

# UNITED STATES AIR FORCE

2001-2002

## SECRETARY OF DEFENSE POLLUTION PREVENTION AWARD NON-INDUSTRIAL INSTALLATION



**AIR ARMAMENT CENTER  
EGLIN AIR FORCE BASE, FLORIDA**

**SECRETARY OF DEFENSE  
ENVIRONMENTAL AWARD  
POLLUTION PREVENTION AWARD – NON-INDUSTRIAL INSTALLATION  
AIR ARMAMENT CENTER, EGLIN AIR FORCE BASE, FLORIDA**

## INTRODUCTION

The Air Armament Center (AAC) at Eglin Air Force Base (EAFB), Florida, is the nation's premier center for the development and testing of enhanced conventional weapons. The Center is located in the northwest Florida panhandle and provides a diverse and unique environment for testing and training. Its land area covers approximately 724 square miles or approximately 464,000 acres of predominantly pine forest, with more than 50 specific test areas and sites. The AAC manages over 130,000 square miles of airspace overlying the land and water, extending from Alabama, northwest Florida, and over a large portion of the Gulf of Mexico. With over 20 miles of beaches, EAFB supports test and training missions that require a sea-to-land transition area.

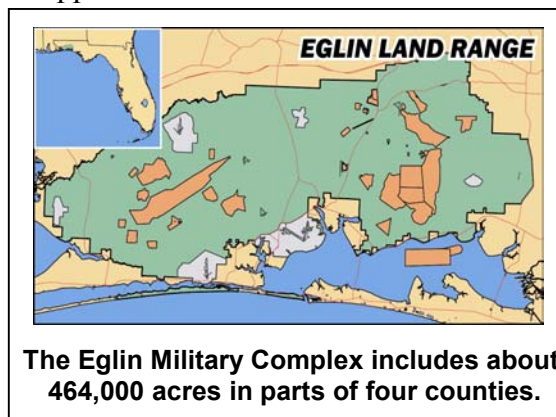
EAFB has armed the U.S. Military for over 60 years and today is home to over 45 Air Force associate units. EAFB employs more than 8,500 military personnel and approximately 4,500 civilians.

## BACKGROUND

**ENVIRONMENTAL CHALLENGES.** EAFB is home to the 46 Test Wing (46 TW) and other major organizations including the 33rd Fighter Wing (33rd FW), Navy Explosive Ordnance Disposal School, the Army Ranger Training Battalion, the Special Operations Wing, the Alabama National Guard, the Air Force Research Laboratory, and over 100 tenant organizations. These organizations have a large number of specialized processes that purchase, use, and dispose of a wide variety of hazardous materials. They also create a diverse range of solid wastes.

EAFB contains several unique habitat systems that are home to more than 90 threatened and endangered species. Sustaining mission capabilities while simultaneously protecting its resources is at the core of EAFB's actions.

**ORGANIZATION, STAFFING, AND MANAGEMENT APPROACH.** AAC's Environmental Management System (EMS) provides the overarching methodology for the installation to accomplish its mission. The EMS conforms to the International Organization for Standardization ISO 14001 standard. An environmental policy statement signed by the AAC Commander committed EAFB to environmental excellence, while maintaining mission readiness. Environmental



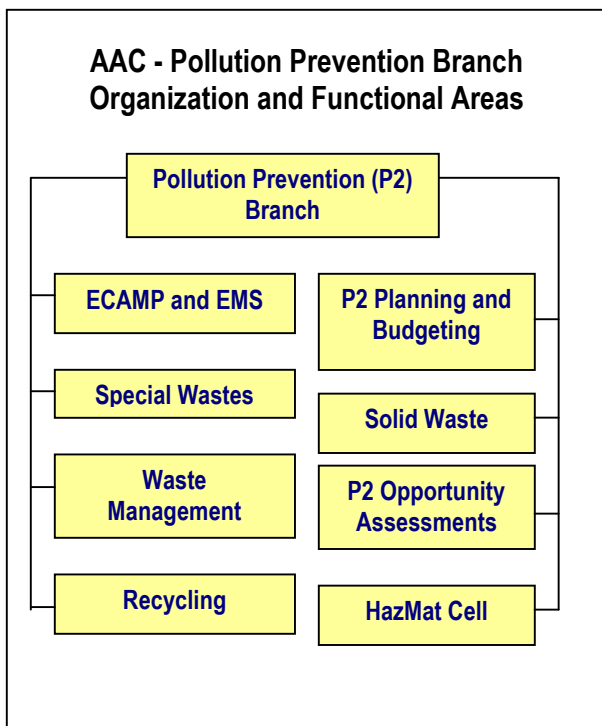
operating procedures for all aspects of the EMS are in place to ensure cohesiveness and standardization. Tools exist to improve understanding and facilitate the use and continuity of the system. Ongoing training is provided to employees to help them accomplish their mission while meeting myriad environmental

