

SUCCESS STORY

Aviano AB - July 2002

Spotlight On: Aviano Air Base

Aviano Air Base (AB), under the command of the United Air Forces in Europe (USAFE), is located in northern Italy, 50 miles north of Venice, at the foothills of the Italian Alps. The base encompasses over 1,300 non-contiguous acres and is headquarters to the 16th Air Force, which supports air combat operations in southern Europe and portions of the Middle East. The 16th Air Force is the parent unit of the 31st Fighter Wing, whose mission is to conduct air combat and combat support in the southern region of Europe and elsewhere in support of the United States and the North Atlantic Treaty Organization (NATO).

The 31st Fighter Wing's Environmental Flight composed of four Italian nationals, two United States military personnel, and one United States civilian, has initiated and achieved outstanding environmental compliance, pollution prevention, and environmental remediation programs. Their outstanding stewardship and management of the environment has been recognized and applauded by the United States Air Force as well as the Department of Defense as indicated in being the recipient of the 2000 General Thomas D. White Award and the Secretary of Defense Environmental Security Award for environmental quality at an overseas installation. The successes highlighted below are a brief overview of some of the excellent environmental work being conducted at Aviano.

Environmental Compliance

Compliance is maintained in accordance with the Final Governing Standard (FGS) for Italy. However, the Italian government recently issued a complete set of national environmental laws, which turned Article 17 of the "Ronchi Decree"

Environmental Success

Environmental Compliance	2
<i>Planning</i>	
<i>GeoMedia</i>	
Pollution Prevention	3
<i>Air Quality</i>	
<i>Hazardous & Toxic Materials</i>	
<i>Natural & Cultural Resources</i>	
<i>Solid & Hazardous Waste</i>	
<i>Water Quality</i>	
Environmental Restoration	4
<i>TCE Plume</i>	
<i>Bio-Remediation</i>	
The Challenge	5

into comprehensive legislation, with enforcement power, regulating soil and groundwater contamination, and remediation actions. The article is implemented through the adoption of smaller laws, presidential decrees, and local ordinances by individual Italian provinces. Aviano's Environmental Protection Committee and environmental subcommittees work to ensure abidance with all Italian laws in meeting defined program objectives.

Committees & Partnering

Partnering with the local community is a priority at Aviano, it solidifies relations and keeps an open dialog, enabling Aviano to expedite and accomplish environmental protection objectives. One committee, the Italian-American Committee, meets quarterly to discuss environmental and other base issues facing the community and Aviano. The quarterly meetings are hosted on a rotating basis by mayors from surrounding towns, and provide a forum for resolving environmental concerns of both American and Italian communities. The 31st Fighter Wing Commander, Brigadier General Don Hoffman, officially represents the views of Aviano to community leaders.



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Environmental Planning

Planning issues are coordinated with the local authority and addressed by a commission, consisting of Italian and U.S. military personnel. Prior to discussion in the commission, the 31st Fighter Wing routes proposed work orders and projects to all offices for comment. Mr. Gabriele Scandola, DSN 314-632-5394, within Environmental Flight provides input and, as needed, solicits contributions from other members. Comments are tracked in a database; thereby storing the information in a single location and guaranteeing all environmental issues are addressed. The added efficiency of using a database has enabled the flight to spend extra time in analyzing work orders and projects not only for environmental compliance but also for possible pollution prevention opportunities.

GeoMedia

Aviano, with assistance from USAFE and the Air Force Center for Environmental Excellence, is implementing the GeoMedia, Geographical Information System (GIS). This effort began in 2000, with the base combining the vast amount of data generated from sampling, inventory studies, and site characterizations with digitized maps and/or photos. A single contractor is responsible for managing Aviano's GeoMedia system, which includes creating a standardized electronic format for converting existing data and reports. In addition Aviano requires all data from new deliverables to be placed in the standard format for integration into the system. Recently completed surveys for asbestos, lead-based paint, polychlorinated phenols, air emissions, and storage tank data are being incorporated for use not only by the Environmental Flight but all other organizations to facilitate project planning objectives and work orders. The GeoMedia system is permanent, easily maintained, and available through the base's intranet allowing for instant and secure access to large amounts of data in a single standardized format. This system also includes a search function and permits customized reporting. Additional

information on GeoMedia's implementation may be obtained from Mr. Alejandro (Alex) Della Mea, DSN 314-632-5394.

