication will ensure that program and facility managers alike have the most up-to-date guidance.

Winning the war against waste: New solid waste reduction campaign

The Air Force's solid waste management outreach campaign has been well received by everyone. The *Win the War Against Waste* campaign continued to educate Air Force people, including active-duty and civilian personnel, occupants of family housing, and school children on the importance of integrated solid waste management activities.

The program's purpose is to assist Air Force installations in meeting their non-hazardous solid waste diversion rate measure of merit and reduce the cost of sending municipal solid waste to landfills.

EQ's FY 2002 Program (In thousands)

Program total for FY 2002: \$42,406

The following figures include the value of projects obligated in FY 2002 plus ongoing work carried over from previous years.

Organization

Air Combat Command	\$4,887
Air Education and Training Command	5,000
Air Force Real Property Agency	1,096
AFCEE	12,476
Air Force Material Command	7,066
Air Force Reserve Command	6,649
Air Force Special Operations Command	320
Air Force Space Command	10,043
Air Mobility Command	9,585
Air National Guard	5,060
NASA	1,012
Other AF/DOD	4,900
Pacific Air Forces	3,428
US Air Force Europe	1,488
Total	\$73,010

Design and Construction (DC)

(Tel: 210.536.3433/DSN 240.3433)

Design and Construction advances installation excellence and Air Force quality of life through standards and criteria development and execution of sound design and construction management principles. The directorate is also the Air Force's center of expertise for architecture, interior design, landscape architecture, medical facility design and construction management, design-build delivery methods of construction, and Military Family Housing (MFH) Privatization. Additionally, the directorate develops, tests, and documents new project management acquisition and construction methodologies.

Further, professional services provided by DC include design and construction agent responsibilities for MFH construction, execution and maintenance of the Air Force Family Housing Master Plan (FHMP), and management of the Air Force Design and Design and Construction Agent awards programs. The directorate also is AFCEE's single-point-of-contact for assistance teams. The directorate pulls planning expertise from the Environmental Conservation and Planning Directorate and draws from its own experts in architecture, interior design, and landscape architecture to help the major commands and installations solve planning and design issues.

DC is composed of three divisions: Design Group, MILCON (Military Construction), and Housing Privatization.

Design Group Division (DCD) (Tel: 210-536-3547/DSN 240-3547)

Sustainable Development makes strides

DCD, in coordination with the Environmental Conservation and Planning and Environmental Quality Directorates, drafted the Air Force sustainable development policy memorandum, which was signed into effect on December 19, 2002, by Maj. Gen. Earnest Robbins, the Air Force Civil Engineer. The document established the U.S. Green Building Council's Leadership in Energy and Environmental Design (LEED) system as the Air Force's preferred self-assessment metric for measuring sustainability standards in the service's new buildings.

Sustainability refers to, among other things, such qualities as a building's water-saving capacity, energy efficiency, and indoor environmental quality.

Although the policy does not mandate that Air Force facilities be certified through the council, it does set goals, which will increase over time, on the level of LEED standards that must be incorporated into military construction. By FY04, for example, 20 percent of the MILCON program must meet the lowest LEED rating of "certified." By FY09, however, all projects must meet that rating's requirements.

DCD updated the *Environmentally Responsible Facilities Guide* and converted it to a Web-based design guide. The new *Air Force Sustainable Facilities Guide* may be accessed at:
<http://www.afcee.brooks.af.mil/dc/dcd/arch/rfg/index.html>.

A two and one-half day sustainable development course was developed, with classes held in San Antonio and Washington, DC. A new, related effort was initiated to convert the course to an on-line distance-learning course to be offered in FY03 through the Air Force Institute of Technology (AFIT).

Guides, other publications show the way

DCD completed the General Officers Quarters (GOQ) Master Plan in FY02 and with it the three-volume *General Officer's Quarters Guide*, known as the, "boxed set." The first volume is the *Resident's Handbook*. Volume two is the *Standards for Programming, Design and Construction*. Volume three is the *Individual Facility Profile* specific to each set of quarters. The *GOQ Guide* reinforces the Air Force philosophy to provide quality GOQs using a long-range plan instead of investment decisions based on resident preferences. The guide's final publication and distribution was scheduled to take place in early FY03.

Paper design guides requiring storage, distribution, and reprinting are being replaced by electronic guides that can be downloaded from the AFCEE Website, making them more accessible than ever before. DCD developed several guides



The seventh annual Joint Services Pollution Prevention and Hazardous Waste Management Conference and Exhibition broke attendance and exhibitor records.



in FY02, partnering with other organizations as needed. Documents published include the *Air Traffic Control Tower and RADAR Approach Control Facility Design Guide*; *Temporary Living Facility Design Guide*; and the *Dormitory Design Guide*. The *Air Force Sign Standards* (AFPAM 32-1097) was updated to incorporate final Air Force policy guidance for use of the Air Force symbol on base entrance signs and water towers. The standards will be published as a unified facility criteria (UFC) document in early FY03.

UFCs documents, which include design guides, are replacing all criteria and guidance documents below the Air Force instruction (AFI) level. UFC documents generally are developed cooperatively by the Air Force, Army, and Navy, although Air Force-only UFC documents also are permissible. DCD worked on tri-service commitments to complete the *Child Development Center Guide and Dining Facility Guide* as UFC documents. The *Dining Facility Guide* will be published in FY03.

Recruiting office standards were developed for Recruiting Services, Air Education and Training Command. These standards, the first of their kind, describe office configuration, furnishings, finishes, and equipment for recruiting offices worldwide. Working within DoD space and quality standards, this design guide outlines design concepts that reinforce the Air Force image of professionalism and superior technology and encourages potential recruits to, "cross into the blue."

AFI 32-1023, *Facility Standards and Project Execution*, was rewritten by DCD in partnership with Air Staff and the Air Force Civil Engineer Support Agency. After final coordination by the major commands, AFI 32-1023 will be published in FY03 by the Air Force Publications Office.

Assistance Teams offer design support

DCD, in cooperation with Environmental Conservation and Planning, manages the Air Force Assistance Team program. Teams are composed of Air Force professionals selected to address a specific problem requiring a specific expertise that may not be available at an installation. Often faced with difficult design problems, the teams provide commanders with unique, unbiased solutions, typically developed within a one-week period. In FY02, 29 AT visits were accomplished, with customers ranging from RED HORSE units to services organizations and facilities ranging from family housing to headquarters buildings.

DCD provided extensive design support and coordination to the Brooks City-Base program during development of the AFCEE Area Development Plan, which deals with coordination of traffic flow, land-use patterns, and building-occupant needs. The plan is a vision of AFCEE's development as a commercial and administrative center and its impact on the agency's acquisition support staff and contractors.