requirements. Monitoring and measuring of targets and objectives is accomplished monthly by the Environmental Management (EM) staff and the AAC Commander. EAFB developed an internal audit procedure to determine if the EMS is performing as expected and has implemented corrective action procedures for areas not in conformance with the goals of the Commander's environmental policy statement.

The Pollution Prevention Branch, consisting of 10 employees, is organized into eight integrated programs, including Hazardous Materials (HM), Hazardous Waste (HW), Integrated Solid Waste (ISW) (including recycling) P2 Opportunity

Assessments, the Environmental Compliance and Assessment Program (ECAMP) and Environmental Management System (EMS), Special Wastes, and Planning and Budgeting. Program Managers in the P2 Branch are responsible for managing all aspects of their program, including ensuring compliance with all program directives, planning program direction, developing and implementing operational controls, planning and programming budget requirements, providing clear and concise guidance to both internal and external customers, and fostering environmental responsibility in all AAC personnel.

regulated process, or discharge from a regulated facility or process. AAC inventoried and prioritized over 2000 sites based on their compliance burden. Factors such as compliance risk, compliance cost, environmental and human health risk, and mission impact were compiled to establish the burden. Those sites in the Compliance Sites Inventory (CSI) with the highest compliance burden were the focus of process-specific opportunity assessments (PSOAs) which evaluate processes, methods to reduce pollution, and associated costs.



**HAZARDOUS MATERIAL CELL (HAZMAT CELL).**

The Hazmat Cell consists of representatives from each of the organizations on EAFB that are most closely associated with Hazardous Material acquisition, storage, distribution, use, and disposal. The Hazmat Cell’s role is to screen, control, track, and report the acquisition of hazardous materials. The Hazmat Cell is a shared function between the 96 Air Base Wing Logistics Group who provides space and support for the Cell and the Hazardous Material Program Manger who is responsible for program administration and providing personnel to support the program. Goals and objectives of the program are directed by the Hazardous Material Working Group, which is chaired by the Environmental Compliance Chief.

**COMPLIANCE THROUGH POLLUTION PREVENTION (CTP2).**

One of the primary tools of the EMS is Compliance through Pollution Prevention (CTP2). This approach supports mission readiness by complying with existing environmental regulations and anticipating new ones. CTP2 uses P2 solutions to minimize or eliminate compliance costs and risk, environmental and human health hazards, and process-generated pollution. The approach identifies and ranks “Compliance Sites” that may be thought of as significant environmental aspects of the missions performed at EAFB. Compliance sites include any regulated facility,

**QUALIFIED RECYCLING PROGRAM (QRP).**

This program is administered through the P2 Branch. The program manager provides oversight for the management of all waste to be recycled or otherwise diverted from landfill disposal, and ensures affirmative procurement goals are met. The Services organization actually manages the day-to-day operation of the recycling center with its eight full-time employees.

**AFFIRMATIVE PROCUREMENT.**

AAC established a cross-functional council consisting of all major organizations on the base to facilitate the implementation of the Affirmative Procurement Program. At the end of FY02, the AAC Center Commander published a policy of Affirmative Procurement and his support of the

program. AAC Plan 32-7 on Integrated Solid Waste Management includes an Appendix on the requirements of Executive Order 13101, Greening the Government through Waste Prevention, Recycling, and Federal Acquisition. EAFB’s Contracting and Procurement organizations review acquisitions for products that must contain recycled material and include the requirements in contracts and purchase orders.