Pollution Prevention

The 31st Fighter Wing has established three goals to further environmental stewardship achievements: 1) improve air and water resources, 2) reduce operational costs; and 3) protect and enhance natural resources. In order to obtain these lofty goals the Wing looks to eliminate, modify, or control all potential sources of pollution, which includes locating viable substitutes for hazardous materials and the recovery of both solid and hazardous waste. For additional information on Aviano's pollution prevention initiatives contact Master Sergeant Joseph Gura, DSN 314-632-5394.

Air Quality

In 2000, Aviano accomplished a comprehensive air emissions inventory that identified all sources of air pollution and established baseline emission values. The results from the inventory were placed in a central database, enabling Aviano to measure program compliance and identify air pollutant reduction opportunities. By tracking emission data in this manner, air emission analysis is simplified and emission trends are easily extracted. Using these emission trends, the Wing compiled air emission histories and identified equipment requiring maintenance, modification, and/or replacement.

Hazardous & Toxic Materials

Aviano developed and incorporated a standard clause into all statements of work requiring contractors to have all hazardous material approved prior to use; thereby, prompting contractors to seek out less hazardous and toxic materials. This contractual clause has reduced the occurrence of hazardous unknowns saving money in sampling and disposal costs, and has since been used to develop a command standard.

Aside from reducing the amount of new hazardous and toxic material being brought on base, Aviano actively works to eliminate the presence of these substances used in past activities. The Wing successfully inventoried and removed all sources of polychlorinated biphenol (PCB) and triphenols (PCT) resulting in the base being declared PCB/PCT free in 2001. However new polychlorinated chemicals were added, with the implementation of new Italian regulations, which the base is currently resurveying and testing for. Mr. Della Mea has additional information on the PCB/PCT initiative as well as the status of Aviano's asbestos and lead-based paint programs.



HazMat Pharmacy

Another critical chemical reduction measure at Aviano is in the use of pesticides. Locating and using alternatives to chemical pesticides is a high priority since the base is non-contiguous and surrounded by farmland. To achieve an 80% reduction in chemical usage, Aviano has implemented various mechanical pest control methods. For instance, screens have been installed in area buildings to prevent pigeons from nesting and in buildings that cannot be screened, traps are being used to successfully remove the pigeons. On the flight line a noise cannon has been employed to disperse birds, aiding in the Bird Air Strike Hazard (BASH) program. In addition the base works in coordination with the Italian National Forest Department to implement a catch, relocation, and release program for certain pests such as rabbits.

Each unit on base supplies volunteers to walk the flight line and perform a "rabbit round up" to safely remove and relocate the rabbits to a safer environment.

Natural & Cultural Resources

Aviano AB, originally established in the early 1900's, served as one of the first Italian aviation schools prior to World War I and as tank training grounds after World War II. Since the world wars the air base has had several occupants, the latest being the U.S. Air Force who has occupied the base since 1955. Mr. Scandola, with the aid of the University of Trieste, has information on all known historical artifacts and sites in the area. The majority of cultural sites documented in the area are located outside of the base's perimeter; however, Aviano is home to aircraft hangars built in the mid 1930's, which draws interest from the local community and requires preservation. The chance of uncovering undocumented historical artifacts during military projects always exists; therefore, the 31st Fighter Wing has outlined procedures in their Cultural Resource Management Plan to handle such occasions should they arise.

Aviano is also home to various species of flora and fauna. Biologists from the University of Trieste, working in partnership with Mr. Scandola, identified a rare orchid found only in dry riverbeds. The area in which the flower grows is protected and maintained to ensure suitable habitat for continued propagation and proliferation. The 31st Fighter Wing also works with the Italian National Forestry Department to treat various local tree diseases and in preserving a large Sophora Japonica (Japanese Pagoda Tree) specimen located on base. In addition, Aviano teamed with the local community to plant over 100 native trees during a recent Earth Day celebration.

Solid & Hazardous Waste

Since Italy's entry into the European Union, there has been an increased emphasis on recycling and

environmentally sound waste disposal practices. Aviano requires all American community members to segregate their solid waste into the following eight recyclable categories: wet waste, dry waste, glass, aluminum, scrap metals, plastic, wood, and concrete. The wet and dry waste is further segregated into compost, inert, and burnable products. The burnable products are taken to an incinerator for energy recovery and the inert products are disposed of in a landfill. Aviano's compliance with the Italian solid waste regulations has resulted in an approximated 98% solid waste diversion rate from landfills. This waste is burned for energy recovery with the remaining 2% being sent to a landfill. To assist American personnel and their families in understanding local solid waste programs, the 31st Fighter Wing Environmental Flight developed a recycling website. The site provides local Italian waste disposal guidelines translated into English along with Aviano's recycling procedures, thereby ensuring compliance while furthering waste segregation efforts.



