



Closing the
Circle Award
Categories

2-3

Sowing the
Seeds for
Change

4-5

Environmental
Management
Systems

6-9

Waste/
Pollution
Prevention

9-11

Green
Purchasing

12-14

Recycling

15-16

Sustainable
Design/Green
Buildings

17-19, 24

Alternative
Fuel Vehicles
and Petroleum
Reduction

20-22

Electronics
Stewardship

23

Closing the Circle News

Skyrocketing energy costs. Fortune 500 companies measuring their carbon footprints. A stubborn dependence on foreign oil sources. Government agencies that are developing sustainability plans. The ongoing debate about climate change. These are just a few media headlines Americans are greeted with every day when they pick up a newspaper, turn on their television, or direct their web browser to a news source. It is now, perhaps more than ever, imperative that the Federal government demonstrate strong leadership in environmental stewardship. As the nation's largest employer, the Federal government is in an especially unique position to contribute to the health of the environment and the fulfillment of national obligations and goals.

This edition of *Closing the Circle News* highlights fourteen facilities and agencies that, over the past year, have met stewardship challenges and have gone beyond the call of

duty to become national environmental leaders. It is worth noting that three of this year's winners, Robins AFB, Vandenberg AFB, and Fort Bragg are repeat Closing the Circle Award winners, demonstrating their ongoing commitment and the strength of their respective environmental programs. Many of this year's winners have also won other Federal and non-governmental environmental awards in the past year.

The best practices detailed within this edition are exemplary models of sustainability and help the Federal government meet the mandates of Executive Order 13423. We hope that these will serve as a guide and an inspiration to other members of the Federal community. ■

Joe Cascio



Sowing the Seeds for Change

This category recognizes unique programs for their forward-looking vision and leadership in advancing environmental stewardship across the Federal government. Winners are recognized for the creation of tools and practices that are applicable across agencies. ■

Emergency Management Systems (EMS)

Environmental management systems (EMS) are a systematic approach to ensuring that an organization's environmental priorities and interests are incorporated into operational, planning, and management decisions. This category recognizes the most effective and innovative programs to implement EMSs at Federal facilities in accordance with E.O. 13423. Implementation of a facility-level EMS includes measurable environmental goals, objectives, and targets that are reviewed and updated as appropriate. The systems must also include a compliance component. This category also recognizes the use of quantitative or qualitative consideration of the full range (cradle to grave) of environmental costs and impacts of certain activities or procurement. ■

Waste/ Pollution Prevention

Waste prevention involves altering the design, manufacture, purchase, or use of products and materials to reduce the amount and toxicity of what gets disposed. It is sometimes called source reduction because it reduces or eliminates pollution at the source. This category recognizes source reduction practices related to the generation of non-hazardous solid wastes or hazardous wastes or pollution from a Federal facility through any change in the design, manufacturing, or use/reuse of materials or products; and/or the amount of toxicity in waste materials before recycling, reuse, treatment or disposal. It also recognizes outreach programs/projects or educational efforts designed to promote the pollution and waste prevention goals and objectives of E.O. 13423. ■

Green Purchasing

The Federal green purchasing program gives preference to products that are made with recycled content, are energy efficient, are made with biobased content, or are environmentally preferable. For the third year, the Green Purchasing category focuses on biobased products, the newest component of the Federal program. This is to reward trailblazers and leaders in biobased product use and purchasing. It recognizes how the agency, facility, or individual started to purchase biobased products through pilot projects, product testing, education and outreach to facility staff, or development of solicitation or contract language. It also recognizes outreach programs/projects or educational efforts designed to promote the green purchasing objectives of Executive Order 13423. ■

Sustainable Design/Green Buildings

Building sustainably is the practice of designing, constructing, operating, maintaining, and removing buildings in ways that conserve resources, reduce pollution, increase energy efficiency, and improve indoor air quality. Owning nearly 500,000 buildings, the Federal government has a tremendous opportunity to reduce energy and environmental impacts. This category recognizes the most innovative Federal government sustainable design and green building projects. It includes all facets of a project's life cycle: project design and construction, energy efficiency, materials usage, building operations, and end of use issues. It also recognizes the cost effective use of innovative techniques and solutions that utilize sustainable design principles in the planning, construction, and operation of Federal facilities. ■

Alternative Fuel and Fuel Conservation in Transportation

With a very large fleet of automobiles, SUVs, and heavy trucks and buses, the Federal government can lead the way in increasing the use of alternative fuel vehicles and alternative fuels and reducing petroleum consumption. This is the fourth year this category recognizes programs, practices and procedures implemented in a Federal fleet that result in significant alternative fuel use and fuel conservation measures in transportation. This includes establishment of new alternative fuel infrastructure; methods for encouraging the use of alternative fuels; ride sharing programs; increased vehicle usage efficiency programs; hybrid vehicle or NEV acquisition and use; or any other methods a fleet uses to decrease its petroleum consumption. ■

Recycling

It is Federal policy to recycle to reduce waste and conserve resources. This category recognizes recycling activities - including collection, separation, and processing - by which products or other materials are recovered from the waste stream for use in the manufacture of new products. It also recognizes programs that have an internal education component and/or a public outreach component designed to promote recycling at the site, facility, or operation or to promote partnerships with the surrounding community. ■

Electronics Stewardship

This category recognizes Federal facilities that promote sustainable environmental stewardship of their Federal electronic assets in all three lifecycle phases: acquisition and procurement, operation and maintenance, and end-of-life management practices in accordance with the Federal Electronics Challenge (FEC) or an equivalent program. ■

Sowing the Seeds for Change

“Taking Aggressive Actions, Achieving Impressive Results”

Federal Environmental Management Systems Metrics Workgroup

The Federal Environmental Management Systems (EMS) Metrics Workgroup is a collaborative effort among a core group of Federal agencies, serving under the E.O. 13423 Interagency Environmental Leadership Workgroup as the main proponent for measuring the progress of EMS implementation across the Federal community. As the E.O. calls for EMS to serve as the unifying management construct for all other E.O. goals and programs, the group’s pioneering effort to make the EMS implementation and assessment process more user-friendly is truly commendable. Recent efforts of the Workgroup focused on four key areas: metrics, the EMS reporting standard, on-line reporting options, and the FY 2008 data call.

Metrics. Using an inter-agency collaborative approach, the Workgroup established innovative and challenging metrics for measuring and rating EMS implementation progress. This has a couple of benefits. First, agency EMS managers are the “experts” in the field and their input ensured that the metrics were technically appropriate and focused on the EMS elements that matter most. Second, allowing the agencies a voice in the process automatically gives them a stake and interest in the approach. Thus, while the bar was set high for achieving the highest levels on the metrics, the Federal agencies concur in them because they participated in their development.

As a result of agency input, the EMS metrics will be unchanged for a period of three years. This will create stability, ensure efficiency, and allow the Federal government to monitor trends over time.

The metrics support the OMB Environmental Stewardship Scorecard,

serving as the direct data source for determining Agency-level status and progress in meeting the EMS element of the scorecard. This allows agencies to calculate their scorecard rating and to understand exactly what must be accomplished in order to make progress in implementing an effective EMS system.

