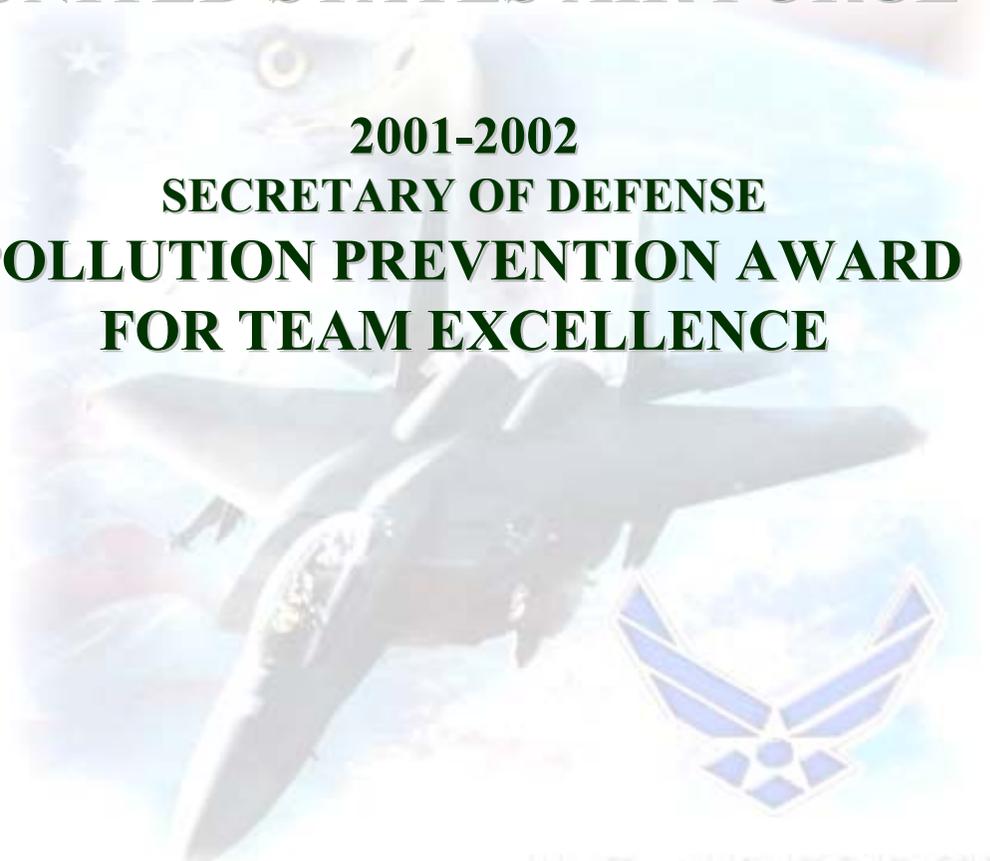




UNITED STATES AIR FORCE

2001-2002

SECRETARY OF DEFENSE POLLUTION PREVENTION AWARD FOR TEAM EXCELLENCE



SOLVING TOMORROW'S ENVIRONMENTAL CHALLENGES TODAY



Richard Linda Mary Jim Dave Bill Becky



REDUCE, REUSE, AND RECYCLE

***WARNER ROBINS AIR LOGISTICS CENTER
ROBINS AIR FORCE BASE , GEORGIA***

The Robins AFB pollution prevention warfighters team demonstrates a top-notch, diverse program, including superior management of depot level industrial processes, aircraft operations, administrative, and residential areas. As you will see, outstanding results have been achieved in pollution prevention--process improvements hazardous material/waste reductions, improved material management, solid waste management, and energy conservation. The Warner Robins Air Logistics Center (WR-ALC) is the largest industrial complex in Georgia. Each year the center uses over 4K tons of hazardous material, generates over 13K tons of solid and almost 1K tons of hazardous wastes, uses 1.7 trillion BTUs of energy, and 1 billion gallons of water, and is a major Title V air source. We are progressing from the traditional pollution prevention (P2) to compliance through pollution prevention (CTP2) and beyond.