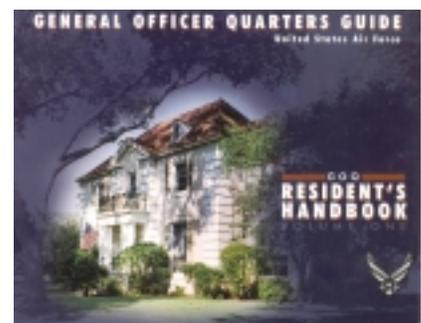
DCD provides customer access to architect-engineering (AE) firms through the indefinite delivery/indefinite quantity contracts AFCEE has in place. This availability helps DCD to quickly meet customer needs since customers do not have to go through the time-consuming Air Force selection process. In FY02 the division supplied its customers with nearly \$3.5 million worth of AE services provided by three firms: 3D/International, Hellmuth, Obata and Kassabaum; and Atkins/Benham.

To improve its management of the annual Air Force Design Awards Program, DCD initiated the conversion of the submission process to a Web-based system. Beginning in FY04, organizations wanting to submit facilities designs for the competition will be able to do so online.

Workshops and professional development

The division also organized, facilitated, and conducted the annual training workshop for Air Force architects, held in Charlotte, North Carolina, in conjunction with the Public Architects Training Workshop and the national American Institute of Architects (AIA) Convention. Training sessions, expositions, and AIA seminars offered Air Force architects opportunities to share lessons learned and interact with private-sector professionals.

The AFCEE director delivered the keynote address at the workshop, challenging the 52 Air Force and associated agency architects to take control of their careers and continue to build without adversely affecting the environment. Air Force presenters covered such topics as the Air Force dormitory master plan, garrison planning, accessibility, force protection, and design/build plus (DB+).



DC produces a number of handbooks and guides dealing with building and design standards.

Twenty-two interior designers representing the major commands and base-level organizations attended the Interior Design Workshop in San Antonio in May. Topics discussed included GOQ standards, sustainable development, office design, and professional development.

Housing program at rigorous pace

The family-housing program continued its rigorous pace with kickoff of the third cycle of the FHMP, which added another 26 bases to the 52 already under way. This year also saw the approval of the GOQ subset of the FHMP – the standards and detailed facility profiles for each of the 275 GOQ units.

The FHMP, which establishes the roadmap leading to Air Force chief of staff approval and funding, is driven by a congressional retention and quality-of-life mandate that all inadequate military family housing be upgraded to current standards by 2010.

Based on the FHMP's success, the Office of the Air Force Civil Engineer directed AFCEE to execute the Dormitory Master Plan (DMP), which will provide a comprehensive condition assessment of more than 800 dormitories and a corporate, requirements-based investment strategy to eliminate all inadequate dormitories by 2009.

MILCON Division (DCM) **(Tel: 210.536.3382/DSN 240.3382)**

As the designated design/construction manager for the Air Force Medical Military Construction (MILCON) program, DCM is at the forefront of the replacement and improvement of Air Force medical treatment facilities.

State-of-the-art facilities online

In FY02, DCM completed and brought online six new, state-of-the-art medical treatment facilities, either as stand-alone clinics or as additions or alterations to existing medical treatment facilities. The division also completed construction of one medical warehouse.

The total amount of completed medical facilities in FY02 exceeded \$46 million, with new construction starts for ten facilities totaling another \$84.5 million. In addition to construction projects, the division completed the designs of three medical treatment facilities and one medical warehouse, with another six designs under way, for a total value of more than \$94 million. Of these six designs, five are positioned for construction notice-to-proceed in FY03. The division's medical program work spans across 23 bases and six major commands in the continental U.S. as well as Lajes Field, Azores; and Thule Air Base, Greenland.

Even before the first wall went up, the new medical/dental clinic at Edwards AFB, California, was earning recognition. The AFCEE-managed project, garnered the Merit Award for Concept Design during the 27th annual Air Force Design Awards Program competition. The sophisticated, modern design was lauded by the panel of judges as compatible with its desert surroundings as well as nearby structures. The facility, with its barrel-vault roof forms and deep solar control overhangs, recessed windows and inviting, protected entrances, will replace a 50-year-old facility in August 2004, providing primary family health care to about 5,000 persons living on the sprawling base located on the western edge of the Mojave Desert.

Military Family Housing a worldwide program

The MILCON Division provides the services of design and/or construction agent for projects in the MFH MILCON program. The division's MFH program work spans across 18 bases and eight major commands/direct reporting units in the continental U.S. as well as bases in Alaska, Hawaii, Japan, South Korea, and the Azores.

In FY 2002, DCM completed design packages for two MFH projects at two bases. These projects will either renovate or replace more than 380 family housing units for a total contract value of over \$29.5 million. In addition, the division currently has another 15 MFH projects in design for 1,403 units with a value of about \$230 million. Furthermore, in FY02, DCM completed 13 construction projects, valued at \$151.6 million, which improved or renovated 1,644 units. Additionally, the division provided construction-agent services for nine other MFH projects that either replaced or renovated 520 units. Total value of these projects was about \$78 million.

More contracts, more capacity

In May, DCM awarded seven ID/IQ architect-engineering contracts for a five-year contract period with a program ceiling of \$45 million. The contracts have a \$4 million delivery order limit and no annual threshold, thus allowing larger MFH projects to be accommodated. Because of these contracts, AFCEE will have an added capacity to improve or replace an additional 18,400 housing units as needed worldwide. In the last seven months of FY02, more than \$3 million in Title I (A-E services) and Title II (construction management) task orders were awarded. (See page 41 for listings of Title I and Title II services.)



DC manages the Air Force Design Awards Program.



Operations and Maintenance

DCM provided, also, design and construction services for three O&M projects. Cost of both design and construction services totaled more than \$23 million.

Program is a plus

In January, DCM succeeded in awarding its new innovative facility acquisition method, the design-build plus (DB+) ID/IQ contracts, bringing on board new contract capabilities with three contractors competing for a \$450 million contract ceiling.

The DB+ concept is a variation of construction delivery methods used by other government agencies and the private sector and was created to leverage the government's shrinking workforce while increasing the number of facilities that are built on time, within established budgets, while meeting customer requirements.

While the DB+ contracts have a five-year contract period, the demand for the new DB+ contracts has already exceeded expectations. Of the MFH and O&M projects mentioned previously, 12 constructability review task orders totaling more than \$1.2 million were awarded using DB+. In that same time period, four construction projects were awarded using DB+. Total cost for these construction projects is \$41 million. Projects span 12 bases in eight states and four major commands. Customer demand is already driving a follow-on solicitation. Current customer requests for DB+ services total an estimated \$506 million demand, far exceeding the \$450 million available ceiling. AFCEE is planning a follow-on solicitation in the range of \$1 billion to \$2 billion.



DC's family-housing program continued its vigorous pace in FY 2002.