EMS Reporting Standard. The Workgroup developed a government-wide EMS reporting standard, greatly reducing the workload for facilities

and agencies without forgoing valuable data collection. The standard shifts from a narrative style to a user-friendly tabular style report focusing solely on the most important EMS program elements. Rather than taking weeks, the reports can now be completed in a matter of hours or days. Because the agencies now report their progress in a uniform way, the reports can be reviewed more efficiently and provide a consistent overall view of EMS >>> 5

SubAgency / Command	Facility	Updated By	Last Updated	Score
HHS/CDC	Anchorage	Eric Haukdal	12/12/2007 1:16 PM	Yellow
HHS/CDC	Chamblee	Eric Haukdal	12/10/2007 8:38 AM	Green
HHS/CDC	Fort Collins	Eric Haukdal	12/12/2007 1:18 PM	Yellow
HHS/CDC	Lawrenceville	Eric Haukdal	12/10/2007 9:38 AM	Yellow
HHS/CDC	Morgantown	Eric Haukdal	12/10/2007 8:51 AM	Yellow
HHS/CDC	Pittsburgh	Eric Haukdal	12/10/2007 8:55 AM	Yellow
HHS/CDC	Roybal	Eric Haukdal	12/10/2007 8:33 AM	Green
HHS/CDC	San Juan	Eric Haukdal	12/12/2007 1:20 PM	Yellow
HHS/CDC	Spokane	Eric Haukdal	12/10/2007 9:37 AM	Yellow
HHS/CDC	Taft & Hamilton Bldgs	Eric Haukdal	12/10/2007 9:38 AM	Yellow
HHS/FDA	Jefferson Laboratories	Eric Haukdal	12/27/2007 12:11 PM	Yellow
HHS/FDA	White Oak Campus	Eric Haukdal	12/07/2007 1:10 PM	Yellow
HHS/IHS	Hastings Indian Med Cen	Eric Haukdal	12/07/2007 1:29 PM	Green
HHS/IHS	San Xavier Health Cen	Eric Haukdal	12/07/2007 1:37 PM	Yellow
HHS/NIH	NI Env Health Services	Eric Haukdal	12/11/2007 9:40 AM	Yellow
HHS/NIH	NIH Animal Center	Eric Haukdal	12/12/2007 1:27 PM	Yellow

Sowing the Seeds for Change

“New Automobile Use Tracking On-line System (AUTOS)”

Department of Labor’s Data Management and Information Analysis Team

This past year, the Department of Labor’s (DOL’s) Data Management and Information Analysis Team created a creative on-line automated fleet data system to assist with collecting data on the agency’s fleet. Due to the decentralized nature of DOL’s nationwide fleet, the agency has found the on-line tool to be a particularly valuable asset for resource management.

The Automobile Use Tracking On-line System (AUTOS) features a variety of portals to enhance the delivery, exchange, quality, and integrity of all fleet information and supporting data. Primary users of the system are charged with tracking assigned vehicles and ensuring data accuracy. These users provide information such as fuel utilization, miles driven,

assignments, and accident details that was not previously available.

After the information has been compiled by AUTOS, agency fleet managers use the data collected to monitor, evaluate, and make prudent fiscal decisions for their fleets on a real-time basis. This system ensures that DOL meets its stewardship goals by targeting its resources effectively through the identification of unnecessary or underutilized vehicles in use by the agency. It will also allow DOL to increase its use of alternative fuels by identifying vehicles proximate to alternative fueling centers.

The Team-developed AUTOS system, which can be customized to manage small or large fleets, has also significantly reduced the number of work hours required for responding to

inquiries and submitting vehicle and fuels use information to the Federal Automotive Statistical Tool (FAST). Before AUTOS, considerable time was expended gathering data from a variety of sources and validating it before final submission.

Currently, plans for the development of a direct web interface with a direct upload to the FAST are in the works.

Due to their demonstration of innovation and commitment to environmental stewardship, the DOL went from being Red to Green in all areas of OMB’s Transportation Scorecard and was one of only two agencies to do so. For more information, please contact Brenda Butler at 202-693-7280 or Butler.Brenda@dol.gov. ■

4 >> implementation across the Federal government.

On-line Reporting Module in FedCenter. Collaborating with FedCenter (www.fedcenter.gov), the Workgroup created and maintains a very helpful EMS reporting module that automates many reporting features. For example, the system automatically calculates facility-level scores, tallies and compiles facility-level responses, and creates agency-level data tables. This helps streamline the reporting process, reducing the amount of time necessary to enter the data. Use of the FedCenter module is voluntary but provides time-saving benefits to the agencies using it to collect, collate, calculate, and store data across

their facilities. The FedCenter EMS module also provides an archiving feature that retains reports from past years, providing agencies with an historic record of data and implementation progress. In addition, all present and archived data is password secured and exclusive to each agency.

One of the key challenges to this system was to be flexible enough to accommodate a diverse array of agencies while being focused enough to collect meaningful data. Meeting this challenge has set the path for other areas to begin streamlining their reporting mechanisms through an electronic process. With the EMS module, much of the organizational structure is already established,

allowing those developing future modules to focus squarely on the specific data requirements for their individual program areas.

Early Data Call. The Workgroup worked with the Environmental Protection Agency (EPA) and OFEE to develop the 2007 EMS data call package in time for the August 2007 E.O. 13423 Senior Officials meeting. This helped increase program visibility to senior management and gave agencies more than four months to respond to the data call, allowing them time to coordinate with their facilities and make necessary program adjustments.

For more information, please contact Eric Haukdal at 202-586-3777 or eric.haukdal@hq.doe.gov. ■

Environmental Management Systems – Military

“Environmental Management for the Future”

Robins Air Force Base Environmental Management Systems Team

Robins AFB, GA

A repeat winner of the Closing the Circle Award, Robins Air Force Base is located on nearly 8,500 acres in central Georgia and employs more than 25,000 people, making it the largest industrial facility in the state. It is situated near thousands of acres of fragile wetlands, making its demonstrated leadership in environmental stewardship particularly praiseworthy.

The base is home to the Warner Robins Air Logistics Center, four

Wings, and 39 Associate Units, and has incredible diversity in missions, ranging from operational flying wings to specialized support services. As one of the three air logistics centers in the Air Force, Robins AFB is responsible for programmed depot maintenance for the C-5, C-17, C-130, and F-15 aircraft, and continues to expand missions and plan for the future.

Because of its diversity of missions and ever-changing needs, Robins

created a focused, leadership-driven environmental management system (EMS) that incorporates its existing environmental programs into an integrated management system. This holistic approach ensures that environmental stewardship would be a top priority and that a sustainable green base will be maintained for the future. The base has integrated environmental accountability into day-to-day decision making and long-term planning down to the >>7



Environmental Management Systems – Military

6 >> shop level. Employees work together to reduce new environmental risks and to strengthen the lines of communication.

The Robins' EMS integrates safety and occupational health principles with environmental considerations. Joint inspections incorporating environmental, safety, and occupational health have been implemented, resulting in decreased paperwork and work stoppage of production personnel. Robins also chartered an ESOH Board (ESOHB) to oversee all ESOH-related activities. The ESOHB, with the help of over 100 Unit Environmental Coordinators, was instrumental in winning the commitment of the entire workforce in managing compliance.

In an effort to continually improve its EMS, the base uses its Compliance Site Inventory (CSI) Database to identify and prioritize environmental aspects and impacts. The CSI Database is a listing of sites, locations, and operations that have environmental regulatory requirements associated with them. Based upon the aspect priority listed in the Database, opportunities for enhancement are assessed and incorporated into the EMS.

Robins' EMS includes an innovative compliance evaluation program that records and tracks all findings from year-round inspections and assessments in a web-based Environmental Findings Database (EFD). The EFD is accessible to environmental program managers and other coordinators of their EMS program. By consolidating all findings into a single system, the data can be easily analyzed to detect trends and identify systemic root causes.