Background

Our P2 warfighters team consists of employees from both the Environmental Management Directorate and the Aircraft Maintenance Directorate. Our team members are: Mary Kicklighter, Chief, Pollution Prevention Division; Jim Reese, Hazardous Waste Reduction Program Manager; Bill Downs, Chief, Hazardous Material/Waste Branch; Linda Larson, Solid Waste Program Manager, Richard Slife, Chief, Maintenance Environmental, Safety, and Compliance Branch; Dave Bury, Maintenance Environmental Engineer; Becky Mitchell, Weapon System P2 Funds Manager.

Position Description

Mary Kicklighter's duties include oversight of P2, Integrated Solid Waste Management, Hazardous Material/Waste Management, EPCRA, Spill Response, and Air Quality.

Jim Reese is also the Alternative Fueled Vehicles Program Manager. He has been instrumental in diverting materials to recycling and reducing hazardous waste generation. He partnered with local communities to establish a Middle Georgia Clean Cities Coalition that has received a DoE designation.

Bill Downs manages an integrated Hazardous Material Cell, including bioenvironmental and supply functions. His staff expertly approves, tracks, stores, and manages disposal of hazardous materials and wastes for the installation.

Linda Larson's responsibilities include solid waste compliance, source reduction and recycling, construction/demolition waste, composting, affirmative procurement and green buildings.

Richard Slife is the center's focal point for weapon system compliance through P2 (CTP2) along with environmental safety and occupational health (ESOH). He has been actively seeking P2 solutions for the weapon system processes at WR-ALC.

Dave Bury is responsible for identifying, validating, and replacing hazardous materials with compliant and environmentally friendly alternatives. Developing CTP2 procedures and a compliance site inventory (CSI) specifically for Robins.

Becky Mitchell very successfully develops P2 projects, requests, and tracks P2 funding to project completion. She is also the primary liaison between the project engineers and HQ AFMC.

Accomplishments

The Robins P2 warfighters team expertly and skillfully manages a \$3.5-\$5.0M annual

budget. The team's P2 objectives are to support the warfighter by:

- ✓ Promoting P2 as an integral part of the mission and maintaining a positive posture and leadership role in interacting with local communities on common issues;
- ✓ Meeting or exceeding DoD, U.S. Air Force, Federal, State, and local pollution reduction goals;
- ✓ Reducing compliance burden (cost and liability) with respect to Federal, State, and local environmental laws;
- ✓ Identifying, evaluating, and implementing innovative ideas and new technologies to reduce hazardous and non-hazardous materials use and waste generation; and
- ✓ Establishing a maintenance organization, MAPE, to support weapon system CTP2.

The team has focused on the CTP2 process as a means to focus investments on environmental compliance issues having the greatest cost and risk impacts. As a foundation for our CTP2 we developed a CSI database--specific to our installation, which relates the cost and risk factors to regulated activities. The database facilitates linking environmental factors such as hazardous material usage and cost, hazardous waste disposal and costs, volatile organic compounds (VOC), hazardous air pollutant (HAP) emissions, and wastewater flows. Furthermore, the database links concentrations of pollutants to process groups. Processes have been ranked according to burden, which assists in planning and programming either a process specific opportunity assessment (PSOA) or project implementation. PSOAs are used to develop and estimate costs associated with potential solutions in an effort to maximize our return on investment. Realized benefits include increased rate of return on P2 investments, reduced environmental compliance costs, and risks.