**STAKEHOLDER INVOLVEMENT.** P2 Objectives and targets are available in real-time to the Center Commander to review and interact directly with the Program Managers. The P2 Branch oversees the Unit Environmental Coordinator (UEC) program to ensure environmental objectives are communicated and implemented throughout the installation. The P2 branch conducts monthly UEC council meetings that provide a forum for information exchange between Environmental Management and its base customers. To further facilitate the UEC council, the P2 Branch developed a comprehensive manual for use by all the UECs. Environmental

Management is at the forefront of the Air Force as a result of its development of a comprehensive intranet website from which employees can review all environmental policy and guidance documentation, review current and past P2 projects and initiatives, provide various reporting requirements, review training videos, participate in “virtual tours” (including the recycling center) of various environmental programs, update and review organization-specific environmental data, take online awareness training, and provide feedback through online surveys. AAC has a number of cross-functional teams supporting the P2 programs and lessons learned are developed to provide continuous process improvement. The P2 program heads up an environmental partnering effort with the Florida Department of Environmental Protection and other regional Air Force bases to share information and resolve environmental concerns effectively and efficiently.

One measure of a successful program is that individuals within the organization accept environmental responsibility and that they practice proactive pollution prevention rather than just compliance or reaction to laws and regulations. Some examples include:

- One of the vehicle maintenance shop managers *“recycles everything that’s not nailed down.”* He has taken the initiative to recycle products that are not accepted at EAFB’s recycling center:
  - Recycled all batteries
  - Recycled 5,000 tires last year, including tires from the range and Boy Scout pickups
  - Realized a 50 percent savings in using recycled toner cartridges
  - Posts recycling drop off points for shop employees to dispose of their home-generated waste products
- AAC’s Range Operations contractor publishes a monthly newsletter that features articles on reducing use of hazardous materials and hazardous wastes.
- An employee of the Qualified Recycling Center built a ramp for processing 75-pound bundles of steel cans, which were previously dropped on the floor and then “man-

<b>P2 Program</b>	<b>Objective/Target</b>
EMS	Achieve compliance at 95% of compliant sites based on periodic inspections
	Ensure 100% of AAC Plans are compliant
HM	Reduce Top 10 Chemicals Purchased by 2% from previous year
	Reduce the quantities of unused HM disposed of as HW by 10%
	Reduce the numbers of HM used annually
HW	Reduce the amount of HW disposed of annually
SW	Achieve 40% reduction in the amount of SW diverted from landfills by FY04
	Reduce quantity of SW generated annually
Recycling	Accomplish 90% of scheduled pickups
	Recycle at least 110 tons per month
	Make at least \$1,000 per month
	Keep operating costs at less than \$150/ton
PSOA	Evaluate 2% of compliant sites per year for PSOAs

- handled,” significantly increasing the efficiency of the operation.
- One of the hazardous material issue point managers improved customer service by developing a training pamphlet that shows new personnel how to issue and turn in material in the Hazardous Materials Management System (HMMS).
  - Truck drivers picking up recycled materials frequently listen to customers and provide feedback from customers of the recycling program on locating additional recycling containers.
  - A natural resources specialist researched a more environmentally friendly, paint for painting trees and signs.

## PROGRAM SUMMARY

**P2 OBJECTIVES.** The Mission of the P2 Branch is to help reduce, reuse, and recycle waste materials and toxic pollutants through the promotion of innovative new technologies, alternative raw materials, effective management practices, relevant training, and efficient inventory control.

Each of the Program Managers within the P2 Branch has established P2 objectives arising from the Center’s environmental policy. An environmental target is defined as a detailed performance requirement, quantifiable where practicable, that arises from the environmental objectives. The objectives and targets for each of the P2 programs are shown below.

Objectives and targets are tracked on AAC’s Executive Management Information System (EMIS) as environmental performance indicators. Progress toward meeting the targets is reviewed routinely by the EM leadership and monthly by the AAC Commander. Objectives are changed to reflect new initiatives in the process of continual improvement.