The base also features environmental education and awareness programs of EMSs that are

available to base personnel and to those in the surrounding community. Environmental awareness training is required of all new employees and an interactive EMS website on the base's intranet keeps military personnel and the public informed about EMS activities. Along with the website, the environmental training is used to educate personnel about their individual roles and responsibilities and provides specific examples of how base activities affect the environment.

Robins AFB is highly involved in the community through participation in a number of outreach programs. These programs include illustrative newspaper articles, museum displays, educational events, and participation on community boards and development committees. The base has participated in groups such as the Keep Warner Robins Beautiful Committee, the Middle Georgia Clean Cities Coalition, and the Middle Georgia Clean Air Coalition for many years. Additionally, Robins AFB Environmental Advisory Board (EAB) provides a forum for community review, comment, and input on current and proposed actions associated with environmental programs at the Base.

Just a few key examples of the success of Robins' EMS include:

- Diversion of more than 20,000 tons of both construction and demolition and non-construction and demolition solid waste from the landfill, saving \$1.3 million in total lifecycle cost.
- Composting of all yard and stable waste for use in landscaping projects, avoiding \$230,000 in disposal costs.
- Increasing the number of environmental awareness displays,

booths, and exhibits to effectively reach more than 90 percent of the base populace.

- Partnering with the State of Georgia to initiate a carpooling program on the base, in which more than 1,000 trips were logged, saving a collective \$17,000 for employees in fuel costs, as well as reducing preventable automobile pollution.

Going beyond setting targets to improve current processes, Robins AFB has targeted "green" designs for new processes and facilities. Environmental cost benefit analysis and life cycle assessments start in the design phase in order to receive maximum benefit and include all phases of the building. For example, an Aircraft Corrosion Control Hangar was designed to minimize environmental impact during both construction and operation. The hangar optimizes the paint removal and application process for C-5, C-17, and C-130 aircraft with the transition from chemical strippers to recyclable plastic media blast, eliminating 12 tons of volatile organic compounds per year. The hangar is also designed to recirculate internal ambient air while maintaining safe and appropriate environmental, safety, and health conditions. Eighty percent of the conditioned air is re-circulated and reused, reducing peak electrical demand for cooling from 6 to 1.5 megawatts. It also reduces peak gas demand for heating and humidification from nearly 200,000 to less than 50,000 cubic feet per hour. This innovative air recirculation project was the first in the AF and was recognized by the Federal Energy Management Program.

For more information, please contact Becky McCoy at 478-327-9287 or becky.mccoy@robins.af.mil. ■

Environmental Management Systems – Civilian “Environmental Performance Track Initiative”

U.S. Postal Service Environmental Performance Track Initiative Team

During the last year, the U.S. Postal Service (USPS) updated and completed full implementation of its EMS for 25 plants, 23 vehicle maintenance facilities (VMF) and five large Post Offices in the eight districts of the Northeast Area and two districts within the Western Area of the United States. The processing and distribution facilities (P&DC) in these ten districts employ 78,195 people and process mail for 27.5 million Americans through a fleet of 21,196 vehicles. Their environmental impacts primarily relate to the automotive and mail processing and maintenance equipment USPS operates in these facilities. The EMS provides standardized procedures to be implemented across all “risk” facilities in the ten districts.

USPS’ EMS efforts span more than a decade. The latest revisions were implemented over a three-year period to support the USPS national leadership goal of increased participation in the U.S. Environmental Protection Agency (EPA) Performance Track Program.

The EMS was achieved through the following generalized three-step process:

- 1) With the help of facility managers and Facility Environmental Coordinators, each facility was brought into compliance with all environmental laws and regulations.
- 2) Environmental Specialists ensured that compliance requirements were met and a business-based EMS was implemented.
- 3) An outside, independent EMS review was performed to ensure that the plan complied with USPS and EPA EMS protocols.

This process required stakeholder involvement at all levels of the organization (i.e., at the facility, District,



Area, and Headquarters levels). Once finalized, a seamless communication of environmental procedures, protocols and requirements was realized throughout the Northeast and Western Areas.

As of mid-January 2008, 24 facilities were members of the EPA Environmental Performance Track Program, with an additional 14 facilities with pending applications to join the program. The Hartford, CT VMF and Hartford, CT P&DC were Charter members that joined the program when it first began in 2000 and have subsequently renewed their membership this year for the third time. Though only 24 USPS facilities have become Performance Track Program members, all 63 of the high risk facilities have met the Performance

Track standards.

One of the critical elements of the USPS EMS was the establishment of standard protocols that are consistent nationwide. The agency EMS, called the Environmental Program Evaluation Guide (EPEG), is used to manage every significant environmental aspect associated with the high risk facilities. This structure resulted in dramatic reductions in training costs given that maintenance staffs, facility managers, and employees were familiar with EMS expectations even when taking another position within the USPS. This approach also reduced the challenges associated with having unique EMS protocols at each facility.

USPS uses standard data collection tools throughout its facilities to determine trends in waste >> 9

Waste/Pollution Prevention - Military

“Moving Mountains of Waste”

Vandenberg Air Force Base Materials Diversion Team

Vandenberg AFB, CA

Vandenberg Air Force Base (VAFB), located in the Santa Barbara area of central California, supports a population of more than 18,000 people composed of military, family members, government contractors, and civilian employees. VAFB is home to the 30th Space Wing and manages Department of Defense space and missile testing, serving as the launching point for commercial and military satellites. It is the only installation to have this unique mission and is one of only a few bases to own and operate a Class III municipal landfill. Like Robins AFB, VAFB is a repeat Closing the Circle Award winner, having previously won for outstanding recycling activities.

When creating its waste/pollution prevention program, the Materials Diversion Team had two major conditions to fulfill: (1) the State of California requires that municipal landfills divert 50 percent of incoming materials from disposal each year, and (2) the Air Force established a pollution prevention hierarchy requiring installations to reduce, reuse, and then recycle materials whenever

possible. Vandenberg’s successful program exceeded the State and Air Force diversion requirements and implemented pollution prevention efforts generating an impressive \$24.5 million in cost avoidance in the last five years.

The Team’s Environmental Flight (30 CES/CEV) Solid Waste Management Program implemented a “common sense” solid waste management approach several years ago. Program staff first identified the largest waste streams on the installation and then developed methods for reducing, reusing, or recycling the materials from those sources. Throughout the process, public education, outreach, community partnerships, and collaboration with regulatory agencies smoothed the path to waste prevention success.

Three recent examples demonstrate the creativity and thoughtfulness of the program. First, VAFB needed to remove an unused, 10 mile railroad line running through a secure area of the base in order to preclude the possibility of commercial rail from

entering the secure portion. VAFB contracted with a non-profit organization to remove the track. Partnering with the U.S. Border Patrol and the California National Guard, VAFB removed the track, which was then reused to build vehicle barriers on the border with Mexico in an effort to support homeland security goals. The non-profit organization removed the ties at no cost to the Air Force and used proceeds from the sale of reusable materials to construct a 17 mile Truckee-Virginia City railroad track as part of a historical preservation program. As a result of this project, more than 1,200 tons of railroad ties and nearly 750 tons of rail were reused, saving an estimated \$823,000 in demolition costs and diverting these reusable materials from the landfill.

Second, the Materials Diversion Team recognized the need to prevent hazardous materials from entering the waste stream the base, which houses approximately 5,000 military families, many of whom relocate every six months. To meet this waste >> **10**

8 >> generation, financial costs for disposal and recycling, and revenue generation from recycling initiatives. In addition, USPS tracks the status of other program considerations, including compliance with training responsibilities through annual training action plan updates; compliance with environmental equipment needs through annual environmental budget calls for compliance and pollution prevention equipment; and compliance with facility-specific environmental targets and objectives through annual updates of environmental program performance.

