BRAC Talk

▲ Environmental Base Realignment and Closure News ▲

Winter 1997

Naval Facilities Engineering Service Center

EPA Document on Federal Facilities Cleanup

The EPA Federal Facilities Restoration and Reuse Office has developed the publication *Fitting the Pieces Together: The Role of EPA Offices in Federal Facilities Cleanup and Reuse* (EPA 505-F-97-001 (June 1997, 19 pages). The publication outlines the roles and responsibilities of EPA offices in the cleanup of federal facility sites. For a copy, contact the Superfund Document Center at 703-603-9232.

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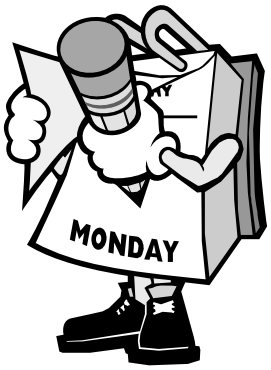
Preliminary Announcement

1998 BRAC Cleanup Team Workshops

Mark your calendars! Planning for the 1998 BRAC Cleanup Team Workshops is underway. DoD, the Services (Army, Navy, Air Force), Defense Logistics Agency, the Environmental Protection Agency and the Office of Economic Adjustment are developing an expanded, Joint-Service program specifically tailored to the needs of the BRAC Cleanup Team (BCT) members and Base Transition Coordinators (BTCs). If you attended the 1997 BCT Workshops, you'll see that the successes and lessons learned have been taken into consideration while redesigning this key learning opportunity for 1998. Plans are for an informative main session balanced by several "tracks" focusing on specific areas so that BCT members can select topics of greatest interest to them and their program. In addition, there will be a half-day optional introductory session for newer BCT members, and a reception for everyone the first evening.

At this point, we recommend that BCT members reserve the tentative and appropriate date for the BCT Workshop on their calendars and share this information with other BCT members. Following are the tentative dates and locations for the 1998 DoD BCT Workshops:

13-15 May	St. Louis, MO	For BCTs in EPA Regions 4-8
2-4 June	Pittsburgh, PA	For BCTs in EPA Regions 1-3
23-25 June	San Diego, CA	For BCTs in EPA Regions 9 & 10



BRAC Talk
Environmental Base Realignment and Closure News

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Naval Undersea Warfare Center Detachment New London Closes

By John E. Peters

The former Naval Undersea Warfare Center (NUWC) Detachment New London, Connecticut ceased operation on December 31, 1996 and closed March 31, 1997. Northern Division's Caretaker Site Office (CSO), with a staff of three and a BRAC Environmental Coordinator (BEC), took over the property on April 1, 1997.

The New London Site consists of about 31 acres, including 42 buildings comprising 750,000 square feet of laboratory and office space. The property borders the Thames River and the city of New London. One interesting aspect of the site is Fort Trumbull.

Fort Trumbull originally dates to the Revolutionary War with an adjacent block house remaining from that era. The British captured the fort in 1781 with the help of General Benedict Arnold. The fort, as it exists today, was rebuilt in the mid 1800's as part of the Coastal Defense System along the east coast of the U.S.

The Local Redevelopment Authority (LRA) recently adopted a plan separating the property into three potential development areas. The North Cove potentially is to be conveyed for maritime use as a ferry terminal. The central portion, consisting of two 90,000 square foot buildings and a 170,000 square foot building, is earmarked for commercial applications and will be conveyed by public sale. The southern portion of the property, which includes Fort Trumbull along with two 400-foot piers, will be conveyed as public benefit most likely to the state of Connecticut for use as a state park.

NUWC still has a presence on the property, but many steps are being taken toward disposition of the property. The Environmental Baseline Survey, phase I, has been completed and phase II is underway. An Underground Storage Tank investigation is nearing completion and an Environmental Impact Statement, which will update the historic building survey is being prepared. All this is moving toward the goal of a public sale in 1998.