**SIGNIFICANT PLANS.** The P2 Branch is responsible for the development and maintenance of a number of AAC Environmental Plans that address pollution prevention, including:

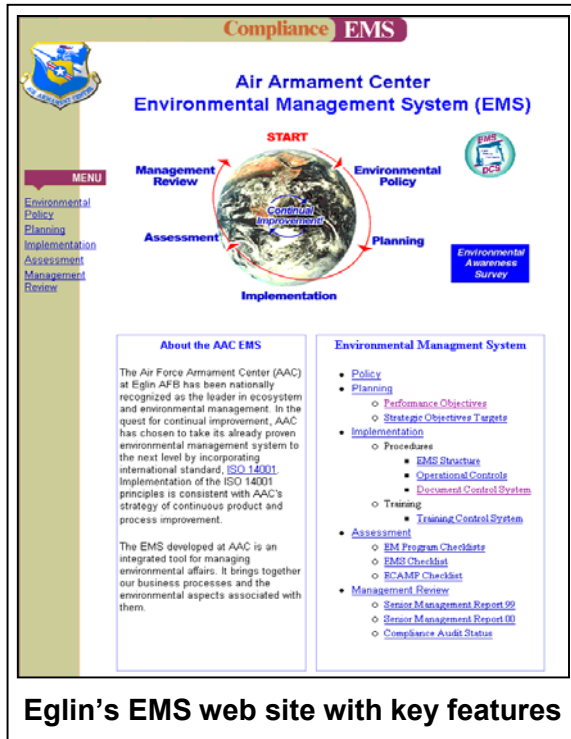
- Asbestos Management Plan
- Lead-Based Paint Management Plan
- Hazardous Waste Management Plan
- Hazardous Material Emergency Planning and Response Plan
- Integrated Solid Waste management Plan
- Hazardous Materials Management Plan

These plans are integrated and cross-reference other relevant plans and requirements. In addition to AAC plans, the Environmental Management Directorate (EM) developed a P2 Management Action Plan to meet Executive Order 12856, *Federal Compliance with Right-to-Know Laws and Pollution Prevention Requirements*.

## MOST OUTSTANDING FEATURE OF PROGRAM.

The most outstanding feature of the P2 Program is communication through EM’s intranet web tools, including:

- On-line EM Directorate information, providing program overviews, points of contacts, virtual tours, and gateways to various interactive sites used to accomplish and document environmental management system planning and coordination installation wide.
- EMS web page containing an overview of the EMS structure, organization, and historical data such as audit results, implementation goals, and an on-line document control system providing access to all relevant policies and procedures (EAFB, Air Force, DoD, state, and federal). The page also links to other significant P2 program pages.
- Environmental performance monitoring via EAFB’s Executive Management Information System (EMIS), providing regularly updated status toward meeting stated objectives and specific targets.
- UEC page containing tools that personnel need to accomplish duties, including access to EM’s web-based Document Control System, library of compliance checklists, newsletters, calendar of upcoming meetings and training events, roster of UECs, and a bulleting board for posting questions and concerns.



Eglin's EMS web site with key features

- Training database identifying environmental training requirements for more than 300 base personnel.
- Automated Environmental Impact Analysis Program, that provides a basewide paperless review and documentation process. Since 1996, there has been a 50 percent increase in the number of review requests and a 37 percent decrease in review time.
- Compliance Sites Inventory providing information on risk ratings and status of over 2,000 compliance sites on EAFB.
- Process-Specific Opportunity Assessment Database detailing information on 262 opportunity assessments and whether they were accepted and implemented. It includes process flow diagrams, photographs, cost analysis, and a detailed description of the opportunity.

**ACCOMPLISHMENTS AND REDUCTIONS ACHIEVED**

Throughout the implementation of the P2 program, EAFB learned three valuable lessons: (1) pursue savings and process improvements from bottom-up involvement; (2) focus on sustained performance levels, then reduce operating costs; and (3) provide tools and

information to employees to increase productivity and efficiency. These lessons have provided cost savings and increased productivity and efficiency in several key areas over the last two years, including:

- Exceeded Air Force goal of 50 percent reduction in hazardous waste from 1998 baseline by reducing hazardous waste by 61,000 pounds per year (53 percent reduction).
- Exceeded Air Force goal of 10 percent reduction in the amount of unused hazardous materials disposed of as hazardous waste (58 percent in FY01 and 18 percent in FY02).
- Exceeded the Air Force goal of reducing the Top 10 Chemicals used by 2 percent each year (19 percent reduction between FY01 and FY02).
- Exceeded DoD 40 percent solid waste diversion goal 10 years ahead of schedule; recycled 13,114 tons of municipal solid waste saving over \$500,000 in disposal fees and earned the base nearly \$250,000 in revenues.
- Reduced audit findings by 68 percent since 1994
- Completed 21 P2 Opportunity Assessments, including four at the process level covering 58 compliance sites.