The EMS adopted by USPS plants and VMFs have resulted in significant pollution prevention, recycling, and economic benefits. A few notable examples include:

- The USPS Northeast Area leveraged its network of plants and VMFs to prevent more than 91 million pounds of waste from being generated through programs to reuse corrugated containers up to five times and plastic pallets up to 50 times. It also prevented nearly 7 million pounds of undeliverable mailings as a result of a customer-

oriented electronic change of address program.

- The combined recycling and pollution prevention programs at the EMS sites resulted in more than \$2.7 million in savings from avoided landfill disposal costs and more than \$1.1 million in savings from recycling of Undeliverable Standard Mail, corrugated containers, plastic, and metals.

For more information, please contact James Gaffney, III at 609-581-3131 or james.f.gaffney@usps.gov. ■

Waste/Pollution Prevention - Military

9 >> prevention need, VAFB launched a public education and awareness campaign targeting residents to encourage proper handling and disposal of household hazardous materials (HHMs). The campaign, using media such as door hangers, magnets, fact sheets, newspaper articles, and newsletters, proved highly successful, leading the Team to establish a HHM Exchange Program. This allowed residents to drop off HHMs free of charge, keeping these materials away from the landfill and saving the Air Force \$80,000 in disposal costs in

2007. Residents also benefit from using products offered through the exchange program by

avoiding the cost of purchasing new products.

Third, to further prevent unnecessary waste from entering the base landfill, the Team took on another project: making the majority of the furniture, supplies, and equipment previously marked as “unsalvageable” (yet usable and in good condition) available to other entities (e.g., other base organizations, local municipalities, non-profit organizations, outside Federal agencies). This concept was realized in August 2006 with the opening of a Materials Diversion Center (MDC), which, in the following year, provided 185 tons of furniture to various Army installations throughout California, as well local fire and police departments, and non-profit organizations. The MDC is co-located with the local Defense Reutilization and Marketing Office (DRMO), so that items rejected by DRMO as unmarketable can be easily made available instead of landfilled.

The Team used base bulletin inserts, fact sheets,

newsletters, and newspaper articles to market the MDC.

The MDC was also utilized after the deactivation of the Titan Missile Program, which required the closure and removal of numerous structures and facilities throughout VAFB. The Team developed a contract mechanism rewarding the contractor for recycling construction and demolition debris, resulting in the prevention of more than 1,800 tons of metal, 9,500 tons of concrete, and 30 tons of wood from entering the landfill. This effort resulted in savings of more than \$1.3 million for the Air Force and American taxpayers. The MDC relocated \$1.8 million worth of equipment and supplies from the former missile program to base organizations.

VAFB's dedication to waste and pollution prevention led to a total 2007 cost avoidance of \$4.3 million in waste stream reuse and \$5.9 million in reduced contractor services.

For more information, please contact Patrick Maloy at 805-605-0544 or patrick.maloy@vandenberg.af.mil or Kim Turner at 805-739-2600 ext. 222 or Kim.Turner@tetrattech.com. ■



Waste/Pollution Prevention - Civilian

“Vendor Partnerships for Envelope Reuse”

U.S. Postal Service’s Reuse of Mailing Products Team
Washington, DC

USPS is a past Closing the Circle Award winner for innovative waste prevention and recycling activities. With outbound reply mail expected to approach 90 billion pieces this year, USPS searched for additional creative solutions to prevent waste and pollution resulting from its operations. It implemented a pilot program for the reuse and recycling of mailing products by forming partnerships with its customers, vendors, and business partners.

USPS collaborated with two national supply companies, MailAgain and ecoenvelopes, to encourage the use of reusable mailing materials. The success of these partnerships was made possible by a change in an aspect of the USPS mail handling automation process which streamlined its mailing requirements, eliminating the need for a separate reply envelope.

MailAgain created a series of recycled content products, including reusable courtesy reply envelopes, business reply envelopes, and CD/DVD mailers, all of which allowed USPS to run the outbound and return portions on automation machinery. Furthermore, these products were designed to eliminate the need for adding separate address labels or tabbing. By creating a unique design, and by leveraging the Postal Service’s technological capabilities, MailAgain products help the mail go green, while simultaneously helping customers save money, time, and resources.

A similar partnership with the company “ecoenvelopes” proved equally successful. Ecoenvelopes developed a reusable envelope eliminating the need for a separate reply envelope, helping to conserve



resources and prevent avoidable waste.

The Postal Service also worked in partnership with Abitibi Paper Retriever® to encourage the recycling and reusing of discarded newspaper, magazines, and general mail in selected Post Offices. These discarded materials are used to manufacture recycled content newsprint, preventing pollution and waste from entering the air, water, and land. Abitibi Paper Retriever®’s Consolidated Recycling Division provides local non-profits with the chance to make a difference, and raise money, at no charge to the organization. Bright green and yellow containers are placed in highly visible, convenient areas where residents can drop off their newspaper, magazines, shopping catalogs and mail. Abitibi then provides complementary collection service and provides the organization with monthly statements

of the weight of material collected, accompanied by a check for the amount collected.

These collaborative partnerships leave a lasting positive impact on the environment. Each time a two-way or reusable envelope is used, one less must be manufactured and disposed of. For every billion reply envelopes eliminated, 16,630 cubic yards of landfill waste are eliminated and more than 3.2 million pounds of air pollution are avoided.

As nearly 100 percent of the more than half a billion packages and envelopes supplied by the USPS are recyclable, the Postal Service dutifully leads the way in developing innovative waste and pollution prevention strategies. In fact, around 4 million pieces of reusable and two-way mailers have thus far been sent.

For more information, please contact Asif Ansari at 770-717-3721 or asif.a.ansari@usps.gov. ■

Green Purchasing – Military

“Biobased Cutlery Program”

Subsistence Biobased Cutlery Team at the DLA's Defense Supply Center Philadelphia, PA

Each year, the Defense Logistics Agency's Defense Supply Center in Philadelphia (DSCP) supplies and manages more than \$12.7 billion worth of food, clothing, pharmaceuticals, medical supplies, general and industrial items supporting American defense personnel and many non-Defense Department customers. For nearly a decade, DSCP has placed a particular emphasis on introducing biobased food utensils into the Department of Defense (DoD) supply chain in order to procure a more sustainable product.

Initially, many problems had to be overcome with production and manufacturing of biobased cutlery (i.e. utensil odor, color, tensile strength, heat resistance, injection cycle time and mold costs, and insect attraction). After an extensive research and development process spanning several years, DSCP overcame numerous financial and bureaucratic barriers to initiate a full-scale biobased utensil acquisition program in March 2007. This process involved the participation of DSCP, the Army's Natick Research, Development and Engineering Command (Army Natick), and the Center's long-term supplier of the conventional petroleum-based plastic product, LC Industries (LCI), a National Industries for the Blind (NIB) organization.

To meet its ambitious green purchasing goals, DSCP surmounted significant obstacles with the production and procurement of biobased cutlery from the cost of the plastic resins to the cost of the finished product. DSCP was committed to continuing its affiliation with LCI, but LCI struggled to identify cost-effective, workable resins. However, consistent support from the DSCP and LCI's product research ultimately led to marketable biobased solutions.

During the research phase of the



plan, DSCP and LCI ran into another barrier: determining the type of biodegradable resin to be used to produce the cutlery. While LCI performed most of the finishing research and development work on their own, Army Natick conducted product testing, and DSCP and LCI consulted and entered into R&D contracts with several resin manufacturers. After this phase was complete, an ideal, cost-effective resin was discovered.