Housing Privatization Division (DCP) (Tel 210.536.3032/DSN 240.3032)

Military family housing has been a key issue for Air Force and Defense Department leaders. Providing quality living accommodations, homes, and communities for service members and their families is an important tool for attracting and retaining quality people in the military services. Half of the Air Force's housing currently does not meet modern standards and requires major improvement or replacement to meet current needs and provide suitable quality of life for military families. The aim of the housing privatization program, the bulk of which is managed by AFCEE's Housing Privatization Division, is to provide service members with affordable quality housing built to modern community standards. The Housing Privatization Division provides cradle-to-grave program management and professional and technical assistance throughout all phases of execution, including portfolio management, of privatized housing.



Work continues at the Edwards AFB, California, medical/dental clinic.

New way of doing housing business

In FY02 the division began revision of the *Air Force Instruction for Housing Privatization Financial Management*, with the changes going into effect in FY03.

AFCEE's approach to converting housing to private developers is modeled after private sector practices, within the framework of federal procurement processes. Privatization support contractors (PSCs) assist in evaluating and selecting the private development firms that plan, design, demolish, develop, renovate, construct, own, operate, maintain, and manage a rental housing development over the next 50 years.

A key tool in the evaluation of project alternatives is the newly created financial pro forma and quick score model that assists financial managers in determining project cost. This model allows evaluators to estimate future project costs and uniformly evaluate contractor proposals against the request for proposal.



Architect's drawing of what the Edwards medical/dental clinic will look like when completed. The project won a Merit Award for Concept Design.

New projects get OK

AFCEE received approval to initiate five new projects for FY03 and nine new projects for FY04 and FY05, bringing the total number of projects to 35. This table shows DCP's total number of units and development costs (in thousands) for work up to and including FY02.

Organizations	Number of Projects	Number of Units	Development Costs
Air Combat Command	7	8,000	\$774,300
Air Education and Training Command	4	3,578	524,300
Air Force Materiel Command	4	4,458	247,200
Air Force Space Command	2	884	127,300
Air Mobility Command	2	2,864	327,200
Pacific Air Forces Command	2	1,452	149,800
Totals	21	21,236	\$2,150,100

In FY02, DCP awarded \$5.1 million to five PSCs to support these projects from concept development to lease signing. Most PSC task orders have been awarded and are at various stages of execution.

Managing Air Force housing

AFCEE is the Air Force housing privatization portfolio manager, responsible for long-term project monitoring and evaluating the privatization program to ensure that the Air Force is getting maximum value at minimum risk. This oversight covers the portfolio's financial, legal, project management, and contractual aspects. The Center is assisted by a contractor that brings private-industry financial and legal expertise to management of the Air Force's diverse real estate assets.

In FY02 AFCEE assumed official portfolio management responsibilities for four installations with ongoing privatization projects. These are Lackland AFB, Texas; Elmendorf AFB, Alaska; Robins AFB, Georgia; and Dyess AFB, Texas. The portfolio management contractor assisted in processing loan closings – with a total value of more than \$79 million – for Dyess, Elmendorf, Lackland, and Robins, and is working to resolve loan servicing procedural issues with the Defense Finance and Accounting Service. By 2008 the Air Force anticipates managing a portfolio consisting of more than 40 installations.

DC'S FY 2002 Program (In thousands)

DC'S program awards for FY 2002: \$800,100

The following figures include the value of projects obligated in FY 2002 plus ongoing work carried over from previous years.

Organization

Air Force Academy	\$40,659
Air Force Materiel Command	620,137
Air Force Space Command	237,434
Air Force Special Operations Command	8,842
Air Combat Command	1,086,008
Air Education and Training Command	913,524
Air Force Reserve Command	327
Air Mobility Command	625,697
Air Staff	23,562
Bolling AFB, D.C.	45,715
Defense Commissary Agency	130
Pacific Air Forces Command	175,948
U.S. Air Forces Europe	1,300
Total	\$3,779,283

Regional Environmental Offices (REOs)

AFCEE has Regional Environmental Offices (REOs) in Atlanta (Eastern Region), Dallas (Central Region), and San Francisco (Western Region). These three REOs advocate the Air Force before local, state, regional, and federal authorities. Their duties include assisting major commands and bases with environmental issues; providing Air Force environmental leaders with updates and forecasts on environmental compliance status, trends, and problem areas; and managing all Air Force third party sites (TPS).

Eastern Region (CCR-A)

(Tel: 404.562.4205/Tollfree 888.610.7419)

Georgia Military Review shows promise

The Eastern Region REO developed a new military review process approved by top-level officials at the Georgia Environmental Protection Division (EDP). The Georgia Military Review is a forum that addresses environmental issues at military installations in the state. The review group consists of representatives from the Eastern Region REO, the Georgia Military Affairs Coordinating Committee, the Army, Navy, and Marine Corps. Each quarter the Georgia Military Review group meets to focus on specific environmental issues that affect the military branches.

The review has had a number of remarkable successes. One was obtaining the agreement of the Georgia EPD to participate in the Department of Defense and State Memorandum of Agreement (DSMOA) process, allowing the State to double the environmental review staff dedicated to military facility document reviews. This process will shorten the document review time, in some cases, by as much as two years. Also, the Georgia Military Review recently agreed on new language to speed up the closure process for notices of violation issued to military installations in the state.

The Eastern Region REO has established similar forums with chief regulators in New York and New Jersey, and has proposed regular top-level meetings with officials in Florida to address Air Force environmental concerns in that state.

Central Region (CCR-D)

(Tel: 214.767.4650/Tollfree 888.610.7418)

Office takes lead in training program

The Central Region REO is leading a multi-service committee to develop and implement DoD training for facility and state, Department of Defense, and DSMOA points of contact. Under the DSMOA program, DoD reimburses States for their contributions to the Defense Environmental Restoration Program at federal installations and properties.

The training initiative was developed after the Central Region was assigned the linebacker role in Air Force DSMOA program management in FY01. Before then, the program had witnessed a loss over the previous three years of more than \$7 million in unexecuted funds to the States. In investigating the cause for these losses, the Central Region REO determined that a contributing factor was the lack of formal instruction for DSMOA officials.

Under the new training program, 12 regional two-day workshops will be held, with total attendance expected to exceed 1,200 persons. All training will be completed before July 2003 and the start of the next DSMOA Cooperative Agreement. The Central Region REO expects workshops to develop well-trained individuals who will ensure that the DSMOA program funding is properly managed, thereby significantly reducing the potential for loss of limited DoD cleanup funds.

Western Region (CCR-S)

(Tel: 415.977.8881/Tollfree 888.324.9254)

REO works to build Alaska-DoD partnership

The Western Region REO was asked for assistance in addressing delays that Alaska DoD installations were experiencing in obtaining construction Clean Air Act permits from the Alaska Department of Environmental Conservation (ADEC) for new sources under the Clean Air Act (CAA). The state is delegated CAA permitting authority by EPA Region 10.