**MATERIAL SUBSTITUTION.** One of AAC's performance indicators is a 2 percent reduction per year in purchase (and use) of the Top 10 Chemicals (by weight). Between FY01 and FY02, AAC reduced the use of its Top 10 Chemicals by almost 19 percent. Total pounds purchased in FY02 decreased by 3,714 to a total of 15,879 pounds. The primary method of reducing chemical usage was through material substitution. The Hazardous Material Cell recommended material substitutions and the purchase of materials with lower chemical concentrations. The number one chemical purchased is methyl ethyl ketone (MEK), which is a solvent used in a number of processes for cleaning. The Hazardous Material Cell's focus on MEK resulted in a reduction of about 1,000 pounds through material substitution for all shops except those with a technical order requiring its use.



**The Hazmat Cell helped reduce the Top 10 chemicals by almost 19%**

Another method used to identify material substitution opportunities is through the Process-Specific Opportunity Assessments (PSOAs). In FY00, the Corrosion Control shop was using garnet media to

remove old paint from equipment, prior to painting. The media was purchased and disposed of as hazardous material at a total cost of \$35,487 for 17,666 pounds. In FY01, the shop began using a mix of aluminum oxide and plastic blasting media (Quickstrip) because it was the only known recyclable material. The total cost to purchase and reuse was \$36,215 for the same quantity used in FY00. The PSOA team found a company that sells and recycles garnet media. The total cost to purchase and reuse the garnet (for the same quantity as FY00) is \$18,589 (48 percent reduction).

The PSOA teams also identified other material substitutions, which include:

- Two primers that are free of EPA 17 chemicals and have lower concentrations of volatile organic compounds (VOCs) and hazardous air pollutants (HAPs) than the epoxy primer used.
- Reducing the Corrosion Control shop's use of naphtha, a hazardous chemical, as part of the pre-paint process. The shop substituted less-expensive isopropyl alcohol, reducing naphtha use by 74 percent and

achieving a 77 percent reduction in air emissions.

**PROCESS MODIFICATION OR IMPROVEMENT.**

In FY01, the corrosion control shop was using three solvent cleaning units to clean paint guns. The main wash was performed in two Safety Kleen (SK) units—one for epoxy primer and one for the topcoat—and the final rinse was performed in the Inland Technology (IT) unit. The PSOA team recommended that the two, main wash SK units be removed and replaced with one IT unit that uses EP921, a solvent with low VOC and no HAPs, and is not regulated under the Title V Permit. The IT unit the final rise would remain. By implementing this recommendation, the corrosion control shop has reduced their compliance burden and realized an annual cost savings of \$3272, which is a payback of less than one year.

The 46th TW and the 33rd FW corrosion control shops implemented a process change for the use of towels in the painting process. Towels used by the 33rd FW are contaminated with solvents and were disposed of in a 55-gallon drum initial accumulation point. When the drum was full, it was shipped off base as hazardous waste. This

process resulted in increased man-hours to maintain the compliance site, including drum maintenance and record keeping. Additionally, the shop was required to pay a fee for drum pick up and hazardous waste disposal. The 46th TW was purchasing towels and laundering them, but they were of poor quality and contained significant amounts of lint. Each organization found a different solution and changed their process.

A new vendor was found that provides a low-lint towel and accepts the towels from the 33rd FW for

**EMS Implementation**

- Initiated Pilot Study in late 1997
- AAC Commander developed Environmental Policy Statement in late 1998
- Developed EMS Policy Manual
- Developed 10 AAC EMS procedures that are applicable Eglin-wide, to both AAC and associate units
- Identified significant environmental aspects and impacts of Eglin's activities, products, and services
- Ranked impacts for each business area based on mission and environmental criteria
- Set objectives and targets to reduce, improve, or eliminate impacts of highest ranked areas
- Developed communication and EMS training tools for base population to enhance compliance promote P2 awareness
- Developed a variety of easy to use web-based data information and reporting tools for use Eglin-wide
- Developed environmental media-specific EMS procedures outlining EMS requirements for each EM program manager

laundry service. This new service resulted in the removal of a compliance site and the reduction in annual costs of approximately \$1,900. The 46th TW can use reconditioned rags and decided to contract the supply and laundering of the shop towels with the base laundry. More cost effective at \$0.02 per towel, the new contract provides an annual savings of approximately \$1,200.

