

## Introduction and Mission

Dyess Air Force Base (Dyess) is located in the high desert plains of West Texas; adjacent to the City of Abilene; 180 miles west of the Dallas/Ft. Worth metroplex; and occupies 7,012 acres. The installation has 5,370 active duty military, 770 civilian employees, approximately 7,500 dependents, and over 3,500 military retirees living in the local community, for a total of 17,140 military in our population profile.



**B1-B Lancer**

Dyess Air Force Base provides world-class Airmen and Airpower for the warfighter, and is a poised and mission-ready organization with warfighting expeditionary Airmen who have an innovative approach to mission execution. There are 15 tenant and associate units, including systems training, field training, weapons training, defense security services, reutilization/marketing offices, test and evaluation operations, and audit agencies.

*“Every member of the Dyess team - from the 317th Airlift Group and the dozen-plus tenant units stationed here, to the men and women in the local community who continuously amaze me with their steadfast support - stands together to accomplish the wing's three main focus areas: Flying and fixing aircraft, deploying Airmen, and providing for the*

*safety, security and welfare of Team Dyess. Our dedicated Airmen and community partners are truly what make "Team Dyess" a team and a great place to live and work!”*

**Colonel Robert F. Gass, 7th Bomb Wing Commander**

## Accomplishments Summary:

- Exceeded Environmental Management System (EMS) goals/objectives 2 years in advance of targets--reduced hazardous waste 22%, fuel filters 99%, reuse/recycle waste 91.7% below goals
- ECAMP in Command top spot--ALL program ratings “Met Standard” with 3 Model & 1 Benchmark
- Flawless Record--no violations during 4 state inspections--resolved 200+ pre-audit deficiencies
- 1st in Department of Defense to meet Restoration Cleanup goals--100% closure of sites 22 yrs in advance of statutory, permit, & compliance agreements requirements --saved over \$3,700,000
- Achieved “Superior Water System” state rating 11th-yr-running--given to < 2% of water systems
- Eliminated 200+ man-hrs in lift station deficiencies--prevented enforcement/fines of \$120,000
- Diverted 2,400 tons from disposal—saved \$37,000 & stabilized 166,000 sq ft of mission critical airfield
- Storm water projects established 6,500 native trees; dramatically improved SW quality; saved \$60K dovetailing federal water conservation requirements with storm water infrastructure projects
- Agency partnering & community outreach second-to-none--charter members of TX/DoD Environmental Partnership and Air Working Group; Coordinator of Local Emergency Planning Committee

## Dyess Air Force Base Environmental Quality Team

Dyess is a long-standing environmental leader. While we are small in size, our operations are as complex as large base operations. The Team continually meets and exceeds onerous Texas environmental law to support the mission, and pushes Dyess programs to the next level. When a challenge is tossed, these are the hands that reach out and seize the *"Opportunity to Excel."*

### Teresa Clouse, Chief of Asset Management



**Duties:** Responsible for all aspects of asset management, environmental, planning, and energy. Dyess Team member since 1989. **Expertise:** Over 35 years as City Planner, Landscape Architect, Environmental Manager.

### David Laurence, Chief of Environmental



**Duties:** Responsible for all aspects of environmental management/related programs. Dyess Team member since 2000. **Expertise:** Over 26 years as Exploration Geologist, Private Consultant, Environmental Manager.

### Brian Danko, Water Quality Manager

**Duties:** Responsible for all aspects of water (drinking, storm, and sanitary sewer) systems. Dyess Team member since 2004. **Expertise:** Over 10 years as TX Regulator/Emergency Response Strike Team, Environmental Manager.



### Gary Burling, Waste Programs Manager

**Duties:** Responsible for all aspects of waste management (hazardous, universal, and special). Dyess Team member since 2004. **Expertise:** Over 10 years as TX Environmental Regulator, and Environmental Manager.



### Jim Armstrong, Air Quality Manager



**Duties:** Responsible for all aspects of air quality (indoor/outdoor). Dyess Team member since 2004. **Expertise:** Over 14 years as Lab Technician, Chemist, University Teaching Assistant, Environmental Manager.

### Bryan Foreman, Special Programs/Projects

**Duties:** Responsible for all aspects of EMS, NEPA, and Funding. Dyess Team member since 2005. **Expertise:** Over 17 years as Operations/Contingency Specialist, including 12 yrs as Major in USAF, and Environmental Engineer.