Dumpsters at the Recycling Facility

Aviano has also worked to ensure compliance with hazardous waste requirements, achieving no disposal discrepancies in 2000. In addition USAFE conducted a pollution prevention opportunity assessment, which resulted in Aviano reviewing and implementing several process changes to reduce the volume of hazardous waste generated. Aviano successfully identified a local contractor to accept laser printer and copier toner cartridges for recycling, implemented an anti-freeze recycling program, and procured a digital

camera system and several drum/can crushers. The above process changes reduced hazardous waste generation, manpower, and disposal costs. For additional information regarding Aviano's solid waste management and hazardous material and/or waste management programs contact Mr. Lonnie Duke, DSN 314-632-5393.

Water Quality

Aviano's water, along with the entire Friuli Region, is supplied by an aquifer. To understand potential impacts to this water source a groundwater model was developed to assess water usage and the effects of conservation measures. A potential impact, currently being resolved, is the use of drywells to dispose of wastewater. Wastewater disposal in this manner is an acceptable practice; however, to protect and conserve this resource Aviano, in coordination with the local community and in cooperation with USAFE, developed plans to construction a new wastewater treatment plant. Ground was broken at the site of the new plant on July 2001 and is scheduled for completion in December 2003. When completed the plant will not only treat wastewater from Aviano but also service the surrounding community. For information on this and other water quality initiatives contact Mr. Gabriele Scandola.

A significant portion of the wastewater being disposed comes from numerous oil/water separators. During 2000 an inventory was conducted, which identified 32 units on Aviano, of these 14 have been removed at a cost of \$160,000 saving an estimated \$90,000 annually on maintenance and repair. The remaining units are being analyzed for replacement by a closed-loop system, which would completely eliminate this pollution source. Another initiative implemented by the 31st Fighter Wing to protect water quality was the removal and/or replacement of 100 regulated heating oil and generator underground storage tanks (UST). All regulated UST have been either removed and/or replaced with above ground storage tanks (AST), which are doubled walled

and surrounded by six inches of concrete. This initiative, accomplished at a cost of approximately \$3 million, ensured compliance with the FGS four years ahead of schedule and eliminated sources of potential water contamination.



Above Ground Storage Tank

Environmental Remediation

Aviano's restoration program, under the direction of Dr. Dainele Papais, DSN 314-632-5394, is currently managing 166 sites. The program works aggressively with Air Force, local, and national officials to ensure a quick, accurate, and complete cleanup of contaminated sites.

TCE Plume

In 1987 at Fontannafreda, an off-base plume of trichloroethylene (TCE) was identified. The 31st Fighter Wing first conducted modeling of the plume to determine the movement and potential impact of the TCE plume on base drinking water wells. In coordination with the Italian military, local and regional authorities, monitoring wells were constructed and continue to be installed along with implementation of a comprehensive sampling program. The information obtained from the monitoring well program will be entered into the model to aid in predicting future impacts of the TCE plume. The results from the modeling and well monitoring program indicates only one potable water well requires the installation of a treatment system.

Bioremediation

Bioremediation is used as an aid in closing open enforcement actions. The treatment of contaminated soils by bioventing at the North Petroleum, Oil, and Lubricant (POL) facility is being used successfully. In 1996 the original analysis for the North POL facility indicated a presence of 3000 parts per million (ppm) of hydrocarbons in the soil, well above Italian regulatory limits. Current analysis indicates the level of contaminants in the soil at 800 ppm, an average reduction rate of approximately 450 ppm per year.



North POL Facility

The Challenge...

To balance the mission and people without sacrifice of either environmental or fiscal constraints is becoming more difficult by the day, especially when the mission grows without corresponding increases in manpower or operating budgets. However, Captain Secody, Environmental Flight Chief, DSN 314-632-5394, and dedicated personnel have risen to the challenge, implementing an aggressive environmental program, which has distinguished itself as one of the best in the United States Air Force. The Environmental Flight at Aviano AB has a program that actively incorporates interagency cooperation, resolves problems, and plans for the future by embracing new technologies and methods to ensure the 31st Fighter Wing's mission is carried out with minimal impact to the environment.

Pollution Prevention Success Stories - Aviano AB, July 2002

Success stories are a product of PROACT, a service of the Environmental Quality Directorate, Headquarters Air Force Center for Environmental Excellence (HQ AFCEE/EQ), Brooks AFB, Texas. Any comments or suggestions are welcomed and should be directed to PROACT at DSN 240-4240, (800) 233-4356, or pro-act@brooks.af.mil.



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