Monetary cost was been one of, if not the largest, obstacle in the process. The price of the biobased cutlery at one time was nearly eight times the price of its petroleum-based counterpart, putting it out of financial reach for the DSCP and Federal agencies. Even at the beginning of FY 2006, projected cost estimates were still 10 - 25 percent higher than conventional plastic ware. However, after the cost-effective biodegradable resin was discovered, the “cost-gap” was significantly narrowed in 2007, and the biobased cutlery was finally given

serious procurement consideration.

The DSCP's fourth and final obstacle overcome was the marketing of the biobased items within DoD and throughout the Federal government. The Center released newspaper articles, electronic messages, and provided displays and spoke at customer conferences. Additionally, the DSCP established National Stock Numbers to spur interest in the cutlery. Several packaged options for the cutlery product are available, including the popular dining packet, which includes a fork, knife and spoon along with a napkin, sugar, salt and pepper, all packaged together.

The biobased, biodegradable cutlery have replaced their conventional counterparts and now reach thousands of military service members around the world each month. From March 2007 to January 2008, DSCP's total procurement for biobased cutlery items has totaled slightly more than \$2.4 million. For more information, please contact John Woloszyn at 215-737-4435 or John.Woloszyn@dla.mil. ■

“USDA Leads Green Purchasing through BioPreferred”

U.S. Department of Agriculture’s Purchasing - BioPreferred Team

Under the Farm Security and Rural Investment Act of 2002, the U.S. Department of Agriculture (USDA) has the lead in developing the biobased products element of the Federal green purchasing program. In addition to designating biobased products for Federal agencies to purchase, USDA is implementing a multi-pronged approach of creating policies and procedures, instituting a tracking system, educating its own and other agencies’ employees, and actually purchasing biobased products and services in which such products will be used.

To coordinate its implementation of President Bush’s Executive Order 13423, *Strengthening Federal Environmental, Energy, and Transportation Management*, USDA created a Sustainable Operations Council chaired by its Assistant Secretary for Administration, Boyd Rutherford. One of the Council’s four working groups, the Green Purchasing Work Group, developed policy proposals and implementation strategies for increasing USDA’s purchases of green products.

To facilitate its green purchasing objectives, USDA updated many of its own and Federal policies and procedures regarding acquisition and procurement. For example, USDA provided the biobased product provisions and clauses added to the Federal Acquisition Regulation. In its Agricultural Acquisition Regulation (AGAR), there is now a requirement for written justification that, if applicable, green products will be used in contracts worth more than \$5 million. The agency also created a series of contract templates for incorporating biobased products into service contracts.

In addition, USDA is working

towards establishing systems to track and report green purchases. It inserted two biobased elements into the USDA Integrated Acquisition System in order to better capture those contracts that contain biobased requirements. It created a baseline for the number of contracts issued that contained designated and non-designated biobased products. Such a system will be a particularly valuable asset between FY 2008 and FY 2012, as the agency is aiming to increase the number of issued contracts containing biobased products by 10 percent over the previous year’s accomplishments.

USDA’s biobased products designation and outreach program is known as BioPreferredSM. USDA marketed BioPreferredSM through a comprehensive campaign that included a series of educational classes and events to both agency employees and the Federal community. The agency held training sessions and/or informational exhibits at the 2007 GSA Expo, the Federal Environmental Symposium, the Department of Veterans Affairs Environmental Conference, and at many other locations in order to reach its fellow Federal community members. USDA also partnered with the Cooperative State Research, Education and Extension Service to provide information to land-grant colleges and other institutions, further spreading the word about its excellent program.

To promote green purchasing techniques to its own employees, USDA used classroom training sessions, webcasts, literature, and Federal training sources such as GSA and commercial training.

USDA has designed a web-based awareness curriculum for program personnel, contracting officers, and

contract specialists on the benefits of designated biobased purchasing, methods and procedures for selecting designated biobased products, and incorporating designated biobased purchasing into daily operations.

Procurement forecast training, which included information about how the forecast will be used >> 14



Green Purchasing – Civilian

13 >> in conjunction with the BioPreferredSM program, was also conducted for small business coordinators and specialists at the agency. USDA held 28 meetings in 2007 on biobased procurement outreach alone, reaching more 10,000 people.

During FY 2007, USDA and its

operating agencies continued to purchase biobased products and add biobased product requirements to services contracts. The agency purchased biobased products including hydraulic tractor fluid, soy-based ink, two-cycle engine oil, bathroom cleaner, heavy duty hand cleaner, cartridge grease, floor cleaner,

rest room disinfectant, floor stripper, degreaser/sanitizer, paper towels, and disposable single use food service products. USDA removed single use petroleum-based food service products (such as plates, bowls, trays, cups, and cutlery) from its Washington, DC area cafeterias and replaced them with food service products made from renewable materials. The Cafeteria Green team designed a workable green cafeteria program that is being replicated by other Federal cafeterias, including those in the U.S. Capitol complex. Likewise the Pacific Southwest Research Station (PSW) of the U.S. Forest Service has switched to sustainable disposable flatware and tableware at food events.

USDA's Agricultural Research Service's (ARS) headquarters Facilities Division has made architects and engineers aware of biobased products like insulation, wheat straw board, carpeting, cleaners, lubricants and inks, form release agents, linoleum, rapidly renewable cork, palm, and bamboo flooring. The Facilities Division's contracts require biobased products.

For more information, please contact Shana Love at 202-205-4008 or shana.love@usda.gov. ■



Recycling

“Recycling Leadership in the Transportation Sector”

Federal Highway Administration Recycling Team

Washington, DC

Situated within the Department of Transportation, the Federal Highway Administration (FHWA) is charged with ensuring that America’s roads and highways are safe and technologically up-to-date. Although most of the Nation’s highways are owned by State, local, and tribal governments, FHWA provides financial and technical support for the construction and preservation of America’s highway system. Because of its large jurisdiction and subsequent impact on the environment, FHWA has made it a priority to protect and enhance the ecosystem and communities affected by highway transportation.

In the process of becoming a leading Federal environmental steward, FHWA promoted recycling as an integral part of road construction and led numerous community education and outreach projects encouraging the practice throughout the road construction industry.

In 2005, FHWA joined EPA, the States, and the construction community to form the Green Highways Partnership. The Partnership promotes the incorporation of environmental considerations into the design, construction, and operation of roads. The Partnership recognizes existing best practices and promotes new approaches to environmental stewardship. In late August 2007, FHWA co-sponsored a Green Highways Partnership workshop with the Mid-Atlantic States to share information on recycling. During the workshop, facilitated discussions were held that identified challenges to increasing the recycling of industrial materials. As a result of this forum, each state agreed to identify a pilot project where industrial materials



could be used in roadways and to work together in an attempt to harmonize their beneficial use regulations and material specifications for their roadways. Just as importantly, the states agreed to work together in an attempt to harmonize their beneficial use regulations and material specifications for their roadways, which has been a significant obstacle to greater use of recovered materials.

As a result of FHWA’s efforts, the nation’s largest recycling program has been established. Each year, approximately 200 million tons of materials recovered from old highways and roads are directed to processing plants where 80 percent of the material is reused in future highway construction projects. Much of the recycled material is used as aggregate and binder for new asphalt, significantly reducing the >> 16

Recycling



15 >> amount of costly virgin material needed. Thus, non-renewable resources such as oil and aggregates are conserved. To put the 200 million tons in perspective, the amount of municipal solid waste recycled annually in the United States (e.g., cans, bottles, newspapers) is less than half that amount: 82 million tons. In addition to the 200 million tons of asphalt recycled off-site, 50 million tons is recycled directly back into the

road itself, using 100 percent of the recovered material. FHWA has been actively promoting the wider use of recycled-in-place asphalt.