## Awards and Recognitions

**2009 Air Force Winner:** General Thomas D. White Environmental Quality Award (Team)

**2009 Air Force Winner:** Harry P. Rietman Award-Outstanding Senior Manager (Teresa Clouse)

**2009 State of Texas Performance Recognition:** "Superior Water System;" Cited to Dyess AFB for *"Outstanding Performance During Five Year Period"*; given to < 2% of water systems in the state

**2009 Twelfth Air Force Winner:** Outstanding Senior Civilian of Year (David Laurence)

**2009 Command Winner:** General Thomas D. White Environmental Quality Award (Team)

**2009 Command Winner:** USAF Natural Resources Conservation Award (Installation)

**2009 Department of Energy Winner:** Federal Energy/Water Management Award (Water Conservation)

**2008 State of Texas Performance Recognition:** "Superior Water System;" Cited to Dyess AFB for *"Outstanding Performance During Five Year Period"*; given to 2% of water systems in the state

**2008 Air Force Winner:** General Thomas D. White Restoration Award (Installation)

**2008 Command Winner:** General Thomas D. White Restoration Award (Installation)

**2008 Command Finalist:** General Thomas D. White Pollution Prevention Award (Non-Industrial)

**2008 Command Finalist:** General Thomas D. White Pollution Prevention Award (Team)

## Environmental Management System (EMS)

The Environmental Management System (EMS) is managed through the Environmental, Safety, and Occupational Health (ESOH) Council; chaired by Wing Commander; meets quarterly; and consists of Group Commanders and Unit Environmental Coordinators (ECs). Now, for the new stuff!

Some of our greatest strides in the past two years have been improvements in EMS structure and in management tools. First, the ESOH Council's sub-committees were augmented with Base Energy Subcommittee (BES); led by Deputy Group Commanders; and chaired by Mission Support Group Commander. Second, the assessment tool for environmental aspects was expanded from 14 to 27 categories. Impact analyses for aspects matured from "Negative" or "Positive" to ranked impacts of 1 to 5 with 5 being the greatest risk to the environment. For the first time, significant impacts were easy to understand and credible. The aspects of greatest concern to EMS and ESOH Council were:

- **Release of hazardous substances from underground contaminated sites**
- **Discharges in/out of sanitary sewers**
- **Wastewater with hazardous substances**
- **Electric Usage/Consumption**
- **Waste Management (hazardous waste and universal waste)**
- **Air Emissions Reduction**

Second, we've had tremendous advancement in EMS training with implementation of the web-based ESOH-TN (training network). Dyess set a first year goal of 75-80% completion rate for initial registration and training modules, but within 6 months had completion rate of over 90% for all base personnel, tenants, and contractors. Thirdly, we completed our 1<sup>st</sup> independent EMS audit and certification, and the Environmental Protection Agency (EPA) accepted Dyess into their National Performance Track Program as a fully implemented EMS.

### EMS Accomplishments

- ✓ All underground contaminated sites closed with Texas regulatory approval for "no further action;" milestone accomplished 22 years in advance of permit requirements; saved the Air Force (AF) over \$3.7 Million; and 1<sup>st</sup> in Department of Defense (DoD) to meet 100% closure goal!
- ✓ Storm sewer discharges dramatically reduced with implementation of "Safe Drains" in flight line and back shops; regulatory liability from potential illegal discharges virtually eliminated
- ✓ Electric Usage reduced 20% (12% AF goal)--saved \$2 Million/year; led way in use of Market Clearing Prices (15-minute spot market electric rates) garnered lowest rate of Texas bases
- ✓ Exceeded all AF waste reduction goals; implemented base's first "after hours" waste management training for night shift personnel...applauded by Commanders for customer-oriented initiative
- ✓ Air emissions reductions met with use of high-velocity, low-pressure paint guns, high-efficiency filters on paint booths, and low emissions solvents; saved over \$10,000 in annual emissions fees

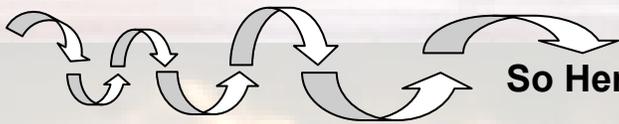
### Waste Reduction Efforts For All Pollution Prevention (P2) Areas

The Dyess Team is a recognized leader in Waste Reduction and P2. We've won the Department of Defense P2 Award, White House Closing the Circle Award (twice), National Most Valuable P2 Award (twice), and most recently Air Force and Department of Energy awards. We're bragging...we're passionate...we're determined to be better than last year...every year. The approach is simple: Stay Vigilant; Challenge the Routine; and Imagine the Improbable. Prior to seeking leadership approval of an initiative, there are basic questions to resolve: Have resources been maximized (manpower, equipment, infrastructure and related costs) and program efficiency been improved? Is this the least complicated route to compliance with federal and state law with least acceptable Commander Liability? When we've done all of that, we have a P2 win-win from top-to-bottom.

