NAVAL AIR STATION WHITING FIELD
ENVIRONMENTAL RESTORATION AWARD
(1 October 2003 – 30 September 2005)

1. INTRODUCTION

Naval Air Station Whiting Field's (NASWF) mission is to efficiently provide facilities and operational services at primary base (containing two airfields) and 14 Navy Outlying Landing Fields in support of multiple training tenant commands. To effectively support the tenant's mission of training U.S. Navy, Marine Corps, Air Force, Coast Guard and International students. The Whiting Field complex is the source for training primary and intermediate phases of fixed-wing and in the advanced phase of helicopter pilot training and also to support the training of Navy and Marine Corps Unmanned Aerial Vehicle (UAV) Operators. To accomplish this mission, NASWF currently employs 225 military, 326 civilian and 169 contract personnel. Tenant commands at NASWF currently employ 1477 military, 81 civilian, and 640 contract personnel.

Two separate and fully operational airfields are located at Whiting Field; one used for helicopter and one for fixed-wing operations. In addition, 14 Navy Outlying Landing Fields (NOLFs) are part of the NASWF complex encompassing 12,000 acres with a total plant replacement value of $1 billion. The capabilities of NASWF are critical to the Navy flight-training mission as

approximately 150,000 flight hours are logged annually, accounting for 40% of Chief of Naval Air Training flight hours and over 10% of all Navy /Marine Corps flight hours worldwide. The student throughput is approximately 1,600 per year.

NASWF is located approximately eight miles north of Milton in a rural area of Northwest Florida, and the NOLFs are located in similar environmental settings in both Florida and Alabama. The majority of land adjacent to the station is comprised of farmland with nearby creeks and rivers that are used for recreational purposes. Other than the military, the primary industry near the Milton area is agricultural. The total economic impact of NASWF to the local economy is $240 million.

2. BACKGROUND

Environmental Challenges:

- In 1994, NASWF was placed on the National Priorities List (NPL) with 46 individual sites of potential contamination.
- Protecting the groundwater aquifer. Drinking water for the base and local area comes from a groundwater aquifer located approximately 100 feet below grade over much of the Station. Several locations also have a perched water table caused by clay lenses located only a few feet below grade. These complex geological conditions of highly permeable sand as well as much less permeable clay lenses provide potential for contamination of the groundwater aquifer.

Organization, Staffing, Management Approach: The Environmental staff at NAS Whiting Field currently consists of:

- Mr. Ron Joyner, P.E., Environmental Engineer
- Mr. Jimmie Bartee, Environmental Protection Specialist

The environmental restoration efforts at NASWF are a model for other installations because of partnering with the Southern Division of Naval Facilities Engineering Command, the Florida Department of Environmental Protection (FDEP), the United States Environmental Protection Agency (USEPA), and Navy Clean and Remedial Action contractors. The agencies listed above function as a team with a common goal of environmental restoration at NASWF. This team effort has achieved savings in both time and costs by reducing preparation and review time for documents, and it also enhances the effort to develop innovative methods for cleanup. The Department of Navy Environmental Restoration Report for FY 2000 estimated the cost to complete Site Remediation at approximately $33 million. Current estimates of the cost to complete Site Remediation are less than $10 million.

Community Involvement Programs: The Restoration Advisory Board (RAB) at NASWF is comprised of community members as well as representatives from the Navy, USEPA, and FDEP. They have been involved with providing community input on Installation Restoration (IR) activities at NASWF for eight years and have invested a great deal of time and effort in attending meetings and performing other associated duties.

The RAB has demonstrated its commitment to assisting NASWF in several ways. During the investigation of the nature and extent of a groundwater plume, it was discovered that the plume had the potential to move under Clear Creek, which is located along the western boundary of NASWF. To properly assess this, it was necessary to install monitoring wells on private property along the west side of the creek.

Initial attempts at acquiring access to the private property were met with no success. The property owners either did not respond to phone or mail contact or initially refused permission. RAB members volunteered their services in contacting the property owners and inviting them to an RAB meeting. The presentation given at the RAB meeting allowed the property owners to understand the following: the need for installation of monitoring wells; what the information obtained would allow the Navy to accomplish; and how other members of the community (the RAB) felt about the situation.

