

U.S. ENVIRONMENTAL PROTECTION AGENCY

FEDERAL FACILITIES RESTORATION AND REUSE OFFICE *WITH*
REGION 6 FEDERAL FACILITIES SECTION

Innovative Cleanup Leads to Navy's First EPA Ready for Reuse Determination

Naval Weapons Industrial Reserve Plant - McGregor



Dell McGregor Business Center

At the Naval Weapons Industrial Reserve Plant in McGregor, Texas, commitment to innovation and partnership led to accelerated cleanup and the achievement of several "firsts" for the U.S. Navy – including the first Post Closure Order for the Navy in the State of Texas, the Navy's first non-BRAC Operating Properly and Successfully determination for cleanup construction, and the Navy's first Ready for Reuse determination. Early and open communication set the stage for productive partnership with local and state agencies, U.S. EPA, and Congress to overcome challenges and facilitate reuse.

Facility History

The former Naval Weapons Industrial Reserve Plant (NWIRP McGregor) comprised 9,700 acres between Dallas and Austin in McGregor, Texas. During its 50-year lifespan, the former NWIRP McGregor facility served the U.S. Army, followed by the U.S. Air Force, and finally the U.S. Navy under several names. From 1942 until its closure in 1995, its mission included the research, testing and manufacture of weapons and solid-fuel rocket propulsion systems.



McLennan County Electric Co-op – One of the New Tenants at the McGregor Industrial Park



Sampling Team Collecting Soil Samples

Originally established on 18,000 acres as the Bluebonnet Ordnance Plant by the Army Ordnance Corps in 1942, the facility was used to manufacture bombs for World War II. When this plant closed in 1946, a large portion of the property was deeded to Texas Agricultural & Mechanical University for research and education. In 1952, the Air Force acquired the remaining portion of the former Bluebonnet facility to support their production of jet assisted take-off boosters and solid fuel rocket propulsion systems. The Navy assumed ownership in 1966. In 1973, Naval Air Systems Command (NAVAIR) assumed ownership of

the property and, for the next 20 years, the NWIRP McGregor operated as a government-owned/contractor-operated facility dedicated to the production of solid propellant rocket motors used in missiles such as the Shrike, Sparrow, Phoenix and Sidewinder.

At its operation peak, the facility employed nearly 1,400 people, making it the largest employer in the area. Revenues from the facility supported the economies of many local communities including McGregor, Gatesville, Oglesby, and Valley Mills. The facility closure in 1995 adversely impacted the regional economy.



Formerly Used Military Building

Environmental Investigation and Cleanup



Trenching Machine Used in Biowall Construction

In 1992, prior to facility closure, an aggressive multi-phased Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) was initiated to identify environmental concerns. The RFI was conducted in response to environmental issues raised by a RCRA Facility Assessment conducted by the Texas Commission on Environmental Quality (TCEQ). Due to historical activities at the facility, soil and ground water had become contaminated with substances such as industrial solvents, energetics, heavy metals, petroleum products, and perchlorate – a major component of propellants in solid fuel for rockets and missiles.

The Navy conducted extensive environmental investigation and remediation activities in partnership with TCEQ and the U.S. Environmental Protection Agency (EPA). In the late 1990s, the Navy conducted an Environmental Baseline Survey (EBS) to provide the necessary data to determine the most effective remediation strategy. The Navy performed a facility-wide energetics study to ensure the facility was safe from explosive materials. This two-year study included the analysis of over 4,500 samples and certified 198 buildings as free of explosive hazards.

Investigations found that groundwater contaminated with perchlorate at levels exceeding the Texas drinking water standard had migrated off-site in three major plumes. Because there were no proven technologies available for perchlorate remediation, the Navy investigated and implemented innovative remediation technologies to address the perchlorate contamination. The Navy's approach to the remediation included both in situ and ex situ biological systems. The first step was to prevent any further



Media Backfilling of Biowall Trench

contaminant migration. After investigating the options, the Navy installed permeable reactive barriers (PRBs), or biowalls, keyed into bedrock to both control migration and remediate the contamination through metabolic degradation. The Navy installed over three miles of biowalls and 1,077 bioborings – making NWIRP McGregor the first large-scale application of biowalls. Since becoming operational in January 2002, studies have shown that the biowalls have been effective in both reducing the concentration of contaminants in the ground water and reducing the volume of the contaminant plumes. Between January 2002 and January 2007, the biowalls removed 4,500 pounds of perchlorate from ground water.

Restoration and Reuse

The Navy worked with the City of McGregor throughout the environmental investigation and remediation process. A Restoration Advisory Board (RAB) was convened in 1996 to provide a forum for community members, local and state agencies, environmental legislators, and the Navy to discuss and review remediation plans and environmental concerns. The Navy's commitment to partnership and innovative technology resulted in the expedited transfer of property for reuse and a cost-savings of over \$20 million in construction costs and \$3 million annually.



Ready for Reuse Ceremony

There were several challenges to the reuse of the former NWIRP McGregor facility. As a contractor-operated facility, the typical provisions for transferring military property under the base closure laws did not apply; the NWIRP McGregor was neither an active military base, nor was it closed as part of the Base Realignment and Closure (BRAC) Act. To help move past these obstacles, special legislation was passed through Congress under the National Defense Authorization Act of 1998, which then put NWIRP on the fast track for environmental cleanup and property transfer. The Navy opted for phased divestiture that allowed them to transfer portions of the property to the city as they became eligible. This would allow the city to bolster its economy through lease agreements and tax revenues.



The Navy's First Ready for Reuse Determination

In 2006, EPA issued to NWIRP McGregor the first Navy non-BRAC Operating Properly and Successfully (OPS) determination, indicating that all remediation systems have been constructed and are operating as designed. NWIRP McGregor was also the first Navy facility to receive an EPA "Ready for Reuse" determination, which acknowledges that environmental conditions at the property are protective of human health and the environment for the anticipated use. Additionally, the NWIRP McGregor Post Closure Order (PCO) was the first Navy PCO approved by TCEQ, which scaled the 9,700-acre RCRA permit down to 16.4 acres, and significantly accelerated the City of McGregor's ability to redevelop and revitalize the facility.

With effective remedies in place, all 9,700 acres of the facility have been transferred to the City of McGregor for redevelopment. The property proved attractive to prospective tenants due to the existing infrastructure and buildings from the military uses, and its proximity to major cities, a regional airport, and onsite rail service. Incentives offered by the city also helped to attract tenants quickly. Tenants at the new McGregor Industrial Park, including Dell Computer Corporation, Ferguson Plumbing Company, General Micrographics, In Situ Forms, SpaceX, and McLennan County Electrical Cooperative, have helped to generate 1,000 new jobs and have invested over \$3 million. A new indoor arena was also constructed and is now a regular regional attraction – bringing over 40,000 people to the McGregor area for events.



New Rodeo Arena

For more information, call or write:
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EPA-505-F-09-014 November 2009