

CHAPTER 4 SUCCESS STORIES

The Department of the Navy (DON) has been implementing various initiatives in the areas of policy, technology, and information management to foster the principle of “better, faster, and cheaper” environmental studies and cleanups. Our efforts to become a leaner, more efficient, and responsive organization have, in many instances, resulted in savings of time and money. These have been achieved while maintaining satisfaction amongst all the stakeholders involved with the environmental projects.

This Chapter provides brief descriptions of some events exemplifying applications and results of DON’s innovative practices.

FY96 SUCCESS STORIES



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ENVIRONMENTAL MANAGEMENT

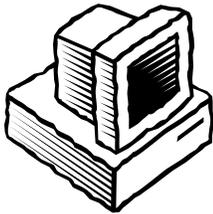


Camp LeJeune MCB - Time-Critical Removal Actions

Using guidance established in the National Oil and Hazardous Substances Pollution Contingency Plan, Marine Corps Base (MCB), Camp Lejeune has completed numerous Time-Critical Removal Actions (TCRAs). These TCRAs were employed to reduce risk to human health and the environment while continuing with the environmental investigation process.

May through June 1996 found MCB, Camp Lejeune again employing a TCRA to remove pesticide-contaminated soil from an IR site. IR Site 80, the Paradise Point Golf Course Maintenance Area, underwent a removal action to reduce the human health risk associated with soil contaminated with pesticides that were stored and mixed at the site.

When faced with soil contamination and minimal or no groundwater contamination, MCB, Camp Lejeune took the lead agency role and proactively initiated TCRAs. Through implementing TCRAs, MCB, Camp Lejeune has been able to remove risk to human health and the environment as well as expedite the IR process by removing contamination. This has enabled MCB, Camp Lejeune to sign RODs requiring remediation alternatives of No Action or Institutional Controls only.



NORM - Normalization of Environmental Data Systems

Prior to FY96 the Navy environmental restoration program was managed and budgeted by coordinating the input from several stand-alone and incompatible data information systems such as:

- Planned execution data in Interim Execution Database (IEDB)
- Actual execution data in Facilities Information System (FIS)
- Remediation cost estimating system (cost-to-complete (CTC))
- Relative risk ranking system
- Defense Site Environmental Restoration Tracking System (DSERTS)
- Budget database

In FY95 and FY96 NAVFAC normalized environmental restoration program data by merging the separate systems into one system called NORM. Normalization of data consists of collecting data in only one place and storing it efficiently in relational tables. The FIS system was modified to be the on-line, official site register, downloading site names into NORM. The Relative Risk, CTC, and DSERTS system components were incorporated into NORM, which enabled NAVFAC Engineering Field Divisions (EFDs) to prepare cost estimates, and site risk rankings themselves. Scheduling, reporting, exporting, and editing features were added. A budget module pulled all component data together to streamline the budgeting process. Every environmental restoration project manager (RPM), manager, and analyst in the EFDs can access this wealth of information through their desk-top computers. NORM has streamlined the management of data for the Navy environmental restoration program while providing a hands-on tool for RPMs to better manage their projects and significantly improving the quality and timeliness of the data. The NORM system has successfully been used to produce a DERA and BRAC budget and a Five-Year-Plan, and to fulfill reporting requirements to higher authority.

TECHNOLOGIES



YUMA MCAS - In-well air stripping and ozone sparging

A Project Team consisting of the U. S. Environmental Protection Agency Region IX (EPA), Arizona Department of Environmental Quality (ADEQ), Marine Corps Air Station (MCAS) Yuma, Jacobs Engineering (JEG) and Southwest Division, Naval Facilities Engineering Command developed a plan to apply an alternative cleanup technology to remediation of Operable Unit 1 (OU1) at MCAS Yuma. OU1 consists of groundwater plumes contaminated with chlorinated solvents. The project needed to be rapidly awarded and implemented in the field to meet enforceable Federal Facilities Agreement (FFA) deadlines.