The Aerospace Ground Equipment Maintenance organization installed a water-based “Aqua-Miser” paint removal system that replaces sanding and solid abrasive blasting. This environmentally friendly method strips paint without releasing chemicals to the air, water or soil. All of the water is captured, recycled and reused. The system operates at one third the cost of traditional methods.



**Paint is stripped from a trailer using a 30,000-psi water pressure sprayer.**

The 33FW Corrosion Control Facility used about 6,000 pounds of paint thinner in FY00 for flushing their electrostatic paint lines and paint guns. In FY01, the facility upgraded the electrostatic system with a software modification that reduced the amount of paint thinner used. It also was determined that the shop was flushing the lines too frequently and that there was a better method of flushing the paint gun lines. Since changing these processes, the facility has reduced the amount of paint thinner used to 3,000 pounds (a 50 percent reduction).

The 46 TW Composite Shop repairs and maintains fiberglass aircraft parts, manufactures fiberglass aircraft parts, and repairs and cleans the air intake on F-16 aircraft. During FY01 the shop used over 357 lbs of acetone, which accounted for 78 percent of the total material usage in FY01. During a PSOA study, the team found the acetone vat in poor condition – lacking

a seal on the lid and no filter system. By replacing the current vat with a solvent cleaning unit with filters and a sealed lid, the hazardous material usage will decrease by approximately 80 percent.

**IMPROVED MATERIAL MANAGEMENT.** The 58 percent reduction in the amount of unused hazardous materials disposed of as hazardous waste during FY01 was due to a change in the management of materials trimmed out or expired. Trimmed out materials are those that have not been used for a long time. The Base Supply warehouse staff was sending the materials that were trimmed out or expired for hazardous waste disposal. A computer program was automatically reordering these materials when material quantities went below a threshold, even though there was no further demand for the chemicals. A change in the computer software reduced the amount of material sitting in the warehouse by approximately 60 percent.

The 10 percent reduction goal was exceeded in FY02 with further reductions of 18 percent over FY01. These reductions were realized by having a contractor order, store, and control hazardous materials instead of base supply. They are using a just-in-time system that guarantees delivery within two days.

The Hazardous Material Cell changed the authorization process for ordering hazardous chemicals. The original authorization for employees to purchase hazardous chemicals never expired. A process change established expiration dates based on the types of materials purchased. Maintaining accurate hazardous material authorization information verifies that only the minimum amount of hazardous materials necessary for mission accomplishment are on hand, assists the search for less harmful substitutes, and limits the storage and use of hazardous materials on the base.

The Hazmat Cell developed a Training Guide for all new Hazardous Materials Issue Point managers. They also developed a “Continuity Folder” that provides operating instructions for



new Hazmat Cell personnel or in the case employees are out for extended periods of time.

**COMPLIANCE WITH EXECUTIVE ORDER (EO) 13123, “GREENING THE GOVERNMENT THROUGH EFFICIENT ENERGY MANAGEMENT.”** In January 2002, the AAC Commander published his policy statement on Conservation of Energy Resources. Concurrently, AAC Plan 23-1, *Installation Energy Management Plan*, was finalized. An Energy Management Steering Group was formed of all the senior leaders from the organizations on base that use a significant amount of energy (2 percent or more of base energy). Established goals in the Executive Order require a 35 percent reduction in energy use by FY2010 from a baseline of FY85. AAC measures energy use in terms of millions of BTUs per square foot of building. During 2002, the base had obtained a 17 percent reduction. The Steering Group evaluates the energy use on a quarterly basis and identifies and assesses the feasibility of energy projects.

Three energy projects were completed during this award period that together save over \$68,000 per month in energy costs. All three projects included: relighting, installing Direct Digital Controls (DDCs) on heating and ventilation systems, replacing air handlers with more efficient ones, and changing out motors on some of the air handlers. Relighting consisted of replacing incandescent fixtures with fluorescent ones and converting existing fluorescents to compact fluorescents. The DDC is an automated control system that modifies the temperature when there are no people in the buildings or on weekends. One of the projects also installed water booster pumps in the high rise buildings, which resulted in water savings.