While the CSI is the backbone of our P2 program, several other essential facets of our reduction efforts exist, which include: Material Substitution; Process Modification and Improvement; Improved Material Management; Compliance with Executive Orders (EO) 13148, 13149, and 13123; Recycling; Affirmative Procurement; Education, Outreach, and Partnering; and Green Buildings. The following sections provide detailed information on each of the listed areas:

Material Substitution. Many new environmentally compliant materials, equipment, and improved processes were identified, evaluated, and incorporated into the *Application and Removal of Organic Coatings, Aerospace and Non-Aerospace Equipment*, technical order (TO) used for painting operations at the center. The following are examples of the improvements that met P2 metrics and were implemented in the 23 April 2001 TO revision--allowing the way for multiple environmentally friendly process changes and improvements at WR-ALC and throughout the *Air Force*:

- Approved/authorized Flashjet for paint removal on aerospace and non-aerospace equipment. This method of paint removal reduces the waste stream to almost nothing compared to traditional chemical or plastic media paint stripping operations;
- Eliminated requirement for use of chromate-laden primers when performing scuff sand and overcoat painting of any ground support equipment or aircraft;
- Replaced many non-compliant (VOC and HAP) paints with alternative compliant materials; and
- Developed/implemented procedures for using environmentally compliant solvents and paint thinners. The change has resulted in a significant reduction in the use of high VOC/HAP solvents in paint preparation.

⇒ **Impacts from Material Substitution:**

✓ **Gyroscope Repair.** A substitute for CFC-113 has been demonstrated and validated through the Toxic Release Inventory Alternative Development (TRIAD) process--resulting in a 5K pound annual reduction of CFC-113. As of the end of 2002, usage of Ozone Depleting Substances (ODS) have been reduced by 99.9%. Base organizations have reduced their usage of Class I ODS. For example, in our gyroscope repair facility, HFE-71DE is eliminating the use of CFC-113. Gyroscope technicians are required to remove damping fluids and other contaminants during the critical cleaning process.

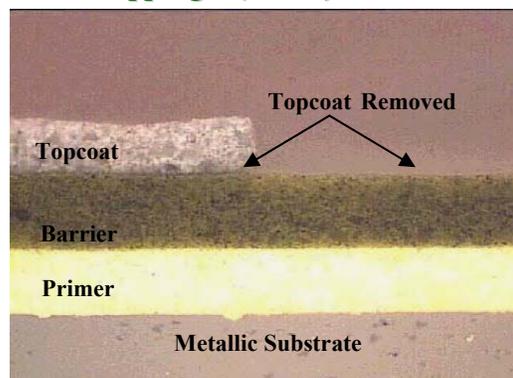
✓ **Paint Substitution Initiatives.** WR-ALC is leading the effort to find alternate coating systems. Successful implementations include thermal spray coatings and thermoset powder coatings. The thermal spray coating process passes powdered paint particles through an electrically produced arc to coat the part with an extremely durable coating without generating VOC emissions or hazardous waste. The thermoset powder coating system application was prototyped then implemented at WR-ALC to replace solvent-borne coating processes used on pressurized cylinders (oxygen, fire, etc.) and maintained by the Hydrostatic Shop. The new coating process eliminates all VOCs, HAPs, and hazardous wastes associated with current processes. This powder coating system will pave the way for other applications within the depot system.

✓ **Ultraviolet (UV) Light Disinfection at Wastewater Treatment Plant.** The use of chlorine (approximately 10K pounds per year) at the wastewater treatment plant, would have required a risk management plan (RMP); also this process introduced storage

and water quality issues. We have solved these challenges by implementing a commercial off-the-shelf technology--ultraviolet light disinfection. This system improved the quality of the water being discharged to the environment, totally eliminated the use of chlorine in the treatment plant, and eliminated the requirement for a RMP.

Process Modifications/Improvements. The numerous material substitutions already highlighted are just an example of the environmentally friendly changes in place. In addition to material substitutions, many process improvements have been implemented to further our reduction efforts. Using Toyota Production System methodology; Lean Depot Repair's key focus is to reduce waste. This Lean visionary approach has resulted in a win-win situation for both aircraft maintenance and the environment--protecting our precious natural resources while providing affordable weapon system sustainability to our primary depot customer, the warfighter.