The Alaska Air Manager's Subcommittee of the Alaska Statement of Cooperation was requested to develop



solutions to this issue and other common problems. In turn, the Subcommittee, with members from the military installations and from ADEC and EPA, requested the Western Region REO's assistance in enhancing the working relationship between the military installations and the ADEC.

The REO facilitated partnering meetings to improve communications between ADEC and the DoD facilities and discuss ways of optimizing the construction-permit process, allowing the installations to meet their project schedules. Currently, the REO is working with the ADEC and the Subcommittee to develop an Alaska construction permit application guidance document that addresses DoD issues related to permit-application writing. The document will be available for use by all the Alaska installations and help streamline the Alaska construction-permit process.

Luke AFB removed from National Priorities List

The Western Region REO played a key role in getting Luke AFB, Arizona, removed from the National Priorities List, a list of places the EPA considers the most contaminated in the United States. On April 22, Luke AFB became the first major Air Force installation, fence-line to fence-line, to be deleted from the NPL. This event signified that the base had completely cleaned up its contaminated areas.

In an action that was pivotal to this accomplishment, the Western Region REO arranged a December 2001 meeting in San Francisco that established Luke AFB and EPA senior leadership relationships and allowed Luke officials to express their full support for expediting remaining administrative actions, leading to Luke's deletion from the NPL. This "leadership investment" helped deliver a solid success story shared by all the parties: Luke AFB NPL deletion goals were met, Air Force-EPA relationships and mutual understanding were enhanced, and the importance of community stakeholders was acknowledged. In addition, Arizona Governor Jane Hull presented the Spirit of Arizona trophy to the base and EPA presented Luke officials with an additional environmental program award after touring the installation.

At the Western Region REO's recommendation, EPA Region 9 and Luke agreed to document shared NPL deletion lessons learned so that other Air Force and DoD installations still on the NPL could benefit from the base's experience. On October 21 the Western Region REO delivered this document to Air Education and Training Command Headquarters and Luke AFB for further dissemination.

Workshop focuses on range preservation

More than 150 representatives from all the military branches and DoD and headquarters staffs attended a workshop that the Western Region REO, as the Air Force regional environmental coordinator (REC), helped develop with other service component and DoD RECs.

The workshop, *DoD Regional Range and Sustainability Project Workshop: Training and Testing Ranges in Southern California and Arizona*, identified several areas and initiatives requiring further headquarters attention. Some of these included the future of ranges, advocacy for a separate range office, and pursuit of legislative proposals on readiness and range preservation.

Four Air Force major test and training ranges/installations participated in the workshop: Luke AFB/Barry M. Goldwater Range, Arizona; Edwards and Vandenberg AFBs, California; and Nellis AFB/Nevada Test and Training Range, Nevada.

Financial Management and Mission Support

Directorate (MS)

(Tel: 210.536.2319/DSN 240.2319)

The AFCEE Financial Management and Mission Support Directorate (MS) provides a variety of services that support the missions of all AFCEE directorates and regional environmental offices. The support provided by MS includes financial management, computer support, telecommunications, public affairs, multimedia, and human resources.

Computer Systems Division (MSC)

(Tel: 210-536-2569/DSN 240-2569)

Best Website in the Air Force

The AFCEE Website was the winner of the 2001 Air Force 5-Star Web Site Award, designating it as the best Website in the Air Force as judged by a three-member panel from the Office of the Air Force Secretary for Public Affairs.

Final MXT module completed

The third and final module of the Management eXecution and Tracking System (MXT) was completed in FY02 and will be fielded early in FY03. This module brings projects of the Design and Construction Directorate into MXT so that the system now provides support for project management and project execution throughout the entire AFCEE organization.



MXT also has been fielded in support of AFCEE efforts at Pacific Air Forces Command and United States Air Forces in Europe as well as installations such as F.E. Warren AFB, Wyoming, and the Massachusetts Military Reservation (MMR) on Cape Cod.

FY02 also saw extensive refinement and upgrade of the MXT system to provide better support to meet customer requirements. The financial tracking function in particular has been improved. The MXT system provides an ever-expanding array of reporting capabilities for use by AFCEE management, project managers, and AFCEE customers. This consolidated data repository and data standardization enhances the system's ease of use and reduces the costs associated with running and maintaining multiple data systems.

ERPIMS enhances data accuracy and usefulness

The Environmental Resources Program Information Management System (ERPIMS) is the Air Force repository for environmental data that is collected in support of and in association with environmental projects at all Air Force installations. ERPIMS provides the standardized data structure and validation rules that enhance the accuracy and usefulness of this data. The ERPIMS database includes analytical samples, tests, and results as well as hydrologic and geologic data. The database also captures the geographic and site information that is necessary to make ERPIMS data usable by geographical information systems (GIS).

Air Force contractors are provided ERPTools/PC software free of charge, enabling them to collect and submit environmental data with relative ease. This software also moves much of the data validation to the PCs at the contractors' offices and informs them immediately of most data problems, giving them the opportunity to correct them prior to submission. More than 90 percent of ERPTools/PC validated data is accepted into the ERPIMS database on the first attempt, which dramatically cuts data collection and submission costs.

The AFCEE (GIS) Team develops and supports a number of GIS and tabular data display tools, all of which are GeoBase compliant and are available free of charge to all Air Force installations, eliminating the need for each to procure systems independently. The GIS Team's FY02 accomplishments include deployment and enhancement of the AFCEE Environmental GIS (AEGIS), which allows AFCEE customers and their contractors to view ERPIMS data in support of their environmental programs.

Current AEGIS users include MMR and Air Force Plant 4. AEGIS is set for implementation at four other Air Force installations in early FY03. The GIS Team has deployed NETView, a Web-based tool for tabular display of ERPIMS data that is available to all installations, and continues to support the PetroView GIS application. PetroView is used at nine bases in the continental United States including Travis AFB, California; Scott AFB, Illinois; Andrews AFB, Maryland; and Pope AFB, North Carolina. The team also provides training, configuration, and technical support to 11 PACAF installations.

In FY02 the Environmental Web University was deployed on a separate server associated with the AFCEE Website. WebU enables Air Force, DoD, and government personnel to register for and receive training in an array of courses pertinent to government environmental professionals (see page 23).

A Reverse Auction capability was added to the AFCEE Website in FY02, enabling contractors to bid over the Internet in an auction format for certain AFCEE contract efforts (see page 36 for more information on the Reverse Auction.)

FY02 also saw a redesign of the Website, including modifications that keep it current with requirements of Sect. 508 of the Rehabilitation Act of 1973 (29USC794d).