AAC initiated a demonstration project with a geothermal heat pump installation in one of the military family houses. The estimated savings are \$65/month for a single home and \$26,000/month if applied throughout the military family houses.

In the area of water conservation, EAFB reduced their potable water use by 250,000 gallons per year by installing 57, 4-inch irrigation wells in the surficial, sand-and-gravel aquifer that is not used for drinking water. These wells replaced existing irrigation wells that took water from the Floridan aquifer, which is the source of potable water. They also began installing more water meters to be able to accurately track usage.

**COMPLIANCE WITH EO 13148, “GREENING THE GOVERNMENT THROUGH LEADERSHIP IN ENVIRONMENTAL MANAGEMENT.”**

The EMS integrates the installation’s core missions with environmental stewardship and continuous improvement. It facilitates employee awareness of and compliance with regulatory requirements and emphasizes executive management’s support of pollution prevention. Direct results include decreases in regulatory enforcement actions cited (0 violations resulted from 59 inspections) and a 68 percent decrease since 1994 in major compliance findings cited by external Environmental Compliance Assessment and Management Program (ECAMP). The EMS enhances regulatory compliance resulting from the installation’s internal ECAMP auditing process. Holistic EMS audits that look beyond compliance issues facilitate better identification and correction of the root causes of identified problems.

**COMPLIANCE WITH EO 13149, “GREENING THE GOVERNMENT THROUGH FEDERAL FLEET AND TRANSPORTATION EFFICIENCY.”** AAC’s P2 Branch, 796th Civil Engineering Squadron, and 96th Air Base Wing Transportation Maintenance organization initiated a pilot study of biodiesel (80 percent diesel and 20 percent agricultural product) in two project vehicles and a generator. Biodiesel is an agricultural-based alternative fuel that decreases air emissions. The results demonstrated that the emissions were reduced, the engines ran quieter, there was no smell of sulfur associated with start up, and there was less maintenance required in the vehicles fueled by the biodiesel. As a result, AAC installed dedicated biodiesel tanks, which supply several hundred diesel vehicles.

AAC now has ten fully electric trucks, which have helped reduce the petroleum consumption and emissions as required by the Executive Order.

The P2 Branch, the 96th Transportation Squadron, and the 796th Civil Engineering Squadron partnered to fund, construct, and operate a Compressed Natural Gas (CNG) fueling station. CNG powered vehicles reduce combustion emissions by 87 percent compared to gasoline powered vehicles. Natural gas is not toxic or corrosive, will not contaminate ground water, and is about 30 percent cheaper at the pump than gasoline. Almost all natural gas consumed in the U.S. comes from North America. Okaloosa Gas Company ran a direct pipeline into the new plant and provides virtually unlimited CNG to three tanks. AAC currently has 48 CNG vehicles and 24 new ones expected in FY03, which would bring the total to 72.

**RECYCLING PROGRAM.** AAC's Recycling Program has long been recognized as a leader in the Air Force and the State of Florida. EAFB received the Presidential Closing the Circle Award for Recycling in 2001. The primary performance measure is the percentage of solid waste diverted from landfills with a DoD goal of 40 percent by 2005. EAFB's Recycling Center has surpassed this goal for the last few years. Since FY00, the rate has steadily increased from 44 percent, to 49 percent in FY01, and 54 percent in FY02. In FY02, 6,943 tons of waste was recycled.

With an average of over 6,000 tons of non-hazardous solid waste recycled each year, the EAFB community proves that voluntary participation can and does work. In the last two years, the EAFB Recycling Center has increased their recycling by 30 percent due primarily to public outreach. A few accomplishments, include:

- Initiated the "Closed Loop" re-refined lubricating oil purchase program for the base, reusing 3,600/gallons/year, reducing oil purchase cost by 44 percent (\$7,000) per year and delivery time from 30 to 7 days.

- Based on market research, the recycling center found that they could increase their profits if they were to segregate paper into three categories rather than just two (white and mixed). In FY02, they further separated the mixed into assorted office paper which contains no ground wood from the mixed paper. The sorted paper brings \$80/ton versus \$25/ton for mixed. This past month, they recycled 21 tons of assorted paper resulting in \$1,155 additional revenues for just one month.