The project team was aware of the limitations of more traditional “pump and treat” technologies and agreed to try a more innovative in-situ groundwater remedial technology to determine its applicability to the overall cleanup of contaminated groundwater at MCAS Yuma. A one day meeting was scheduled for four potential vendors to present their “innovative technologies.” Following a lengthy discussion, the team agreed on two groundwater treatment technologies; “in-well” air stripping and ozone sparging. There were still some technical issues surrounding data gaps and plume delineation, but it was agreed that additional sampling data could be gathered in conjunction with the pilot studies.

The Source Treatment Reduction Alternatives Plan (STRAP) for OU1 was developed to provide field-based data to supplement information contained in the OU1 Feasibility Study. The STRAP document presents the technical approach and general procedures that will be implemented to perform the pilot treatability studies. It also addresses some of the additional investigations required to fill data gaps. One of these investigations was the use of “Gore-Sorbers,” a passive soil gas survey used to look for soil gas concentration in one particular area. The initial STRAP was completed in mid-May 1996.

With the award of the Remedial Action Contract (RAC) a more directed approach was used to collect and present data. The contractor compiled individual “Implementation Memoranda” along with the required Health and Safety Plans instead of a large formal workplan. Each Implementation Memorandum (IM) addresses a separate part of the project. For example, IM#1 addresses the Gore-Sorber and HydroPunch sampling events, and IM#2 addresses the C-Sparge (ozonation) pre-pilot test. The advantage of this is that each IM is a stand alone document. IMs can be produced in a progressive order and have less review time so that the project is not held up if a team member was not in agreement on a particular section.

Field work began in late June and the STRAP is finalized. The passive soil-gas survey and pre-pilot ozone sparge testing have been completed. Hydropunch sampling is ongoing to fill data gaps. MCAS Yuma is taking a leadership role in demonstrating promising new technologies to clean up groundwater contamination. These technology successes when combined with innovative management techniques to streamline the review process hold the promise of big returns in the future.



Point Barrow NARL - Airstrip Fuel Spill Site

Four major fuel spills at the Barrow airstrip resulted in contamination of the subsurface soil and groundwater in the surrounding area. A number of studies concluded that the petroleum contamination was migrating toward Lake Imipuk, a source of drinking water used by the local inhabitants.

A plan was implemented to construct a containment berm that would intercept and recover the contamination before it impacted the drinking water source. The containment berm and recovery system relies upon the local Arctic conditions to impede the flow of contamination. The system raises the permafrost by insulating it from surface heat. The summertime melting of the permafrost is inhibited, thereby creating an ice dam in the subsurface. The contaminated groundwater is diverted into a recovery trench and transferred to a water treatment facility. The water is treated to acceptable state standards and discharged into a sewage lagoon.

During construction of the system a large stream of free product (virgin fuel) was encountered within the excavation of the containment berm. The containment berm was quickly relocated since it could not be installed in an area where free product was present. A recovery trench was installed and has proven to work very well. Over a four month period the trench has recovered over 23,000 gallons of fuel.

Disposal of the large volumes of recovered fuel still remained a problem. A number of alternatives for both on-site and off-site disposal were evaluated. These disposal options were not particularly appealing due to the high cost of equipment, shipping, and labor in the Arctic. Estimates for the options ran as high as \$3.00 to \$5.00 a gallon, with capital cost ranging from \$250K to \$400K.

The most attractive option was finding a customer in the local area who could use the fuel as a product and who was equipped to manage the fuel. After an exhaustive search, a qualified firm with the necessary equipment and manpower interested in procuring the fuel was identified. The firm, which will use the fuel for their construction equipment, has agreed to purchase the recovered fuel for 25 cents per gallon.