At the conclusion of the meeting three of the four property owners granted access to their property. The monitoring wells were installed, and groundwater samples were collected. Sample analytical results indicated no evidence of groundwater contamination. It is highly unlikely the monitoring wells could have been installed without the involvement of the RAB.

In an effort to provide current information to RAB members, a quarterly newsletter detailing significant events occurring at Whiting Field as well as updates of ongoing projects was developed. The RAB response to the newsletter was positive and unanimous. Through these newsletters, information on the environmental restoration program at NAS Whiting Field is presented to the community in an efficient, cost-effective manner. NAS Whiting Field enjoys a high degree of trust with the local community, and by continuing to receive information on the progress of the environmental restoration program, this trust is maintained.

Environmental Restoration Agreements: During this award period, a total of ten Records Of Decision (RODs) were completed at Installation Restoration (IR) sites demonstrating the aggressive approach to prompt environmental restoration at NASWF.

On January 11, 2005 the Federal Facilities Branch Chief of the US Environmental Protection Agency Region IV congratulated the NAS Whiting Field Partnering Team for its accomplishments in fiscal year 2004. Mr. Kenneth Lapierre stated, “The five RODs produced by Whiting Field in FY04 represent 28% of the total FY04 RODs completed at all 20 NPL Federal Facilities in Region 4. This accomplishment alone is noteworthy. However, when viewed in the context of the destruction and havoc wrought upon the base by hurricane Ivan in September 2004, this accomplishment becomes truly remarkable. The dedication, commitment, communications and trust exhibited by the Whiting Tier I Team during this time enabled the signing of these RODs by all parties to proceed on schedule despite unforeseen circumstances.”

It is also noteworthy that an additional five RODs were completed during FY05 even though NAS Whiting Field was subjected to a direct hit by tropical storm Cindy, a hailstorm with softball size hail, and hurricane Dennis. The efforts of the entire command at NAS Whiting Field was crucial in returning the facility to a state of normalcy while still maintaining rigorous schedules.

Ten RODs were completed and signed during FY 2004 and FY 2005:

- Site 3 Underground Waste Solvent Storage Area – 23 Sep 2004
- Site 6 South Transformer Oil Disposal Area – 23 Sep 2004
- Site 30 South Field Maintenance Hanger – 23 Sep 2004
- Site 32 North Field Maintenance Hanger – 23 Sep 2004
- Site 33 Midfield Maintenance Hanger – 23 Sep 2004
- Site 5A Battery Acid Seepage Pit – 22 Sep 2005
- Site 9 Waste Fuel Disposal Pit – 22 Sep 2005
- Site 12 Lead Disposal Area – 22 Sep 2005
- Site 29 Auto Hobby Shop – 22 Sep 2005
- Site 38 Golf Course Maintenance Building – 22 Sep 2005

3. PROGRAM SUMMARY

The objectives of the Environmental Restoration program at NASWF:

- Protect human health and the environment.
- Seek innovative restoration methods.
- Restore all IR sites as quickly as possible in the most cost-effective manner available.
- Continually improve and develop the existing partnership that NASWF enjoys with state and federal regulators.

Each of these objectives was met with outstanding success during the last two years with 10 RODs completed. The future of the Environmental Restoration program at NASWF is just as bright with the enthusiastic cooperation of the United States Environmental Protection Agency, the Florida Department of Environmental Protection and the local community.

4. ACCOMPLISHMENTS

Fast Track Cleanup: Due to the characteristics of the groundwater aquifer at NASWF, the NASWF Partnering Team developed a strategy to separate the media into two groups: groundwater and soil. This separation of the media allows the following to occur simultaneously:

- Make decisions concerning site specific remedial actions,
- Implement RODs, and
- Determine the full nature and extent of groundwater contamination

It was determined that the most effective means of site restoration would be to implement a base wide approach to plume delineation. This base wide approach has reduced costs by an estimated $4.7 million and allowed funding to be acquired immediately versus 2 to 10 years later. These savings have been realized by determining remedial actions for soils earlier in the investigative process, the timely resolution of site specific technical issues, a reduction of duplication of effort during the investigation and report writing phases, and achieving a comprehensive plan for determining the nature and extent of groundwater contamination.