✓ **Medium Pressure Water/Bicarbonate of Soda Stripping (BOSS)--Barrier Coat.**



Implementation of the barrier coating is projected to save \$22M/year and eliminate 97% of the workers' exposure to hazardous materials. We drastically reduced the use of methylene chloride, our top used toxic release inventory (TRI) chemical, by an

estimated 1.5M pounds, by implementing the BOSS system for depainting cargo aircraft. As a follow-on project to BOSS, a semi-automated paint stripping system using only high-pressure water has been validated. The new system will depaint twice as fast and reduce process costs by 45%. A project to prototype an innovative selective stripping technology is now being validated. Flight testing has been performed on three military aircraft with two more in the testing phase. A barrier coat will be applied over the chromated primer coat, a semi-automated high-pressure water stripping system, allowing only the topcoat of paint to be removed without damaging the primer coat. This selective stripping system will dramatically reduce the use of chromated coatings and the generation of chrome-containing waste; all the water in the facility will be recycled.

✓ *Depainting Aircraft Parts:*



Flashjet Depaint F-15 Radome

Flashjet System Implementation. This process is projected to save \$900K annually; reduce approximately 22K gallons of methylene chloride and 2K gallons of methyl ethyl ketone (MEK) usage per year; and reduce hazardous waste disposal by approximately 122K pounds. Previously, aircraft radomes and composite parts were stripped using chemical paint removers. Residual coatings that cannot be removed with solvents are removed by hand sanding

Robins Air Force Base, Georgia
Pollution Prevention Warfighters

which can result in damage to the fiberglass material. Flashjet is a coating removal system, which uses pulsed light energy from a xenon flash lamp and a carbon dioxide (CO₂) pellet cleaning system. Hazardous waste disposal is reduced to near zero. This process reduces damage to the composite substrate surfaces, extending the life of valuable parts. The Flashjet workload is estimated to be approximately 250 radomes and 1,000 parts being processed through the facility per year.

Plastic Media Blast (PMB). A process change using PMB in lieu of chemicals to depaint aircraft parts is projected to reduce usage of 200K pounds of methylene chloride and hazardous waste disposal by 145K pounds per year. The list of candidate parts for this improvement spans all weapon systems serviced at WR-ALC--from wings, landing gear doors, to fuel tanks. Joint industrial equipment and P2 funds are being used, for the project slated for December 2003 completion.

Non-HAP Stripper. Flashjet and PMB are coming online to greatly reduce the use of chemicals used in parts depainting. A TRIAD project is evaluating an alternative for replacing glycol ether currently used in a parts stripping tank.

Handheld Laser. The weapon system team is participating in a DoD prototype project to validate handheld lasers for small area depaint projects. When validated, this technology will complement the existing paint stripping processes including Flashjet.

✓ ***Flightline Vacuum Waste.*** The old process generated approximately 250K pounds of waste per year at a disposal cost of \$204K. Based on documented results, the new process generates only 168K pounds per year at a much reduced disposal cost of \$97K. A PSOA identified a process improvement that significantly reduces hazardous waste disposal. Flightline

vacuum waste is generated at various locations associated with aircraft maintenance. These wastes are collected in vacuum units which, when filled, are transported to a centralized location, manually drained and cleaned, and transferred to drums for disposal as hazardous waste. The PSOA produced a preferred solution: separate the water from the oil as it is removed from the vacuum unit. A follow-on project developed and built the separation unit. The equipment separates the water from the oil and sends the water to the industrial wastewater treatment plant.



Vacuum Waste Separation Unit

✓ **Paint Gun Cleaning Process.** An environmentally friendly paint gun cleaning process, which recycles over 90% of the contaminated solvent, has been implemented. The previous paint gun cleaning process used approximately five gallons of solvent. Our P2 search led to an off-the-shelf cleaning unit, which required manufacturer changes to make it more effective in depot painting operations. This paint gun cleaner was selected based on several factors including: compliance with National Emission Standards for Hazardous Air Pollutants (NESHAP) requirements, automation, and recycling capability. The successful implementation of the new cleaning system in the C-130 facility led the way for purchasing additional units for other base organizations.

✓ **Painter Training.** A program to train painters in the proper use of compliant paint guns resulted in reduced paint usage, reduced air emissions, quality paint jobs, and reduced rework.