**Getting at the Source is First Avenue.** All requests for use/purchase of hazardous materials (hazmat) on Dyess are reviewed by the Team through the *Hazmart* (issue/re-issue/tracking) program. Unless use of a hazmat is required by technical order or environmental law, shops, tenants and contractors alike must use environmentally-friendly substitutes.

**Process Improvement Solutions** prioritize efforts for optimum waste reduction and are typically performed in the field. This avenue is pertinent to anyone, regardless of where you work. We manage/oversee a wide array of hazardous waste (HW or hazwaste) databases which allow us to prioritize by volume, costs, shop, etc., and also track trends for clues to better P2. In addition, we utilize regulator homepages for recent advances (they will be "pre-blessed" with permitting requirements apparent), and also utilize various internet sites as great resources.

**Tailpipe Solutions.** So, you've worked the front end--buying environmentally friendly products, and the middle--working with your customers on process improvement visits, and now you're staring at the tail end--hazardous waste. We turn over every stone to find treatment options to render the waste non-hazardous (non-haz), look for continued-use programs and other recovery/ recycle/re-use options, and if none of that works...just lose sleep until you figure it out!



**So Here's How We Did...**



- Eliminated largest HW stream through non-haz product substitution for mission-critical runway derubberizer operations; workplace efficiency (made 4 step process into 2 step); reduced over 100 man-hours/year; significantly reduced potential hazwaste discharges; saved \$9,500/ year
  - Implemented digital x-ray technology and eliminated previous waste of over 1,000 pounds of HW; saved over \$1,700 in disposal/year; reduced man-hours 50%; improved worker safety (no exposure to lead and silver) and improved workplace efficiency (no developing wait time)
  - Quick action during pending state-mandated boil notice ensured water remained safe; avoided not only anxiety to Dyess residents, but also \$5,000 cost to implement boil notice proceedings
  - Eliminated point & area source pollution; installed "Safe Drains" in flight line & back shops; not only eliminated regulatory liability of illegal contaminated discharges, but also cleanup costs
  - Eradicated potential stagnant water conditions during low housing occupancy rates due to \$28 Million in housing construction projects; installed base's first water auto-flushers; water quality maintained at proper levels; reduced man-hours to manually flush lines; and saved water as well
  - Water management efforts worth it! TCEQ "Superior Water System" recognition; accomplishment achieved by less than 2% of TX water systems; leading by example; and keeping Dyess water safe
  - Dovetailed stormwater permit requirements with other projects at no additional cost; established 6,500 native trees; improved groundwater recharge, sedimentation, and flooding; saved \$60,000
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- ✓ Exceeded all goals! 91.7% below recycle goal; 22% HW reduction & 99% of oil & fuel filters
  - ✓ Reduced hazmat purchases 12.8% in 2009
  - ✓ Improved painting methods; reduced man-hours 18%, saved \$2,000/year on purchases
  - ✓ Spearheaded leak detection survey; reduced natural gas 47%--saved \$538,00 in first year
  - ✓ No-cost venture stabilized 166,000 sq ft of airfield perimeter; diverted 2,400 tons of fill from landfill disposal and saved \$24,000
  - ✓ Diverted 1.5 million gallons of groundwater (seeping into storm system) to habitat pond
  - ✓ Eliminated lift stations deficiencies; prevented potential fines/penalties in excess of \$120,000
  - ✓ Recycled 220,000 shop rags & 52,000 pounds of Naphtha; saved \$184,160 in disposal costs
  - ✓ Marketed 136.5 tons of used oil and fuel for energy recovery, saved \$128,310 in disposal costs; sales revenue of \$33,357 (2008-2009)
  - ✓ Improved 2009 energy recovery contract; no-cost for over 21,300 pounds of absorbents (unusable); saved \$7,030 in disposal costs
  - ✓ Reclaimed absorbent pads in centrifuge unit; reissued to shops and saved over \$63,000

## Environmental Compliance Assessment and Management Program (ECAMP)

ECAMP is the Air Force (AF) program employed to timely identify compliance issues that have the potential for mission impact, garnering enforcement actions, and depleting resources. Findings are noted as Significant (high risk) to Major (lower risk) to Minor (administrative). Self assessments are conducted annually; regulatory partnerships meet quarterly (see Community Relations); budget and training reviews are conducted monthly (see Funds and Budgets); and water management was recognized as AF leader (see Community Relations). Dyess' ECAMP netted positive results.