According to a FHWA State-of-Practice Review, recycling asphalt in place conserves resources and energy and reduces harmful greenhouse gas emissions. Energy consumption is reduced by 29 trillion Btu, and an astounding 1.95 million tons of carbon dioxide emissions are avoided.

FHWA also promotes the use of recovered industrial materials such as coal fly ash, a byproduct of the coal burning in power plants, in the construction of roadways. Coal ash replaces structural fill in road construction and replaces a portion of the Portland cement used to make concrete; thus, carbon dioxide emissions from cement manufacturing are avoided. At current coal fly ash usage rates, 10.5 million tons of carbon dioxide emissions are avoided.

To encourage the use of recycled materials throughout the road construction industry, FHWA has led numerous education and outreach programs over the past decade, focusing on the engineering feasibility of using these materials. The FHWA-funded Recycled Materials Resource Center, a Federal-university partnership located at the University of New Hampshire (<http://www.rmrc.unh.edu>), tests, evaluates, and develops guidelines for the use of recycled materials in transportation infrastructure construction and maintenance. In addition, FHWA disseminates best practice information via factbooks for highway engineers focusing on coal fly ash and spent foundry sand use in highway construction. More than 50,000 of these factbooks have been distributed nationwide and are available online at

<http://www.fhwa.dot.gov/pavement/recycling/fatoc.cfm> and http://www.fhwa.dot.gov/pavement/pub_details.cfm?id=55.

Recent FHWA outreach activities include an October 2007 forum (held with EPA) on the recycling of spent foundry sand into roadways and highway embankments. Immediately following was a joint FHWA-EPA workshop for states on asphalt shingle re-use in highway construction. Feedback from the workshop is that more states will be using asphalt shingles when making asphalt.

Along with the Green Highways Partnership workshop, the FHWA has led many other workshops over the past few years for States and localities focusing on recycling methods. These outreach activities have brought together members of the environmental and transportation sector, providing exceptional forums for the foundation of long-lasting collaboration and environmental stewardship in the transportation sector throughout the Nation.

For more information, please contact Robert Burchard at 703-308-8450 or burchard.robert@epa.gov or Jason Harrington at 202-366-1576 or jason.harrington@dot.gov. ■

Sustainable Design/Green Buildings – Military

“Sustainable Design Through LEED”

Fort Bragg Sustainable Community Team - Facilities

Fort Bragg, NC

Fort Bragg’s Sustainable Community Team - Facilities made remarkable strides towards sustainability through their successful efforts to integrate Leadership in Energy and Environmental Design (LEED) standards in the design, construction, maintenance, and operation of installation infrastructure. Fort Bragg’s innovative advancements are made even more noteworthy by the fact that, with a military population of more than 52,000 soldiers and growing, it is also the largest Army installation in the U.S. These sustainable buildings are part of Fort Bragg’s larger sustainability efforts, for which it previously won a Closing the Circle EMS award.

Due to Base Realignment and Closure (BRAC), Grow the Army, and other expansion initiatives, the Fort

Bragg team faces an ever-increasing demand for facilities. Following their sustainable facilities objective in the Garrison Strategic Plan, they are meeting this demand in an eco-friendly way via participation in the LEED program. Fort Bragg currently has seven LEED-accredited professionals on staff in three separate divisions—the highest number on staff at any Army installation—to carry out their projects and ensure proper procedures are followed.

Fort Bragg set aggressive performance targets, requiring the installation to meet at least LEED Silver standards by FY 2012, Gold by FY 2017 and Platinum by FY 2020 for 100 percent of all new military construction (MILCON).

For existing facilities, at least 25 percent of the total square footage (approx. 6.5 million square feet) is to be a minimum of LEED Certified by FY 2020. These targets affect an estimated 20 million square feet of proposed and existing infrastructure.

With a massive MILCON budget of more than \$2 billion in the next three years, efficiency in design and resource usage is equally critical to the well-being of the installation and environment. To accommodate this exponential growth, Fort Bragg strives to proactively advance its LEED programs far beyond baseline Army MILCON requirements and timelines through innovation and creativity.

As of June of last year, Fort Bragg remained the only >> 24



Sustainable Design/Green Buildings – Civilian

“A Model of Sustainable Architecture.”

GSA's New San Francisco Federal Building Project Team
San Francisco, CA

The General Services Administration's (GSA) recently adopted strategic plan devoted the agency to ensuring environmental stewardship of Federal assets and providing superior workplaces for all government employees. Perhaps the best example of GSA's effort to meet these goals is the innovative new San Francisco Federal Building, completed in February 2007. The building has been lauded as a model of sustainable architecture by the Federal government, industry leaders, NGOs, and professional organizations nationwide.

The forward-looking building, standing 18 stories tall and 65 feet wide in the tower, cost \$144 million to construct. Nearly 1,500 employees of the Departments of Labor, Health and Human Services, Agriculture, and Defense, GSA, Social Security Administration, and Office of Personnel Management are housed within the building's 523,000 square feet of rentable space.

Siting. Located at the south end of the city's Civic Center, the Federal building contributes to a process of urban renewal in a transitional neighborhood. It has brought much-needed attention to the neighborhood, attracting private developers to the area. Additionally, the location is served by numerous public transportation options, allowing employees and visitors to minimize their automobile use.

Materials. During construction, only low- or zero-toxicity building materials were used. More than 13 percent of the total value of this construction material used was postconsumer or post-industrial material. Additionally, around 50 percent of the Portland cement used in the concrete contained blast-

furnace slag, a by-product of steel manufacturing. As a result, approximately 5,000 tons of carbon dioxide were prevented from being released into the atmosphere.

During construction, more than 90 percent of construction waste was diverted from landfill through on-site separation, saving about \$1.3 million in potential C&D disposal fees.

Energy Efficiency. The building was designed to consume one-third of the energy of a typical California office building, approximately 30,000 BTUs per square foot per year. The total estimated utility bill savings to the government as a result is approximately \$500,000 per year. GSA will purchase at least 50 percent of the electricity from renewable energy sources such as wind or solar power.

Much of the energy savings is a result of an innovative sunscreen wrapping around the south façade of the building. This screen regulates the amount of direct sunlight entering the building, absorbing much of the solar energy that would typically enter the building. The screen absorbs and then conducts heat energy into the immediate airspace around it. This heated air rises alongside the building and helps draw exhaust air out of it through computer-controlled windows. The solar energy fuels a passive heat pump that helps to cool the building throughout the year. Additionally, the screen helps to modulate light inside the office space, which minimizes the use of traditional electric lighting. Light sensors detect light levels within the space, and computers automatically dim or brighten lights so that the ideal amount of light is produced.

If the building performs as designed, it will save enough energy -

6.9 million kilowatt hours - to power 600 homes or take 830 cars off the road for one year. In other terms, it will prevent the potential release of more than 8,100 tons of greenhouse gases each year.

A unique feature of the building is its express, “skip-stop” elevators that stop at every third floor of the building, forcing approximately two-thirds of the employees to walk up or down one flight of stairs to reach their office. This not only speeds up service time, but reduces the energy required for the elevator system.

Water Efficiency. In an effort to reduce water usage, drip irrigation and dual-flush valves were installed on all toilet fixtures. This reduces potable-water consumption by more than 30 percent, saving more than \$50,000 per year in water utility bills.