This is a win-win situation for both the Navy and the local community. The Navy benefits because we actually generate revenue from our recovery operation and avoid an estimated \$1.2 million cleanup cost over the life of the project. The local community benefits in two ways; their drinking water source is protected by the recovery system, and they obtain a good usable fuel at a fraction of the retail cost.



Camp Lejeune MCB - Five-Well Site Assessment

The Underground Storage Tank (UST) program at Marine Corps Base (MCB), Camp Lejeune had more than 125 contaminated sites that were in some stage of remediation. Before corrective action could be put in place, an UST site had to be investigated to determine the extent of contamination and the appropriate remediation needed. Historically, a typical site assessment was composed of 12 Type II wells (shallow aquifer), 3 Type III wells (intermediate aquifer), and 15 Hydropunch borings to delineate soil and groundwater contamination. Quite often, soil contamination was poorly delineated while a large number of monitoring wells were placed at the outer edges of the groundwater plume.

To eliminate unneeded monitoring well costs, MCB, Camp Lejeune modified the previous investigation process to a five Type II well and two Type III well site assessment. The decrease in monitoring wells was replaced by obtaining soil and groundwater data via 15 Geoprobe sampling points, which have replaced the Hydropunch sampling. The Geoprobe sampling was initially analyzed so that the monitoring wells could be strategically placed to ensure complete horizontal and vertical delineation of both soil and groundwater.

By cutting back the amount of monitoring wells used in a site assessment, more than \$20,000 per site has been saved, and a total of \$200,000 has been saved in Fiscal Year 1996. By strategically using fewer wells, a better quality site assessment was accomplished. The cost avoidance allowed valuable resources to be applied to other remediation efforts.

PARTNERING AND STAKEHOLDER INVOLVEMENT



1996 West Coast Navy and Marine Corps Base Realignment and Closure (BRAC) Cleanup Team Seminar

Over 150 environmental professionals involved with cleanup of closing U.S. Navy and Marine Corps bases met at the 1996 West Coast Navy and Marine Corps Base Realignment and Closure (BRAC) Cleanup Team Seminar, held in Newport Beach, California to discuss initiatives and strategies that significantly impact cleanup policies. The seminar attracted professionals and senior managers representing federal and state regulators. Navy and Marine Corps commands from the Pacific Coast whose installations are scheduled for closure or realignment, commands providing environmental cleanup support, and civilian companies contracted by the Department of Navy to perform cleanup at bases.

The three day seminar gave participants the forum to address issues that are fundamentally changing and improving the way environmental cleanup at Navy and Marine Corps bases is accomplished. Issues discussed at the various sessions included: BRAC Cleanup Teams, Superfund reauthorization, streamlining of government, balancing of economic and environmental concerns, risk-based management and future land use, stakeholder involvement, establishment of the Navy's budget, discretionary and nondiscretionary funding, federal legislation that governs the budget process, Restoration Advisory Boards, technical breakthroughs in natural attenuation, and statistical methods used to conduct risk assessment. A one day Bioremediation Innovative Technology Seminar was sponsored by NFESC that focused on technology demonstration and application. Display booths exhibited services offered by the Naval Facilities Engineering Service Center (NFESC), the Air Force Center for Environmental Excellence, and the U.S. Environmental Protection Agency Technology Innovation Office.

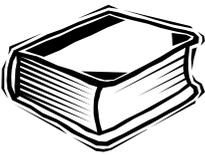
The seminar helped to broaden and solidify the ongoing partnering necessary to make the most efficient use of available resources and expedite the cleanup of bases and their subsequent transfer to civilian use.



California Interagency Partnering Guidance

During FY96, EPA Region IX, Cal-EPA/DTSC, NAVFACENGCOM - EFA West, and NAVFACENGCOM - EFD South West jointly developed a document entitled "Interagency Partnering Guidance". The guide formally outlines the partnering relationships of each of the stakeholders and acts as a framework to further strengthen the well-established partnering concept. The Guidance laid four major pillars of that framework: 1) Common Goals and Objectives, 2) Common Means of Achieving Goals and Objectives, 3) Common Values in Performing Work, and 4) Mutual Commitments.