No Further Action RODs: Source removals occurred at several sites to enable the following No Further Action RODs to be completed:

- Site 6, South Transformer Oil Disposal Area: Thirty seven cubic yards of PCB contaminated soil was removed
- Site 30, South Field Maintenance Hanger: Eighty cubic yards of heavy metal and petroleum contaminated soil was removed
- Site 32, North Field Maintenance Hanger: Three hundred cubic yards of heavy metal contaminated soil was excavated
- Site 33 Midfield Maintenance Hanger – Eighty cubic yards of heavy metal and petroleum contaminated soil was removed

Innovative Technology Demonstration: Site 2894 is a bulk fuel storage facility including Building 2894 (pump house), two aboveground storage tanks, and a truck fill stand. A release was detected from an underground fuel transfer line resulting in an extensive JP-5 plume beneath the site.

A contamination assessment revealed excessively contaminated soil to a depth of approximately 85 feet below land surface (bls), over an area approximately 170 by 200 feet. Three zones of soil

UST Site 2894

Barometric Pumping System

contamination were identified at the site. The shallow zone extends from the surface to 15 feet bls. The intermediate zone extends from 15 to 25 feet bls. The deep zone extends from 25 to 85 feet bls. No significant groundwater contamination was detected during the assessment.

The remediation system consists of an active bioventing system to address the soil contamination in the shallow zone, and a passive barometric pumping system to address the soil contamination in the deep zone. After petroleum hydrocarbon concentrations in the shallow zone declined below regulatory levels, operation of the bioventing system was discontinued. Barometric pumping is an in situ passive bioventing technology using vent wells left open to the atmosphere. These wells allow pressure gradients, caused by short-term daily changes and long-term weather front changes to inject and extract air from the vadose zone. This movement of air

through the vadose zone encourages natural biologic processes to break down organic contaminants. The barometric pumping system continues to operate to address soil contamination in the deep zone. Gasoline Range Organic (GRO) emissions from barometric pumping wells demonstrate the system continues to remove petroleum hydrocarbons from deep zone soils. There are two significant advantages of this system: it can be used in remote locations where electrical service is not available; and the only moving part on the system is the respirator valve thus requiring little to no maintenance.

Site 4 is a former underground storage tank facility located near North Field. As part of a pilot study, five solar remediation systems (SRSs) were installed at the site to perform soil vapor extraction and bioventing. This treatment uses solar power to pull soil gas from the petroleum-contaminated soil and to enhance native microorganisms degradation of organic constituents adsorbed to soils. During FY 2004 and FY 2005, over 500 pounds of contaminates were removed.

Partnerships Addressing Environmental Cleanup Issues Between DoD and Other Entities: NASWF has developed a working relationship with the City of Milton and the Florida Defense Alliance (FDA) to secure funding for projects that will be of mutual benefit to the Navy and the surrounding community. NASWF secured an FDA grant of $250,000 to develop a plan for wastewater reuse from the City of Milton. The wastewater will be utilized at or near several environmental restoration sites. These sites were prioritized for restoration to facilitate their use in the wastewater reuse project. The reuse project is of significant importance to the local community, as it will stop wastewater discharge into the Blackwater River. The Blackwater River is one of the purest sand bottom rivers in the nation making it a popular place for swimming, fishing, camping, and canoeing.

Reducing Risk To Human Health and the Environment: The ultimate goal of the environmental restoration program at NASWF is to reduce the risk of contamination to human health and the environment. One of the major projects to accomplish this goal was the cleaning and closure of over 10,000 feet of an abandoned avgas pipeline which connected the fuel farms of the two airfields located at the Northern and Southern boundaries of the station. Two of the three contaminated areas along this pipeline have been remediated.

Source removals at Sites 3, 4, 6, 7, 15, 16, 30, 32, 33 and 38 have eliminated sources for groundwater contamination as well as eliminating exposure pathways to humans and the habitat at the Station.

Opportunities for Small and Small Disadvantaged Businesses in Environmental Restoration: NASWF aggressively utilizes small and small disadvantaged businesses in the environmental restoration program for both short term and long-term projects. The Remedial Action contractor utilizes small minority owned business for soil excavations. Monitoring of Site 2894 is also performed semi annually by a minority owned business.