Improved Material Management. All materials containing hazardous or toxic chemicals must be authorized and tracked by the installation hazardous material pharmacy. A motivated team effort including Environmental Management, Bioenvironmental Engineering, Base Contracting office, and Base Supply provides our customers who use hazardous materials with the right amount, in the right quantity, at the right time. By monitoring the amount of chemicals distributed to users, the base is able to minimize both waste generation and employee exposure to harmful chemicals.

✓ **Pharmacy Program.** The pharmacy program establishes a single point of control and accountability over the requisition, receipt, and issue of hazardous materials. The pharmacy concept generates savings through reductions in usage and disposal of remaining chemicals and supports the tasking of Executive Order (EO) 13148. The Robins Pharmacy program has been a recognized world-class operation and has set the benchmark in numerous areas:

➤ Selected by DoD to demonstrate the Hazardous Material Management System (HMMS). HMMS is the base wide tracking system for the management of hazardous materials and set the pace for other depots. Robins was the first in bringing the system successfully on-line and has spearheaded numerous improvements.

➤ Decreased Hazardous Materials. An economic analysis of HMMS validated a decrease in hazardous material purchases by 64.7% (\$8.4M) even with an increased workload of 18% for the same time period. We were requested and accepted to host the

beta demonstration of the new Windows version of the HMMS.

➤ Founded and Implemented a “Freebies Program.” Established a program that allows a customer with excess or expired shelf-life hazardous materials to advertise them on the HMMS Bulletin Board. The generating organization does not pay to dispose of the material and the receiving organization does not purchase a new material. The program has exceeded an impressive \$255K in material purchase savings and avoided disposal cost.

➤ The hazardous material team initiated a Lean event for hazardous material management that resulted in implementation of a point-of-use (POU) station in the F-15 Wing Shop. This event also resulted in implementation of smaller units of issue for matching projected material use to anticipated workload. The change reduces hazardous material use and hazardous waste generation. This POU approach is used in other shops on the installation.

EO 13123, “Greening The Government Through Efficient Energy Management,” June 3, 1999. A Civil Engineering and Environmental Management partnership is actively identifying and implementing energy conservation measures in an effort to save taxpayers dollars by reducing our energy consumption, reducing greenhouse gases, and implementing sustainable construction “green building” requirements in our design/build construction projects.

◆ Maximizing our use of financing mechanisms such as Energy Savings Performance Contracts (ESPC) and Demand Side Management (DSM). The following contracts have been successfully executed:

✓ **ESPC #1.** Installed propane air mixing plant emergency reserve system as a back-up for natural gas.

Annual energy cost savings: \$409,028

✓ **ESPC #2.** Implemented numerous energy conservation measures basewide: lighting upgrades, fixture retrofits/ replacements in nine facilities; installed gas infrared heaters in two warehouses; converted gymnasium facility from steam to natural gas; and replaced steam traps basewide.

Annual energy cost savings: \$305,629

✓ **DSM #1.** Secured an energy savings contract targeting our industrial organizations: aircraft hangar, plating shop, wing, canopy, and fuselage maintenance shops; and gyro and avionics repair shops. Total facility area upgraded was 1.2M square feet.

Annual energy cost savings: \$472,870

Energy conservation measures implemented included: heating ventilation air conditioning (HVAC) upgrades; steam system tune-ups; gas fired radiant heating system conversion; premium efficiency motor installation; and replacement of lighting fixtures with electronic ballast and high efficiency fluorescent lamps.

✓ **DSM #2.** Replaced stand-alone chillers at two corrosion control hangars with a 3,000-ton central chilled water plant and HVAC modifications/upgrade. The project had dual benefits, which included energy conservation and increased shop production.