Public Affairs and Multimedia Division (MSP) (Tel: 210-536-3072/DSN 240-3072)

MS took the lead in creating and promoting the AFCEE CD business card. The disc, which can operate in any computer system, features a nearly two-minute long multimedia presentation of AFCEE's mission and capabilities. It links viewers to sites on the AFCEE Web page from which they can read more about what the Center has to offer its customers. The business card has drawn accolades and serves as an invaluable tool for giving AFCEE greater visibility in the business environment.

The 2002 Air Force Design Awards Program, which recognizes the best in facilities design, would not have been the success it was without MS support. The video presented at the awards ceremony in Washington, D.C., and the overall multimedia setup for the program were managed by MSP

The division also provided photographic and multimedia support to the seventh annual Joint Services Pollution Prevention and Hazardous Waste Management Conference, the AFCEE sponsored Air Force Technical Transfer Symposium, and other events throughout the year.

In 2002 MSP produced AFCEE's much demanded *Fiscal Year Annual Report*, as well as four issues of the Center's highly regarded official magazine, *CenterViews*, expanding the reader base as well as the number of contributing authors from both inside and outside AFCEE.

MSP personnel had complete responsibility for planning and executing the community involvement and risk communications programs for the two installation restoration programs for which AFCEE has primary ownership. They also provided stakeholder involvement support for other AFCEE programs throughout the year, including third-party sites and in cases when program managers needed immediate intervention to gauge or mediate tensions in communities around cleanup sites.



The 5-Star Award was presented to members of the AFCEE Web Advisory Group, some of whom are shown here.

Resource Management Division (MSR) (Tel: 210-536-3530/DSN 240-3530)

The Resource Management Division (MSR) successfully programmed, obtained, managed, and provided oversight for AFCEE funding, including the funds provided by customers for the services they need from the agency. The division obligated funds for a variety of programs, including environmental restoration, pollution prevention, environmental conservation, BRAC, design and construction management, military construction, and military family housing privatization.

MSR, however, did more than just distribute dollars. In FY02 it also:

- Programmed, prepared, and coordinated budgeted and unfunded requirements;
- Served as the office of primary responsibility (OPR) for program execution, financial planning, and financial reporting;
- Managed internal controls, audits, and inspections; and
- Served as trainer and systems administrator for the Automated Business Services System (ABSS) and the Obligation Adjustment Reporting System (OARS). ABSS provided an electronic document flow and approval system for eliminating unnecessary paper copies and reducing processing time.

MSR initiated access to additional systems in FY02. Its staff began accessing electronic contracts on the Department of Defense Electronic Data Access (EDA) system for execution oversight and reconciliation.

FY02 saw the inclusion of AFCEE in the Headquarters Air Force Resource Management Plan, or HAF-RMP, an Air Force program designed to improve the prioritization and distribution of resources across the Air Staff and its associated forward operating agencies.

The division supported the HAF-RMP process through a number of initiatives, including efforts to gain online access to the Automated Budget Integrated Data Estimating System (ABIDES) and the Commander's Resource Information System (CRIS). Both of these initiatives will continue into FY03.

Using its automated systems, MSR in FY02 processed more than 2,000 temporary duty (TDY) orders and over 1,800 Form 36 purchase requests.

The division was responsible, also, for performing the Air Force-mandated tri-annual reviews. By conducting extensive reviews of more than 2,000 contract line items with a value of \$26.4 million it was able to eliminate dormant obligations and resolve discrepancies. Included in this review were more than 90 AFCEE and customer contracts on which funds were cancelled.



The 5-Star Award presented to AFCEE for having the best Air Force Website in 2001.



AFCEE Financial Management Resources Division consists of three teams: Customer Support and Integration, Operations, and Cost and Schedule Analysis Services.

Customer Support and Integration

In FY02 the team had financial management oversight of:

- BRAC project accounts, processing \$163.1 million – \$157.9 million in current year authority and \$5.2 million in prior year;
- \$1 billion in cumulative BRAC project authority;
- More than \$123 million in Operations Budget Account Number (OBAN) customer dollars; and
- An additional \$365.9 million in customer funds comprised of 755 Air Force Form 616 Fund Cite Authority documents and 654 Military Interdepartmental Purchase Requests.

In addition, the section prepared all command financial reports for the Defense Financial Accounting System, performed financial reviews, and was responsible for researching financial errors and ensuring timely resolution by coordinating with the appropriate personnel.

Operations

This team managed most of the appropriations used to support AFCEE operating requirements: O&M; BRAC operating account; the ERA program; MFH program, including privatization initiatives; reimbursable customers; and additional MMR budget execution and program support.

The section also provided financial management and oversight of MMR-support related Army funds and reimbursable customer funds. In FY02 the Operations Team experienced an extremely successful execution of these accounts, all of which were 100 percent obligated before the fiscal year-end closeout.

Cost and Schedule Analysis Services

This team is composed of a staff of highly professional cost analysts who managed the audit and inspection program and reviewed and funded 2,475 travel vouchers. In addition, the staff provided key cost and schedule support in the areas of:

- Cost and schedule analysis;
- Contractor performance history and financial status evaluations;
- AFCEE award fee program support;
- Cost overruns and schedule slippage impact advisement;
- Cost and schedule analysis training; and
- Invoice sampling for validation of contract oversight.

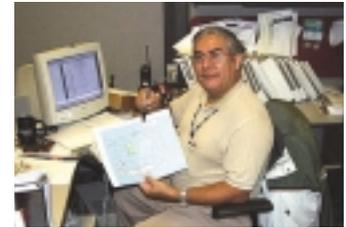
The team provided, also, AFCEE-wide system administrative support for problem resolution experienced by users of the ABSS and OARS.

Human Resources Division (MSX) (Tel: 210-536-2023/DSN 240-2023)

The Human Resources Division (MSX) provides human resources and facility management at AFCEE. In FY02 its staff processed 108 time-off awards, 44 Notable Achievement awards, 126 training requests, and 271 personnel actions. MSX also managed the transition of facility and infrastructure support from Brooks AFB to Brooks City-Base.

Legal Directorate (JA) (Tel: 536-3163/DSN 240-3163)

The Legal Directorate attorneys provided legal services to AFCEE and AFCEE customers as required and consistent with the provisions of AFI 51-102 (19 Jul 94). These services included providing information, analysis, and guidance to AFCEE personnel and customers on matters of environmental law, fiscal law, ethics, Air Force,



John Garza is one of the contractor employees that makes sure all computer systems are working at AFCEE.



Public Affairs and Multimedia publishes the AFCEE fiscal year annual report and CenterViews, the agency's official quarterly publication.



Tony Cano of the Resources Management Division studies a financial report.

DoD and federal regulations and policy, procurement issues, compliance with international agreements, and utilities and housing privatization issues. The legal directorate managed and maintained the AFCEE law library and the AFCEE professional development library. The attorneys interfaced with federal, state, and local agencies to facilitate regulator approval of AFCEE products and services.