Indoor Environmental Quality. The workstations in the office tower are located next to the all-window façades, while executives' offices are located in the middle. This inverted floor plan is only about 60 feet wide and was designed to allow natural light to penetrate through the workstations and into the central offices, providing light and fresh air for everyone.

The building's narrow floors take advantage of the city's naturally moderate climate by allowing fresh air to flow through the entire width of the tower through operable windows. Occupants have the ability to open or close windows as needed, giving them direct control over their microenvironment. The natural ventilation system is so effective that air conditioning was entirely eliminated in those spaces.

Throughout the building are informal gathering spaces like the Skygarden - an open-air, >> 19

Sustainable Design/Green Buildings – Civilian

18 >> covered informal gathering space on the 11th floor of the building – which enable and encourage chance encounters and a variety of meeting spaces. These features sustain both social connectivity and the physical health of occupants in the building.

Operation and Maintenance. A large, protected, sun-filled public plaza

is prominently located on the property and was designed with a permeable, decomposed granite surface that allows rainwater to percolate back into the earth. This prevents surface-generated runoff pollutants from entering the San Francisco Bay, as well as provides an aesthetically-pleasing plaza for public enjoyment.

To ensure cleaning solvents used in this green building would be perpetually non-toxic, GSA entered into a “green cleaning” custodial contract when the building was completed.

For more information, please contact David Leites at 415-522-3284 or david.leites@gsa.gov or Maria Ciprazo at 415-522-3128 or maria.ciprazo@gsa.gov. ■



Alternative Fuel and Fuel Conservation in Transportation - Military

“Deploying Alternative Fueled Vehicles”

U.S. Marine Corps Southwest Region Fleet Transportation Team

Camp Pendleton, CA

The Southwest Region Fleet Transportation (SWRFT) is a regional organization comprised of Garrison Mobile Equipment fleets located at seven Marine Corps Installations in California. These installations include Marine Corps Base Camp Pendleton; Marine Corps Recruit Depot San Diego; Marine Corps Air Station Miramar; Marine Corps Air Station, Camp Pendleton; Marine Corps

Air Ground Combat Center, Twentynine Palms; Marine Corps Logistics Base, Barstow; and Mountain Warfare Training Center, Bridgeport. The Fleet Managers at each of these locations comprise a team that has proven its dedication to the reduction of oil-based fuel usage.

In order to meet their goal, the SWRFT Team members identify and employ advanced technology and products along with alternative fueled

vehicles in the seven Marine Installations they oversee. The Team has demonstrated success in the use of alternative fuel and fuel conservation, reducing the Nation’s dependence on petroleum as well as reducing output of hazardous pollution and greenhouse gases.

In terms of alternative fuel vehicles (AFVs), the Team employs 542 Compressed Natural Gas >> **21**



Alternative Fuel and Fuel Conservation in Transportation - Military

20 >> vehicles, 293 electric vehicles, 21 gasoline/electric hybrids, and 367 flex fuel ethanol (E-85) vehicles. Altogether, this totals more than 1,200 AFVs that significantly reduce nitrous oxide, carbon monoxide, and methane pollution, as well as reduce petroleum usage.

Along with its impressive fleet of AFVs, the Fleet Transportation Team uses other techniques and products to reduce pollution and increase vehicle fuel efficiency. Biodiesel fuel (B20) is required of all diesel fuel equipment. The SWRFT Team has thus reduced petroleum diesel consumption by 20 percent in its 817 diesel engine vehicles. The installation vehicles consume 1.3 million gallons of biodiesel each year.

To further conserve fuel and collect information about engine performance, speed, and location of the vehicles, the Team uses an onboard wireless location and performance monitoring device, attaches to the vehicle's computer monitoring engine performance and speed while using GPS technology to monitor location. The information is later analyzed to ensure that the vehicle is consuming fuel efficiently and as cleanly as

possible and to identify improperly performing engines requiring maintenance. These devices also allow managers to reduce the number of unnecessary trips and improve route planning, as well as reduce the amount of air pollution caused by burning excessive fossil fuels. The Team has recorded a 27 percent reduction in excessive speed reports after the installation of the GPS devices, indicating just one of the successes of these devices.

Another electronic device, a cabin video/audio monitoring device, has also been installed on the fleet's windshields. This device monitors the area ahead of the vehicle and the vehicle cabin area and records a 30-second event when it receives a force that exceeds a specified level. These events are later downloaded to a central location for review. These monitoring devices improve operator driving habits and reduce aggressive driving behavior, improving fuel efficiency and reducing premature tire wear. The Team has recently seen a 33 percent reduction in captured events.

Knowing that good tire maintenance programs help to both extend tire life and improve fuel

efficiency, the Team installed tire pressure monitoring devices on the medium and heavy duty fleet vehicles. These monitors provide an easy method for vehicle operators to maintain proper tire air pressure, improving fuel efficiency and reducing tire wear. Tires that are properly maintained during their life with little wear or damage to the core are retreaded, greatly reducing the waste tire volume.

The SWRFT Team is currently looking to hydrogen fuel cell technology to use in the next generation of fleet vehicles. Marine Corps Base Camp Pendleton will soon be opening a hydrogen fuel station that also supports the State of California's desire to create a hydrogen highway along Interstate 5. This facility will fuel prototype fuel cell and hydrogen internal combustion engine vehicles that the Base will begin testing and utilizing in daily fleet operations this summer. The hydrogen station has the potential to fuel both government and civilian hydrogen fuel cell vehicles in the near future.

For more information, contact Gary Funk at 760-725-3500 ext. 4579 or gary.funk@usmc.mil. ■

Alternative Fuel and Fuel Conservation in Transportation – Civilian “Green Transportation Initiative”

Oak Ridge National Laboratory Fuel Efficiency and Transportation Initiatives Team
Oak Ridge, TN

Oak Ridge National Laboratory (ORNL) in Oak Ridge, TN is the Department of Energy’s largest science and energy laboratory, employing about 4,200 people. Through its Green Transportation Initiative, the Fuel Efficiency and Transportation Initiatives (FETI) Team increased the use of alternative fuel, reduced reliance on petroleum, and provided personnel with safer, more cost-effective transportation options.

During the past several years, ORNL effectively “greened” its campus transportation by: (1) designing the campus to encourage walking and biking by personnel, (2) integrating fuel efficiency features into roadway design, (3) encouraging shared transportation, (4) expanding the fleet of flex fuel vehicles, and (5) implementing the use of biodiesel in fleet vehicles.

To minimize the use of petroleum-based government vehicles within ORNL, the Team updated their campus with numerous outdoor walkways that ensure pedestrian and bicycle friendliness. Off campus, a pedestrian and bicycle lane was added the main access route to the laboratory.

In addition, ORNL eliminated a major traffic light at the main entrance to the laboratory. The light was replaced with a roundabout, which reduces petroleum consumption caused by idling automobiles waiting for the traffic light to change.

To further decrease unnecessary fuel utilization by both ORNL and its employees, the Team created both on- and off-campus options for shared transportation. On site, ORNL uses a campus taxi service that is promoted throughout the lab and has its own internal homepage. Off campus, a lab-sponsored carpool program is

in place to encourage personnel to share rides when commuting to work. This program, which currently has about 130 active participants, uses an interactive internal carpool website (<http://home.ornl.gov/~fli/>) that includes information about carpool benefits, etiquette, announcements, and a database to facilitate carpool partner searches. Additionally, ORNL promotes hybrid vehicle ownership through awareness campaigns and articles highlighting personnel who own hybrids.