Annual energy cost savings: \$396,218

◆ A water conservation policy was established in 2001. The policy requires low-maintenance landscaping, water recycling, increased emphasis on leak detection/repair, and incremental water use restrictions during periods of drought. *Great results--average reduction of one million gallons of water used per day!*

◆ Programmed/received funding to hold two Sustainable Facilities & Infrastructure “Green Building” Workshops, presented by Georgia Tech Research Institute. The workshops trained our architects, engineers,

contracting officers, and construction project managers to apply green principles to the siting, design, and construction of new facilities in an effort to meet Leadership in Energy and Environmental Design (LEED) credit requirements.

EO 13148, “Greening The Government Through Leadership in Environmental Management,” April 26, 2000.

The Environmental Protection Committee (EPC) chaired by the WR-ALC Vice Commander, with directorate level membership, ensures actions are taken to integrate environmental accountability into day-to-day decision-making and long-term planning across the installation. Quarterly meetings track our progress in meeting our reduction goals and identifies areas needing management attention. The TRIAD program, described previously, works to identify replacements and minimize overall use of EPCRA chemicals. We have had great success in meeting the requirements of the EO as detailed in the following paragraphs:

✓ *Environmental Management System (EMS).* We have successfully developed and implemented an effective EMS. Our program served as a DoD pilot study and provided valuable input for developing Air Force policy for EMS implementation. Environmental policy commitments have been endorsed by our installation commander making environmental protection everyone’s job!

✓ *Right-to-Know and Pollution Prevention.* Great results from our chemical alternative and material substitution initiatives-- 2002 TRI data is confirming a 40% reduction in usage of methylene chloride and phenol from the 2001 report! We provide timely planning and reporting under EPCRA. A new automated data gathering and reporting system for EPCRA has minimized the time required to prepare the report by over 50%. We have been actively

involved with local emergency planning and response organizations well in advance of the signing of EO 13148. Yearly, off-base major response exercises are conducted with local emergency responders. We are also prototyping hand-held “Palm” computers for realtime field and depot data collection.

EO 13149, “Greening The Government Through Federal Fleet and Transportation Efficiency,” April 21, 2000.

Championed many improvements in fleet fuel efficiency, the use of alternative fuel vehicles (AFVs), and alternative fuels. A partnership with the Air Force Alternative Fueled Vehicle Systems Program Office (AFVSPO), located at WR-ALC, has resulted in Robins being recognized as a DoD leader for introducing AFVs. Facilitated the organization of a local Middle Georgia Clean Cities Coalition that has led to a Department of Energy (DoE) Clean Cities designation, establishing a commitment to improve air quality by our local communities. The following is an example of our vehicle greening projects and accomplishments:

✓ P2 Funded initiatives;

Year	Project	\$(K)
FY01	Emissions Reduction in Ground Support Equipment	\$300
FY01	Fuel Emission Reduction -- Hybrid Demo Vehicle	\$100
FY02	PSOA Vehicle & AGE	\$200
FY02	Zero Emission Bus Demo	\$329
FY02	Ground Mobile Operations Air Emission	\$120
FY02	Microturbin Tech Insertion on Hybrid Electric Tow Tractor	\$100
FY02	Electric Loader Demonstration	\$315
FY02	Proto Oxy Servicing Cart	\$610
	Total Funding	\$2,074K

✓ Alternative fueled vehicle count; Propane 7, Electric 35, Hybrid 9, Compressed Natural Gas 33.

✓ Installation of CNG fueling station;

- ✓ Modifications are being made to base storage and dispensing equipment--allowing diesel vehicle conversion to bio-diesel in 2003 (we use over 15,000 gallons of diesel per month); and
- ✓ Rapid chargers are being installed to allow for faster electric vehicle recharges.

Recycling Program. Our recycling team has worked zealously to ensure that it is as easy to recycle at our facilities as it is to dispose of our trash. Mandatory recycling accounted for the diversion of more than 12.8 tons of materials from our solid waste stream. Materials recycled include: aluminum cans, cardboard, high-grade and mixed-grade paper, newspaper, glass, industrial wood, metal scraps, tires, cooking grease, plastics (type 1&2), telephone directories, magazines, used oil, and construction and demolition materials.