**Outstanding Results.** During the last External (conducted by Command), we had the fewest findings ever... 25 and no Significant. Overall management received highest ratings to-date: All media/programs rated "**Met** AF Standard," with three rated as "**Model**-above AF standard," and one "**Benchmark**-Command Leader." The Models were in Waste Management (hazardous waste, solid waste, and recycling), and the Benchmark was in Air Quality Management.

**Bottom line:** Despite numerous regulatory inspections each year, we have **zero violations, enforcement, fines or penalties** in one of the most aggressive states in the country, and most recently, prone to no-notice inspections.

**ECAMP Improvements:** Dyess' key to these outstanding results is to develop fresh ways to keep commitment high with minimal impact to

mission operations. The latest improvement involved self assessments (all medias) for one Group at a time, generally one each quarter. Findings are initially resolved at unit level (shop foreman, superintendent, unit commander), with goal of 100% resolution prior to final report to ESOH Council (Wing & Group Commanders), and rarely have there been outstanding issues, except those tied to funding for long-range solutions...even then, interim solutions have been implemented. This focused attention on each Group has resulted in significant drops in assessment findings and increased visibility of compliance. The shops and units work hard on maintaining compliance and Commanders are proud of the excellent and timely resolution of findings. As a result, compliance remains high.

## Effective Use of One of the More Telling Resources...Funds and Budgets

The Team continually meets the challenges of shrinking budgets and growing requirements with monthly budget and training reviews to assess changes, risks, and opportunities. An in-house effort completed multiple environmental and protection plans for cost avoidance of \$125,000 for contract support. Recycling program netted best year in 2008 with \$60,000 in revenues and cost avoidance of \$31,500 in landfill tipping fees. During External ECAMP, Command issued a "Best Practice" for air emission calculations on equipment leaks (annual emission fees were \$20,000/year lower for Dyess). Alert and quick action averted potential enforcement for exceeded limits in storm water discharge permit—procedures for cutting in ditches re-vamped and maintenance contract reduced \$80,000.

More **Resourcefulness** from the Team...

- Revenues of \$18,982 for sale of used oil and fuel; cost avoidance of \$128,310 in disposal
- No-cost venture developed & implemented base's first cooperative partnerships with wildlife agencies for surveys and inventories
- Secured no-cost law enforcement with state; netted revenues of \$11,000 (fishing permits)
- Another no-cost venture--sponsorships of local universities student interns; assisted in completion of surveys, databases and files
- Use of student summer hire program closed Air Force Audit Agency finding for lack of annual inventory of over 15,000 items
- Re-use program of 220,000 waste rags/year eliminated liability and \$159,720 in disposal
- Eliminated 52,000 pounds of Naphtha with recycling venture; cost avoidance of \$24,440
- On base in Command to lower commodity rates on utilities (spot market for energy costs in gas and electric); saved \$2 Million

## COMMUNITY RELATIONS

Dyess' relationship with the community is legendary and absolutely fosters community involvement, awareness, and cooperation with community leaders, organizations, institutions, and agencies. On the local level, the Team worked partnered with elementary schools: conducted tours of our recycling center, held poster contests for Earth Day, and awarded saplings to students for the "Adopt a Tree" initiative. The Team sponsored environmental graduate students each semester, which afforded no-cost support to environmental programs. The Team personified the call for community leadership. Some examples include: Hardin-Simmons University's Academic Foundation Board, Abilene Country Club Board of Directors, President of Abilene Adult Tennis Leagues, and United States Tennis Association Official. They also were active volunteers for church ministries, donated meals to mission groups, and were drivers for Meals-on-Wheels lunches to the elderly and home bound. On a regional level, members were active participants/speakers for Texas Environmental Partnership and Texas Air Working Group meetings, which are partnering forums between Department of Defense facilities in Texas and federal and state regulatory communities. All members are active participants in the area emergency planning group and participate in Community Right-To-Know activities for reporting thresholds, and for simulated exercises with response agencies and area hospitals. The Team led a co-operative Water Task Force for water plant operators, health staff, and Texas Commission on Environmental Quality (TCEQ). They worked extensively to coordinate drinking water issues, which resulted in recognition for Dyess as a "Superior Water System." In addition, members served as AF lead for a radioactive munitions site investigation on a 1958 crash incident, and worked extensively with Air Force Safety Center, Air Combat Command, and Air Force Center for Engineering and Environmental (AFCEE) with resounding success reflected in positive news clips and articles from local media. Member(s) were:



- Selected as guest speaker for Commanders Course at Air Force Institute for Technology (AFIT)
- On AFCEE Task Force for development of the AF's Pilot Water/Utilities Management Plan, and
- Served as Command Facilitator for implementation of the AF Asset Management Plans

Members collaborated with myriad of agencies, which included Texas Parks & Wildlife Department for a Memorandum of Agreement for no-cost enforcement for base's first fishing program; United States Fish & Wildlife Services for integrated natural resource management plans; the Abilene Mayor, City Council, Planning Committee, area Council of Governments, and local county judges on mission critical encroachment activities under consideration in the Texas State Senate. Members are media savvy with numerous interviews, including office of the Air Force Chief of Staff, 12<sup>th</sup> Air Force Commander, Cable News Network (CNN), as well as local newspapers, television stations, and radio stations.



### We put the "YES" in Dyess

Back Row (L to R): Tom Denslow, Energy Programs; Capt Nathan Leuthold, Deputy Flight Commander; Jim Armstrong, Air Programs; Kim Walton, Natural Resources; Brian Danko, Water Programs.  
Middle: Judy Overbey, Munitions Response, ERP; David Laurence, Chief of Environmental; Gary Burling, Waste Programs; Bryan Foreman, NEPA, EMS.  
Front: Teresa Clouse, Flight Chief.



## National Environmental Policy Act (NEPA) Planning, Analysis, Implementation

Team's superior management of the NEPA program has ensured 100% of required NEPA and related actions were completed in a timely manner. Immediate results included optimum sustainment to mission with: minimal disruptions to operations, reduced liability for non-compliance, minimal delays and claims to projects. Fiscal Years 08-09 presented unique challenges, including \$128 Million in Military Construction Projects; \$13 Million in American Recovery and Reinvestment Act projects; over \$6 Million of additional infrastructure projects; and \$4.3 Million for energy reduction projects.

Implementation of the new electronically-routed work order review system increased NEPA planning productivity ten-fold and virtually eliminated hard-copy routing for major construction projects and over 450 routine work order assessments. In addition, the Team completed, in-house, seven (7) Environmental Baseline Surveys for a cost-avoidance of \$140,000. Another in-house effort involved completion of the AF's first environmental analysis and agency-wide

coordination for the introduction of synthetic fuel in the B-1B fleet, involving extensive research and resulting in a cost-avoidance of over \$65K. Another effort--the update of our long-range NEPA tool, the Programmatic Environmental Assessment--reduced NEPA planning, analysis, and implementation timeframes from weeks to a matter of hours. In addition, "Section 106 Consultations" for historic significance were completed for over 480 base properties.

These program requirements were performed during austere manning shortfalls and within mission-critical, yet restrictive, construction and contract timelines. The team worked aggressively with a myriad of base offices, headquarters, support agencies, and regulatory agencies to ensure optimum compliance with NEPA and related requirements in support of the Dyess Mission.

## Conclusion

Dyess Air Force Base has an exceptional team of environmental managers that have achieved a myriad of Firsts! The Team was first in Department of Defense (DoD) to meet the Environmental Restoration Program goal of 100% closure of all contaminated sites. The Team was also first in Texas to achieve a state "Superior Water System" -- an accomplishment achieved by less than 2% of Texas water systems. The Team achieved superior Environmental Management System (EMS) results meeting EMS goals 2 years in advance. A few noteworthy achievements are:

- 22% reduction in hazardous waste;
- 99% reduction in filter wastes;
- Zero violations or enforcement



- 91.7% below reuse/recycle reduction goals
- Leaders in the Community
- Volunteers Extraordinaire
- Produced savings and cost avoidance in the Millions!!

The Team maintained an outstanding compliance record with perfect results of no violations during 4 state inspections. This achievement is especially noteworthy as Dyess is situated in one of the most aggressive states for environmental enforcement actions. Regulatory inspection preparation efforts included base-wide identification and resolution of over 200 deficiencies. Lastly, the Team's vitality for agency partnering and community outreach efforts are noteworthy as a charter member of the DoD Texas Environmental Partnership, supporting member of the Texas/DoD Air Working Group, and coordinating members of the Local Emergency Planning Committee. The Team's proactive and aggressive approach to sustainment of excellence in all we do, and tenacity for advancements in environmental programs has resulted in an unparalleled compliance record, ensured environmental stewardship is a way of life for all Dyess personnel, and earned the reputation for being a champion of environmental quality for the Department of Defense.