Recognizing the numerous benefits of supporting the use of alternative fuel vehicles, the FETI Team ensures that ORNL procures flex fuel vehicles when the option is available. In fiscal year (FY) 2007, 64 percent of vehicles procured were flex fuel vehicles. Currently, this initiative has resulted in the purchase of 118 such vehicles, which is about 25 percent of the fleet. The usage of the lab’s on-site 8,000 gallon E85 tank continues to increase, nearly reaching the 30,000 gallons-used mark in FY 2007.

In FY 2007, ORNL’s Logistics Division identified the use of biodiesel as part of its 2007 EMS objectives and targets. After following the proper cleaning procedures necessary for the transition to the biodiesel, ORNL began the use of B20 in its 45 diesel vehicles and numerous pieces of equipment on campus. Only the emergency generators are not fueled with biodiesel. The lab has a 6,000 gallon biodiesel fuel tank on site, and used 15,600 gallons of the fuel in its fleet in FY 2007. Like E85, this fuel reduces hazardous tailpipe emissions and reduces dependency on petroleum-based fuels. For more information, please contact Susan R.C. Michaud at 865-576-1562 or michaudsr@ornl.gov. ■



Electronic Stewardship - Civilian

“Electronics Stewardship at TSA”

Transportation Security Administration’s Electronics Stewardship Team

In February 2005, the Transportation Security Administration (TSA) formed an Electronic Stewardship Team, including employees from the Environmental Management Program, the Information Technology Division (ITD), and the Property Management Office (PMO). Using the Federal Electronics Challenge (FEC) as its guide, the Team ensures that TSA improves the practices used in acquisition and procurement, operations and maintenance, and the end-of-life management practices of their electronics.

Thanks to the work of the Team, TSA developed a plan for agency-wide computer refreshment project in 2006, since most of their computers were the same as those acquired since the founding of the agency five years earlier. To fulfill their electronics stewardship objectives, the computer contract language was modified to ensure that all computers, monitors, and laptops procured were EPEAT-registered. Each of these products procured during this refresh project had achieved EPEAT-Silver rating. Additionally, environmentally-friendly printers, copiers and fax machines were purchased.

To address end-of-life management, the Team worked with Dell to ensure that all computers and electronic components were either reused or recycled. During the refresh project, Dell’s Asset Recovery Service took back all used computers, refurbishing and reselling those with higher value and recycling the remaining computers.

Those computers reaching end-of-life outside of the computer refresh project went through PMO’s disposition process, which posts all used electronics for donation on GSAXcess. After this, a timeline was arranged for Federal and State agencies



Transportation Security Administration

and members of the public to offer to purchase the items. If the electronics were not donated or sold, they were sent to UNICOR for recycling.

Like most Federal agencies, the sensitivity of information stored on TSA’s computers requires a thorough media sanitation process during refresh projects. During the refresh project, TSA’s hard drives were wiped a total of seven times using the agency’s Standard Approved Wiping Software, and those with particularly sensitive data underwent a degaussing process. The latter procedure rendered the hard drives non-reusable and, therefore, those drives could be sent for recycling.

Acknowledging that employee education is a fundamental part of any agency-wide environmental plan, TSA developed a bulletin titled *Guidance for Electronics Best Management Practices*. Among other things, the literature encouraged employees to log off their computers when they are not in use and detailed paper-saving printing and copying tips. These bulletins also included information about the electronic procurement and disposition process of which the agency was in the process.

In addition to the bulletin, TSA’s Environmental Management Plan (EMP) addresses all electronics issues, including employee education. One such example was an informational poster hung in all TSA Headquarters

copy rooms and other high-trafficked areas. These posters provided directions regarding the use of environmentally-friendly features of the copy machines and other electronics in their office.

TSA went beyond its own agency to provide outreach and education opportunities to the Federal community and the public. In 2007, the Team led TSA’s participation at events such as Earth Day, America Recycles Day, and Energy Awareness Month, creating display boards, brochures, posters, and articles for each event.

To spread the news of success to its fellow Federal agencies, TSA made presentations at several environmental and electronics conferences, such as the Federal Electronics Stewardship Conference, the FOSE Technology Conference, the Federal Environmental Symposium, and the Green Computing Summit.

The Agency also mentored fellow Department of Homeland Security components, such as the Federal Emergency Management Agency and Immigration and Customs Enforcement to improve their own electronics stewardship and computer refresh programs.

TSA was recently recognized for all of its stellar work when it received an agency-wide 2007 EPEAT Silver Award. For more information, please contact Andrew Bouie at 571-227-1320 or andrew.bouie@dhs.gov. ■

Office of the Federal Environmental Executive

Joe Cascio Federal Environmental Executive

Dana Arnold Chief of Staff

Juan Lopez Senior Program Manager

Katie Miller GSA Agency Representative

Jeannette Saunders Secretary

Nick Chamberlain Intern

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17 >> military installation that had both a LEED program for existing buildings (LEED-EB) as well as new construction

(LEED-NC). The first phase of Fort Bragg's existing buildings program includes 43 buildings encompassing more than 5.2 million square feet and is the second largest contributor of square footage to the U.S. LEED-Existing Buildings program in the entire U.S. Green Building Council (USGBC) inventory.

The installation's LEED-NC program received approval from USGBC to register and certify 27 projects totaling 2.8 million square feet. Collaborating with the Army Corps of Engineers (USACE), each of these new buildings in the 2008-2010 MILCON budget is scheduled to be built to LEED Silver standards.

Fort Bragg entered into a partnership with USGBC as a part of their LEED Portfolio Program under which the base registered 43 buildings (over 5.2 million square feet). Developed with significant input from Fort Bragg, the unique Program assigns "automatic" LEED credits based on the installation's pre-approved baseline standards and policies. This process eliminates the need for supporting documentation on certain pre-specified credits and many of the associated costs. Registration and certification fees were reduced by about 40 percent—from around \$116,000 to an

estimated \$69,000. Fort Bragg is the first—and currently the only—DoD entity to participate in this program.

Fort Bragg also partnered with USACE to identify more than 100 LEED-related specification requirements to be included in USACE standards for all new construction projects in the U.S. As a result of this partnership, more than 90 percent of these specifications have now been incorporated as new construction standards worldwide.

Another 2007 milestone for Fort Bragg's sustainable design goals was the construction of a permanent container building on the installation. The two-story, 4,322 square foot 249th Engineers Company Operations Building was constructed using 12 reclaimed, 14-gauge steel, shipping containers, each of which is built to hold an impressive 50,000 pounds, almost double that of standard load-bearing construction. Not only does this building boast superior resistance to wind, fire, moisture, and other damaging elements and require only a fraction of the time and materials to construct, Fort Bragg is expected to save tens of thousands of dollars on labor and construction, as well as operation and maintenance costs. Converting these used shipping

containers also conserves substantial energy, as only 5 percent of the total energy required to melt down the

containers for reuse is needed to convert them.

In addition to an innovative program performance monitoring module, Fort Bragg developed a Best Practices Database to assist project managers and designers unfamiliar with LEED Reference guides. This database provides digital representation of the USGBC reference material, detailed information about LEED credits, and is capable of generating an implementation outline for projects according to specific cost and material requirements.

A user-friendly LEED Vendor Database was also developed in early FY 2007 to help project managers and local Army engineers identify local and regional suppliers of building/construction products and materials meeting LEED requirements. It features an electronic LEED training component depicting a graphic cross-sectional view of a typical multi-storied building, with training modules directly related to each area within the building. This database has been found to significantly help in the procurement process of green building material.

For more information, please contact Paul Wirt at 910-396-3341 or paul.wirt@us.army.mil. ■