Buildings, both administrative and industrial, have central recycling collection centers and are serviced weekly. Curbside recycling service for military family housing units is also provided weekly. Cardboard is collected in large “Cardboard Only” containers around the base and delivered to the recycling contractor’s facility by the base refuse contractor. In addition, we provide on-call pick up to organizations and family housing residents generating one-time large quantities. Our refuse and grounds maintenance contractors deliver yard waste and horse stable waste to the city compost facility. Materials continue to be recycled through the Defense Reutilization and Marketing Office (metals, tires, used oil) with proceeds being returned to our base industrial fund account or recycling proceeds account. Highlights include:

✓ **Hazardous Material Recycling.** Hand-wipe cleaning rags, industrial waste water sludge, used oil, fluorescent bulbs, and lead

acid/NiCad battery recycling reduced hazardous waste disposal by over 408 tons.

✓ **Composting Program.** We generate approximately 3,500 tons per year of yard waste and 200 tons per year of horse stable waste--our second largest non-hazardous waste stream. This waste is currently being composted through an agreement with our local community. However, with P2 funding in place, we are establishing an on-base composting facility--providing a mechanism for future material diversions. The domestic sludge, 400 tons per year, is being mixed with soil and used as daily cover at the Houston County Landfill.



America Recycles Day Event—Compost Facility Start-Up Announcement

✓ **Solid Waste Reduction Achieved.** We have consistently diverted 50% of our waste stream by reusing and recycling. Recent calculations show a \$954K annual savings using our qualified recycling program approach to solid waste management;

✓ **Closed-Loop Recycling Projects.** A tire retreading service, composting, paint gun cleaning unit w/solvent recovery system, and toner cartridge recycling programs are examples of our closed loop recycling projects;

✓ **Source Reduction Projects.** Efforts such as two-sided copying, the use of electronic mail, “Post-it” fax note instead of a fax cover sheet, upgrading copiers/printers to print two sided, and the use of reusable

envelopes for internal mail are examples of reduction initiatives at Robins; and

✓ **Activities and Communities Benefited.**

Everyone that lives, works, and visits Robins is provided recycling opportunities. Flightline workers, housing residents, temporary living facility visitors, and even retirees (civilian and military) are encouraged to use our drop off locations.



*Waste Oil Collection--Auto Hobby Shop
Available to Employees/Visitors*

Affirmative Procurement. An Affirmative Procurement Program for acquisition of recycled products, using the EPA and Air Force procurement guidelines, is in place at Robins. Our Integrated Solid Waste Management Plan provides guidance on all current EPA-designated items. The quarterly training, provided by base contracting to all base cardholders, includes all affirmative procurement requirements. Environmentally friendly products are encouraged in new contracts, including products made from post-consumer materials. For example, the base custodial contract requires all paper products and plastic trash liners contain post-consumer content. Also, the base vehicles contract requires the purchase of a retreading tire service, anti-freeze recycling, re-refined oil purchases, and recycled paper purchases.

Education, Outreach, and Partnering

✓ **Education.** With an on-base community of more than 26,000 individuals, education

in environmental matters is both a necessity and an opportunity. Our team initiatives include the following:

- Institutionalized an annual Earth Day celebration, which includes a Historic Forest tree planting ceremony an Environmental Awareness Fair with participants from base organizations, local businesses, local government, and local schools. A kraft grocery bag art contest with our base school has become an annual event. The children decorate the bag with an environmental message, the bags are judged by a local Art Association; selected bags are displayed at the fair and winners recognized. All remaining bags are returned to the commissary and used to bag groceries on Earth Day--sending our children's messages to shoppers' homes.
- First ever middle Georgia Odyssey Day promoting the use of alternative fueled vehicles--*educating our neighbors!*



Alternative Fueled Vehicles Odyssey Day

- P2 requirements are included in all host-tenant support agreements;
- Annual America Recycles Day event selected as event of the year by the Georgia Recycling Coalition--forwarded the highest number of pledges to recycle more;
- Educational web site detailing our program is available for base organizations and the public.
- **Outreach and Partnering.** The P2 warfighters team is a recognized leader in P2 efforts in the state of Georgia and throughout EPA Region IV. Environmental

Management has been instrumental in establishing a Clean Cities partnership in middle Georgia; garnering commitments from local community leaders to improve fleet fuel efficiency, alternative fuels, and the use of alternative fuel vehicles.