**Eglin increased their revenues by \$1,155 per month by segregating paper into three categories.**

- An innovation this past year was purchasing a plastic shredder and recycling the plastic tubes that munitions are packaged in.

- The 96th Transportation Group (96th TG) initiated a model recycling project at EAFB that can be used by other organizations. The 96th TG was purchasing about 20, 55-gallon drums per year of antifreeze at a cost of \$5,500. Hazardous waste disposal costs for used antifreeze were about \$12,000 per year. The 96th TG located and repaired a broken recycler, repaired the unit, and built a bulk recycler that could handle an entire drum at one time. They can now process about 180 gallons in four hours versus eight hours before. Using this new bulk recycler, they were able to reduce annual costs by about \$17,500, reduce the quantity of hazardous waste by 1,100 gallons per year, reduce time to recycle by 50 percent, and reduced their labor to handle and process all the drums for disposal.

**AFFIRMATIVE PROCUREMENT.** Some significant accomplishments include:

- Trained 1,200 Government credit card holders and all attendees to bimonthly newcomer's orientations on Affirmative Procurement opportunities.
- Included AP in dozens of recycling briefings and recycling center tours annually.
- Reviewed over 1,100 Requests for

Environmental Analysis for proposed projects at EAFB for AP and recycling opportunities.

- Purchased 4,000 square feet of decking, 100 tables and benches, plus playground enclosures made of plastic lumber as quality of life projects.
- Developed a web site that contains information on AP, including the policy, a presentation, links to buying recycled products and environmental preferable products, and executive orders.

### **EDUCATION, OUTREACH, AND PARTNERING.**

AAC has a long history of partnering with the community and being a good neighbor. With over 160 scientific, technical, and regulatory partners from 36 organizations and agencies, EAFB expands its global and regional perspective.

- The center bought a shredder that processed 15 tons of ground plastic in FY02, resulting in revenues of \$2,025. The greater impact was the diversion from precious landfill space, which would have cost \$585.
- The Transportation Maintenance shop punctured ~1,000 aerosol paint cans last year, so they can be recycled instead of treating them as hazardous waste.
- Using the EPA “Green Light Program” recycled over 50,000 mercury bulbs/year, diverting them from hazardous waste disposal.
- Partnered with local county officials in training of handicapped personnel to recycle approximately two tons of office paper weekly, without cost to the Air Force.
- Promoted partnering with local counties recycling officials to process over two tons of white office paper per week, realizing an average profit average of nearly \$130 per ton, without cost to the Government.
- Conducted recycling briefings for all military newcomers and Affirmative Procurement and Government purchase card training, reaching almost 2,500 people per year.
- In addition to family housing, serviced 347 buildings daily to collect recyclable material.
- Greatly expanded public outreach to include

interactive website, customer surveys, newspaper articles, regular dumpster inspections with written results to facility managers, and the addition of 40 sets (four containers per set) of user-friendly containers.

- Partnered with local community to mulch and reuse 2,000 tons of wood waste per year, which saved \$60,000.

These partnerships benefit EAFB by providing opportunities for cooperative research and scientific expertise to validate standards. EAFB is able to conduct its missions, in part because the regulatory community has developed a trust through partnering, and because EAFB uses “good science” as the basis for its decisions. Some examples include:

- AAC partners with the Florida Department of Environmental Protection and other regional Air Force bases on a quarterly basis to share lessons learned and to discuss relevant issues and solutions.
- EAFB’s EMS has been presented at technical conferences including the P2/Hazardous Waste Conference, an Industry/Academic Training Conference, a Multistate EMS Working Group, and at a DoD Region IV EMS Implementation Training.
- EAFB’s EM Directorate led the effort to sponsor the 2002 Northwest Florida Community Earth Day Festival. EAFB partnered with 20 local organizations and with a 70-person planning team.
- Fourteen P2 articles were published in the base and local newspapers in FY02, with a cumulative circulation of over 80,000.

### **SUMMARY**

The total integration of P2 into the environmental compliance program has been instrumental in Eglin achieving the best P2 program in DoD. Only through its development of a dedicated and customer-focused team could the P2 accomplishments be possible. The recognition of environmental responsibility at every level demonstrates the success of AAC’s EMS and the continuous improvement that can be achieved.