This document, intended for use by Navy, EPA, and state of California RPM's, provides specific guidance on roles and responsibilities, communication mechanisms, meetings guidance, and conflict resolution.



EL TORO MCAS - Partnering

The BRAC Cleanup Team (BCT) has established a partnering agreement and team charter that incorporates the latest and most efficient management techniques to coordinate installation restoration (IR). Team building seminars were held in October 1994 and May 1996. Examples of efficient management techniques and team building include: setting some agency review times shorter than required under the FFA; concurrent document review among BCT members to improve formal draft FFA submittals; and withdrawal of portions of sites from CERCLA at any time in the process if the data supports a CERCLA petroleum exclusion.



NTC Orlando - Area C Investigation

Studies of the Area C laundry site detected perchloroethylene in soil and groundwater at concentrations that exceeded action levels. The findings were discussed at a Restoration Advisory Board (RAB) meeting where citizens were concerned about whether any contamination from the site has migrated to Lake Druid, a small lake about 200 yards west of the site. The traditional approach to site investigation can take between 2-4 years. Because of the concerns of the RAB, the Orlando Partnering Team (OPT) took sediment and surface water samples from Lake Druid. Analytical results were received within one month. A preliminary risk evaluation showed no immediate risk to human health, but State surface water standards were exceeded, requiring additional action and assessment. To stop the surface release to the lake, the OPT initiated an Initial Remedial Action (IRA). This information was presented to the RAB, which concurred with the cleanup decision, in January 1996. The Remedial Project Manager located funding for the investigation, design, and pilot study portions of the IRA, and it was awarded in March 1996.

This quick response to stakeholder concerns reinforces the value of Restoration Advisory Boards and the public participation process. Partnering helped accomplish in 3 months what would have normally taken 2 to 4 years. Speedy assessment of the contaminated site and the planned IRA will reduce the risk of contamination to Lake Druid and possibly reduce the cost to remediate the site. Community concerns were addressed and the Navy is working toward the rapid cleanup and transfer of the NTC, Orlando property.



NTC Orlando - Investigation of Southwest Corner, Main Base

To minimize disruption to current operations, NTC, Orlando used a phased approach to site investigations. Investigations were programmed in the order in which the Navy vacated the facilities.

The Southwest Corner is located in the Naval Nuclear Power Training Command portion of the Main Base. It is largely undeveloped with areas for outdoor recreation and dumpster storage. The parcel was scheduled to transfer to the Local Redevelopment Authority (LRA) in 1999.

The LRA wants to attract developers and generate immediate cash flow in order to finance the redevelopment of other parcels. To accomplish this, the LRA requested that NTC, Orlando transfer the Southwest Corner in 1996. The Southwest Corner was not scheduled for site screening until the FY97 program, and the FY96 program could not accommodate additional screening. However, a late FY95 award task order modification to screen eight sites (intended for the McCoy Annex) could be adjusted to include three additional sites at the Main Base if a corresponding number were dropped from the McCoy Annex. Since both the McCoy Annex and the Southwest Corner are now targeted for early redevelopment, the Orlando Partnering Team (OPT) consulted with the LRA, which agreed to shift its priorities. The LRA identified the sites that could be dropped and have since reprioritized the remaining site work to gain maximum flexibility for redevelopment.

The savings that will accrue cannot be measured in dollars, but can be appreciated as intangibles. The Navy has gained the trust and cooperation of the LRA, which will enhance the efforts of the OPT over the life of the program. The Navy is now in a position to release the property to the LRA as much as 2 1/2 years earlier than originally planned. This action reduces the cost to the citizens of Orlando for financing the redevelopment of NTC, Orlando and directly supports the President's 5-Part Plan for Fast Track Cleanup.