Reductions Achieved. Outstanding results achieved in P2, solid waste reduction, affirmative procurement, and energy conservation:

- ✓ 40% reduction in 2002 from 2001 in methylene chloride and phenol usage, TRI report;
- ✓ 648 fewer drums of hazardous waste disposed in 2002 compared to 2001;
- ✓ 88% reduction in use of toxic chemicals by implementing alternate depainting technologies. Continued application of Lean principles will allow further reductions in hazardous material inventory while increasing production time;
- ✓ 43% reduction in HazWaste disposed;
- ✓ 99.9% reduction in ODS usage;
- ✓ 50% solid waste diversion rate; and
- ✓ Paired with \$10.3M savings in hazardous material purchases and recycling proceeds, plus an annual \$1.8M savings from process improvements, the Robins P2 WarfighterTeam is the one to emulate!

Green Buildings. LEED requirements are being included in new construction projects. As a result of participating in a pre-design conference to review a 2003 design and build construction project for a new base entrance/visitors' center to comply with force protection standards, the project now has a requirement for a LEED certification. This project is ahead of the Air Force policy requiring LEED pilot projects in 2004--thanks to the foresight in having our folks already trained.

Awards and Services

- Mary Kicklighter, Chemical Engineer and Chief, Pollution Prevention Division, Environmental Management Directorate
AFMC General Thomas D. White P2 Award for Individual Excellence--1999
Secretary of Defense Environmental Security Awards for P2 1998 and 2001
- Jim Reese, P.E., Environmental Engineer, Hazardous Waste Reduction Program Manager
Boy Scouts of America "Silver Beaver Award" 21 Feb 02 for outstanding volunteer support--highest award given by central Georgia council
- Bill Downs, Environmental Engineer, Hazardous Material and Waste Operations Program Manager.
- Linda Larson, Environmental Protection Specialist, Solid Waste Program Manager
Environmental Management Employee of the Year--1998
Georgia P2 Partnership, Co-Chair, Solid Waste Committee
EPA Region IV/DoD/State P2 Partnership--Steering Committee Representative for Georgia DOD military installations
- Richard Slife, Environmental Engineer and Chief, Maintenance Environmental, Safety, and Compliance Branch
WR-ALC 2000 Nomination for AFMC Gen. Bernard P. Randolph Engineering Award
Patent Inventor for Barrier Coat Depaint Procedure--approval pending
- Dave Bury, Environmental Engineer, CTP2, CSI, and Hazardous Material Reduction Programs
- Becky Mitchell, Environmental Protection Specialist, P2 Funding Programmer
Representative for annual Christmas Tree Roundup with local community
Member of State DNR, P2 Partnership, Solid Waste Committee

**SECRETARY OF DEFENSE
ENVIRONMENTAL AWARD
POLLUTION PREVENTION – TEAM
WARNER ROBINS AIR LOGISTICS CENTER
ROBINS AIR FORCE BASE, GEORGIA**

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Summary of Achievements

The Robins Air Force Base (RAFB) pollution prevention (P2) Warfighters Team demonstrates a top-notch, diverse program, including superior management of depot-level industrial processes, aircraft operations, administrative, and residential areas. Outstanding results have been achieved in P2—process improvements hazardous material/waste reductions, improved material management, solid waste management, and energy conservation. The Warner Robins Air Logistics Center (WR-ALC) is the largest industrial complex in Georgia. Each year the center uses over 4,000 tons of hazardous material, generates over 13,000 tons of solid waste and 1,000 tons of hazardous waste, uses 1.7 trillion BTUs (British thermal units) of energy, and one billion gallons of water, and is a major Title V air source. RAFB is progressing from traditional P2 to compliance through pollution prevention (CTP2) and beyond.