In September the legal directorate began its award-winning ethics program. It began with the annual ethics training for all AFCEE personnel. Discussion focused on ethics counselors, procurement integrity, gift rule, frequent flier program, political activities, and odds-and-ends. Collection of the Confidential Financial Disclosure Reports (OGE Forms 450) was successfully completed.

311th Human Systems Wing Environmental and Construction Contracting Division (PKV)

AFCEE receives contracting support from the 311th Human Systems Wing Environmental Contracting Division (PKV). PKV provides contracting assistance for environmental studies, assessments, remediation, design, construction, and privatization efforts at Air Force installations worldwide. The division is comprised of the Program Support, Base Restoration, Base Closure, and Housing branches.

AFCEE adds to contract toolbox

AFCEE began receiving submittals in FY02 for a new suite of contracts that will be let next fiscal year. The contracts will be awarded to A-E firms for Title I, Title II, and other services. The firms will administer, coordinate, and technically support environmental programs worldwide, but primarily at Air Force installations in the United States. They will focus on restoration, conservation, planning, compliance, and pollution-prevention environmental projects. In addition, they will provide traditional A-E services for design and construction, housing privatization, military family housing, and MILCON.

These new 4P A-E contracts follow the existing 3P-AE services contracts. From the 81 submittals received in late July, A-E selection procedures will be used to competitively award approximately 30 indefinite delivery/indefinite quantity contracts with a nominal program ceiling of \$1.1 billion, but this amount can be extended to up 250 percent more, if necessary. Besides contracts awarded in full and open competition, the program will include competitive small business and competitive 8(a) firms.

Each basic ID/IQ contract will have an ordering period of five years with the period of performance extending two years beyond the ordering period. This increased ceiling over the \$480 million 3P-AE ceiling will allow for utilization over the entire five-year period. The basic ID/IQ contract will be structured to allow for the issuance of time-and-materials (T&M), firm fixed price (FFP), and fixed price incentive fee (FPIF) task orders. Under this program AFCEE also intends to implement increased task order performance periods (up to ten years) for recurring requirements.

First reverse auction a success

The first reverse auction conducted by AFCEE and PKV on June 26 was a great success. The inaugural event involved the EMCOS contract holders competing for a requirement involving the construction of a motorized security gate at Niagara Falls Air Reserve Station, New York. This new initiative allows contractors to bid on projects via the Internet. It is called reverse auction because firms try to outbid each other by lowering – not raising – their bids. At present the reverse auction is used only for simple, well-defined, firm-fixed price projects, and with the concurrence of AFCEE customers.

Supporting Military Family Housing Privatization

In FY02 multiple requirements were awarded via task order against the five basic privatization support ID/IQ contracts let by the Housing Branch (PKVH) in 2001. These privatization requirements involve 29 Air Force bases in the continental United States, across seven major commands. The privatization effort results in a real estate transaction between the Air Force and a developer selected with the help of a PSC. The five support contractors have expertise the Air Force doesn't have and provide continuity and efficiency to the program.

In FY02 the first Air Force privatization project for housing at Wright Patterson AFB, Ohio, was officially closed. Two other projects at Patrick AFB, Florida, and Kirtland AFB, New Mexico, are very close to being finalized; and the Little Rock AFB, Arkansas, project is in the middle of the selection process.

As the program has evolved, AFCEE has worked with Air Staff, the major commands, and the individual bases to use lessons learned to further define the privatization process. In doing so, many boilerplate documents have been developed, such as the request for proposal (RFP) and competition plan. By using these templates, documents move more rapidly through the approval cycle, helping speed up the process to provide quality housing to Air Force personnel.

AFCEE in FY02 began conducting a source selection for portfolio management services, another critical phase in the Military Family Housing Privatization process. (See page 37 for an explanation of AFCEE's portfolio management

responsibilities). The estimated award for this contract is between January and February 2003.

Largest source selection ever

The FY02 source selection for the DB+ contracts for construction support to the Design and Construction Directorate was the largest ever completed at Brooks AFB. The joint AFCEE and 311th Human Systems Wing Contracting Directorate team finished the source selection in record time.

Nine offers were received and three contracts were awarded using a full-and-open competitive source selection. The program ceiling for these ID/IQ contracts is \$450 million. They feature a five-year ordering period and an eight-year performance period. The scope of the contracts includes work on Air Force military family housing and light commercial facilities at Air Force installations throughout the United States, including Alaska and Hawaii.

DB+ essentially enhances the traditional design-build process in that it allows the integration of the contractor (DB+ contractor) into the concept-development phase, making the contractor a member of the project-development team.

The first “Contractor School” for construction contractors was held at AFCEE in lieu of the traditional post-award conference for the DB+ contracts. The full day of intense training covered contractor procedures, invoicing, closeout, conflicts of interest, and small business overviews. The Contractor School concept conserves AFCEE’s resources by allowing the contractors to come to the agency rather than a contracting team traveling to each contractor location for individual post-award conferences. Most importantly, it set the stage for a successful DB+ program in support of AFCEE customers.

Integrated Process Team approach meets critical deadline

The Environmental Contracting Restoration Section (PKVBA) was tasked with a very large, complex, and critically time-pressed acquisition for the Johnston Atoll Program in February. Because the customers wanted an award by the end of March, an Integrated Process Team (IPT) Pricing acquisition effort came into play in accordance with FAR 1.102.

The two-mile long Johnston Atoll, which is closed to the public, is located in a remote area in the Pacific Ocean, approximately 800 miles west-southwest of Honolulu, Hawaii. The atoll consists of four natural and manmade islands that the U.S. Fish and Wildlife Department wants cleaned up by 2005 so that the area can serve exclusively as a bird sanctuary. The project calls for – via two ENRAC ID/IQ task orders – the demolition of hundreds of buildings on the islands and remediation of polychlorinated biphenyls (PCB) and dioxin contamination in the soil.

After a four-day site visit in February to the atoll by the acquisition team, which included AFCEE, contractor, and customer representatives and Pacific Air Forces Command officials, the IPT took place in late March and early February in San Antonio in the local contractor’s office. All the interested parties were involved, including PACAF and Johnson Atoll customers, as well as the contractor’s expert personnel brought in from around the country. Attendees broke off into smaller groups to discuss pricing elements with the contractor.

By the end of the IPT week, negotiations had been conducted, prices agreed upon, and a fee of more than \$37 million set for both task orders. With additional required projects for the islands over time, the Johnson Atoll program is estimated to total \$150 million.

In six weeks the Johnson Atoll project was ready to go because the IPT contracting concept was used. The process made the procurement more efficient and less costly, and having contractor and government personnel working together allowed the acquisition to take place within the customer’s critical time frame.

BRANCH	NUMBER OF ACTIONS	OBLIGATIONS (\$M)
Program Support Branch (PKVA)	1151	\$95,150,665
Base Restoration Branch (PKVB)	1306	327,186,239
Base Closure Branch (PKVC)	601	163,290,151
Housing Branch (PKVH)	464	81,024,343
Total	3522	\$666,651,398



Future Acquisitions

Design-Build Plus 03 (DBP03)

AFCEE's Design and Construction Directorate has begun work on a follow-on construction ID/IQ to the Design Build Plus, which was awarded in FY 2002. Design Build Plus 03 (DBP03) will be an ID/IQ contract with awards to between eight and 12 contractors under a Full and Open (F&O) solicitation, and one or more awards under an 8(a) set-aside solicitation.

AFCEE anticipates awarding a five-year term contract with three years additional performance and an order of magnitude for aggregate awards for the F&O solicitations projected to be \$2.1 billion and the 8(a) set-aside at \$400 million with potential amounts running up to 250 percent of these figures. Construction types include single and multifamily housing, commercial and institutional facilities, and, to a lesser extent, other facility types as necessary. Single-family housing is the predominant work type for the F&O and 8(a) awards. Award of Design Build Plus 03 is expected in Summer 2003.

Portfolio Management

AFCEE has a requirement for private sector financial expertise to support the Air Force Military Family Housing Privatization program. Currently, the Air Force has several installations in its housing portfolio; however, that will eventually grow to approximately 40 installations over the next five years.

AFCEE has been seeking a contractor to provide financial and real estate portfolio management services in support of military family housing privatization program. The Air Force envisions competitively awarding an estimated \$29 million program ceiling on a single, five-year ID/IQ contract to support this effort.

Services required under this program include: accounting and financial reporting and reviews; compliance testing; facility audits and site visits; project and development management; insurance coverage assessment; document retention; proactive problem prevention initiatives; database tools and administration; and other portfolio services.

Award of the contract is expected in late January 2003. The contract-ordering period for this acquisition is anticipated to be through calendar year 2007, with the performance period extending through 2008.

Current AFCEE Contracts

AFCEE provides the Department of Defense with a wide range of environmental and engineering services, including developing and promoting new and existing techniques to restore, preserve, and protect the environment. We also offer our worldwide customers superior design and construction services for operational, medical, and military housing facility projects.

The full range of cradle-to-grave services and customer support the Center provides would not be possible without our contractor partners. This overview of AFCEE contracts, the services they render, the names of the prime contractors, and the AFCEE points of contact for accessing the contracts is to help our present and future customers decide how the agency can best serve their specific needs.

If you have any questions, please contact the person or persons indicated for more information on a service or contract. Up-to-the-minute contract information, subcontractor names, and information on current business opportunities can be found at the AFCEE PKV web page at: <http://www.afcee.brooks.af.mil/pkv/contracts.asp>.

Worldwide Planning, Program, and Design

The Worldwide Planning, Program, and Design (3P-AE) contracts have three environmental pillars: restoration, pollution prevention and compliance, and conservation planning. In addition, 3P-AE offers architectural and engineering services. These contracts provide customers with environmental investigations, studies, assessments, and design services. These services include preliminary assessment and site investigations; remedial investigations and feasibility studies; and pilot tests. There are twelve 3P-AE contracts, eleven full-and-open, and one small business.

Contract Specifics:

- Contract Type: Time and Material; Firm Fixed Price
- Ordering Period: Five-year ordering period
- Program Ceiling: \$480 million; no individual contract may exceed \$200 million



Prime Contractor(s):

- Montgomery Watson Americas, Inc.
- Parsons Engineering Science, Inc.
- Foster Wheeler Environmental Corp.
- IT Corporation
- Tetra Tech, Inc.
- Jacobs Engineering Group, Inc.
- CH2M Hill Constructors, Inc.
- Black and Veatch Special Project, Inc.
- Earth Tech, Inc.
- URS Group, Inc.
- Science Applications International Corp.
- Ellis Environmental Group, LC 8(a)

Technical Point of Contact (POC): Mr. Cesar Silva, HQ AFCEE/ERB, DSN 240-5255, Comm (210) 536-5255, cesar.silva@brooks.af.mil

Contracting Officer (CO): Keith Matowitz, 311 HSW/PKVC, DSN 240-4517, Comm (210) 536-4517, keith.matowitz@brooks.af.mil

Environmental Remediation and Construction

The Environmental Remediation and Construction (ENRAC) contracts provide full-service technology capabilities to clean up various contaminants in environmental media (air, water, or soil); repair, maintain, construct, and operate environmental sites and facilities; and related activities. ENRAC is the follow-on to the worldwide full service remediation contracts. There are fourteen ENRAC contracts, eight full and open, five small business, and one 8(a).

Contract Specifics:

- Contract Type: Time and Material; Firm Fixed Price
- Ordering Period: Five-year ordering period
- Program Ceiling: \$750 million

Prime Contractor(s):

- Jacobs Engineering Group, Inc.
- Weston Solutions, Inc.
- Foster Wheeler Environmental Corp.
- Earth Tech, Inc.
- Environmental Chemical Corp.
- IT Corporation, Inc.
- Parsons Infrastructure & Technology Group, Inc.
- CH2M Hill Constructors, Inc.
- Geo-Marine, Inc. (SB)
- Toltest, Inc. (SB)
- Environmental Quality Management, Inc. (SB)
- BEM Systems, Inc. (SB)
- Versar, Inc. (SB)
- Innovative Tech Solutions, Inc. (8a)

Technical POC: Mr. Gerald Saulnier, HQ AFCEE/ERD, DSN 240-5201, Comm (210) 536-5201, gerald.saulnier@brooks.af.mil

CO: Mr. Cliff Trimble, 311 HSW/PKVB, DSN 240-6575, Comm (210) 536-6575, cliff.trimble@brooks.af.mil

Environmental Minor Construction, Operations, and Services

Environmental Minor Construction, Operations, and Services (EMCOS) program supports the government in achieving environmental objectives in the areas of environmental compliance, pollution prevention, environmental and land use planning, environmental restoration, environmental conservation, and other environmental services. EMCOS supports the execution of environmental minor construction (to include repair, remediation, and demolition); operation and services (O&S) requirements; and acts as a force multiplier by augmentation in-house workforces. The EMCOS contract is envisioned to primarily support CONUS, small dollar, non-complex, base-level projects; however, larger projects also can be accomplished. This contract is not expected to duplicate the large ENRAC program.

Under the EMCOS program orders will usually be issued by the 311 HSW/PKV; however, the basic contracts can also support other government customers through Decentralized Ordering with the agreement that other government customers shall negotiate, administer, and close out their own task orders. Through EMCOS, the government wishes to obtain customer satisfaction for products and services delivered while reducing cost, administrative requirements, and project timetables. Additional information on the EMCOS program can be found at: <http://www.afcee.brooks.af.mil/pkv/EMCOS/emcos.asp>.

Contract Specifics:

- Contract Type: Firm Fixed Price; Time and Materials; and R.S. Means/Pulsar Estimating System
- Ordering Period: Three-year ordering period
- Program Ceiling: \$45 million

Prime Contractor(s):

- Laguna Construction Company, Inc. (SB)
- Geo-Marine, Inc. (SB)
- Environmental Quality Management, Inc. (SB)
- BEM Systems, Inc. (SB)
- Cape Environmental Management, Inc. (SB)

Technical POC: Maj. Winston Shaffer, HQ AFCEE/EQT, DSN 240-3340, Comm (210) 536-3340, winston.shaffer@brooks.af.mil

CO: Mr. Gerardo Villarreal, 311 HSW/PKVA, DSN 240-6382, Comm (210) 536-6382, gerardo.villarreal@brooks.af.mil

PRO-ACT

Environmental compliance and requirements are numerous and complex, straining Air Force environmental support resources. The PRO-ACT program is an Air Force environmental research service and information exchange clearinghouse. PRO-ACT is sponsored by AFCEE to provide environmental research services free-of-charge to the Air Force, including Air National Guard, Air Force Reserve, Air Force civilian employees, and contractors who hold active Air Force environmental contracts.

PRO-ACT Technical Inquiries are questions received from Air Force personnel regarding specific environmental concerns or issues. Technical inquiries are submitted from all levels within the Air Force, and each customer receives the same high quality, individual technical support from PRO-ACT's environmental researchers. Although individual research efforts are the foundation of PRO-ACT, the project also monitors environmental resources being developed throughout the Air Force and Department of Defense.

Contract Specifics:

- Contract Type: Cost Plus Fixed Fee
- Ordering Period: Five-year ordering period
- Program Ceiling: \$5.7 million

Prime Contractor(s):

- A sole source 8(a) award was made to Bering Straits Environmental and Kevric in a joint venture

Technical POC: Jerris Harris, HQ AFCEE/EQP, DSN 240-4219, Comm (210)-536-4219, jerris.harris@brooks.af.mil

CO: Ms. Sandra Johnson, 311 HSW/PKVA, DSN 240-4497, Comm (210)-536-4497, sandra.johnson@brooks.af.mil

Global Engineering, Integration, & Technical Assistance

The Global Engineering, Integration, & Technical Assistance (GEITA) contracts support AFCEE's technical capability with professional Advisory & Assistance Services (A&AS) in support of environmental restoration, base realignment and closure; environmental conservation and planning; and environmental quality programs. In addition, GEITA provides A&AS in support of pollution prevention and compliance aspects, infrastructure and weapons systems, Air Installation Compatible Use Zone, Environmental Impact Analysis Process, Air Force-Environmental Management Information System, and the Air Force Military Family Housing Privatization Initiative.

Contract Specifics:

- Contract Type: Cost Plus Fixed Fee; Firm Fixed Price
- Ordering Period: Five-year ordering period
- Program Ceiling: \$150 million



Prime Contractor(s):

- Booz, Allen, & Hamilton, Inc.
- DynCorp Systems & Solutions, LLC
- Team IE, Inc. (SB)
- Portage Environmental, Inc. (SB)

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CO: Mr. Dennis Spradling, 311 HSW/PKVA, DSN 240-5383, Comm (210) 536-5383, dennis.spradling@brooks.af.mil

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Design-Build Plus

AFCEE's Design-Build Plus (DB+) ID/IQ construction services contract was awarded on January 10. The primary scope of this program focuses on constructing military family housing but will accommodate other functions, such as dormitories, transient lodging facilities, and administration facilities. DB+ services are limited to CONUS, Hawaii, and Alaska. Projects are awarded by task orders with no minimum or maximum on orders.

Contract Specifics:

- Contract Type: Firm Fixed Price; Time and Materials
- Ordering Period: Five-year ordering period
- Program Ceiling: \$450 million

Prime Contractor(s):

- Sundt Construction
- Hunt Building Corporation
- Parsons Infrastructure & Technology Group, Inc.

Technical POC: Mr. Charles Ondrej, HQ AFCEE/DCM, DSN 240-3594, Comm (210) 536-3594, charles.ondrej@brooks.af.mil

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Privatization Support

The Air Force's methodology for obtaining the best value privatized housing relies heavily on the knowledge and abilities of a private sector financial advisor, referred to as a Privatization Support Contractor (PSC). The PSC for each project will use its experience in structuring complex real estate transactions to: match Air Force requirements to real estate market opportunities; maximize developer creativity; streamline the process of selecting a developer for the real estate transaction; and facilitates a relationship that brings the best value housing for Air Force service members and has high potential for successful execution.

The privatization support program consists of five contracts to provide financial asset services, professional engineering services, and management, organization, and business improvement services in support of the Military Family Housing Privatization initiative.

Contract Specifics:

- Contract Type: Firm Fixed Price
- Ordering Period: Five-year ordering period
- Program Ceiling: \$39 million

Prime Contractor(s):

- Jones Lang LaSalle Americas, Inc.
- Ernst and Young LLP
- Basile Baumann Prost & Associates, Inc.
- PSC Development
- Kormendi Gardener Partners

Technical POC: LtCol Ernie Casiano, HQ AFCEE/DCB, DSN 240-5506, Comm (210) 536-5506, ernie.casiano@brooks.af.mil

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Military Family Housing A-E

The Military Family Housing A-E (AE45PC) contracts provide architectural, engineering, and planning services primarily for military family housing, force protection, commercial facilities, and infrastructures located in the Pacific Rim area, the continental United States, and other military bases worldwide.

Requirements may include, but not be limited to:

Title I Services – schematic designs, design charrettes, existing building conditions plans, preparation of specifications and construction contract documents; value engineering, cost estimating, landscape and irrigation design;

Title II Services – construction management and inspection; submittal reviews, site visits, preparation of as-built drawings; and

Other Services – preparing, revising and editing Air Force Civil Engineer publications, design guides, handbooks, and tutorials; interior design; project programming (DD Forms 1391) and Requirements and Management Plans (RAMPS); renderings; installation (military base) site, utility, traffic, facility, and interior space utilization planning studies and analyses; surveys and reports, including geotechnical, topographic, environmental, hazardous material (such as asbestos and lead based paint); and facility condition/utilization assessments/analysis.

Contract Specifics:

- Contract Type: Firm Fixed Price
- Ordering Period: Five-year ordering period
- Program Ceiling: \$45 million; \$4 million task order limit

Prime Contractor(s):

- Atkins Benham, Inc.
- Baker and Associates
- Hellmuth, Obata & Kassabaum, L.P.
- Jacobs Facilities, Inc.
- Parsons Infrastructure & Technology Group, Inc.
- RIM Architects
- URS Group, Inc.

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