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DoN ECORISK Policy in Place

A Chief of Naval Operations/Commandant of the Marine Corps (CNO/CMC) policy memo (16 May 1997) provides specific guidance on how ecological risk assessment should be used in the Department of the Navy (DoN):

- Navy contaminants should be distinguished from non-Navy contaminants.
- Best management practices should be used to prevent additional contaminants from entering the environment.
- Sampling should be focused on and strive to identify potential sources of contamination.
- Large-scale water column sampling should not normally be conducted, but if needed should be tightly defined.
- Regulator-mandated, long-term monitoring should include exit criteria.
- Natural attenuation should be considered when significant risks are found.
- Work should not be repeated solely because of changes in regulatory personnel.
- Scopes of ecological risk assessments should be approved by a senior DoN manager responsible for environmental restoration in consultation with a DoN technical expert.

Reprinted from Naval Facilities Engineering Command's Northern Division Environmental News, Fall 1997

FY98 CECOS Environmental Courses

The Navy is committed to identifying, and when appropriate, developing the necessary environmental training and awareness for military and civilian personnel world-wide, to ensure that their environmental duties and responsibilities are fulfilled successfully. The Civil Engineer Corps Officers School (CECOS) offers numerous environmental courses in Port Hueneme, California and around the country that should be of interest to our Base Realignment and Closure (BRAC) Environmental Coordinators (BECs) and other personnel involved in implementing the BRAC Environmental Program. Courses that may be of interest include:

National Environmental Policy Act (NEPA) Application
Environmental Negotiation Workshop
Health and Environmental Risk Communication Workshop*
Environmental Protection
Environmental Law (for non-lawyers)
Advanced Environmental Restoration
Environmental Risk Assessment and Management **
Environmental Data Management **

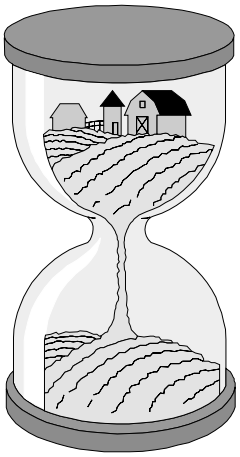
* formerly Environmental Risk Communication and Public Dialogue Workshop
** new for 1998

For further information on course content, dates, location and registration, contact CECOS at (805) 982-1862 or log onto the CECOS Web Page at *http://www.cnet.navy.mil/cecos/cecos.htm*

Off-duty Marines stationed at the San Diego Marine Corps Recruit Depot are in demand as film extras for a new TV series being filmed next door at the former Naval Training Center (NTC), San Diego, California. Twenty-two episodes of "Pensacola: Wings of Gold" will be filmed at the base by San Diego's Stu Segall Productions. The Marine extras join a film crew that ranges from 80 to 150 members at any given time. The production company has a lease with the City of San Diego to use the former base administration building, and a license with the Navy to use the Enlisted Barracks, the Enlisted Club and the waterfront jogging path. The Navy license will be converted to a lease when the City gains control of the property. NTC San Diego now joins a number of other California base closure sites with film production activity: the former Norton and George Air Force Bases; Hunters Point Naval Annex; Mare Island Naval Shipyard, Alameda Naval Air Station; and Treasure Island Naval Station.

Reprinted with permission from California Base Closure News August 1997, a bi-monthly publication of the Governor's Office of Planning and Research, State of California

Early Transfer Authority



The Fiscal Year 1997 Defense Authorization Act contains a provision (Section 334) that allows federal agencies to transfer real estate before all necessary cleanup actions have been taken.

The Early Transfer Authority (ETA) is available now to help transfer federal property to local communities for productive reuse and economic revitalization support, while ensuring that we continue to be protective of human health and the environment.

How Do the Department of Defense (DoD) and Department of Navy Plan to Use This Authority?

DoD and Navy plan to use the Early Transfer Authority (ETA) to assist communities in expediting reuse of former defense facilities. By enabling a Local Reuse Authority and other stakeholders to obtain full ownership of property earlier, these parties gain greater control over the future of their community. One major benefit of ETA is that it allows for the productive reuse of property right away rather than delaying final implementation of the reuse plan until cleanup is completed.

When Can the Authority Be Used?

ETA is self-implementing and can be used right now. Although no additional authority or regulations are required, DoD and EPA are preparing guidance to uniformly implement the process. As guidance is drafted, DoD will make it available to the public and will seek input and views from all stakeholders.

Successful implementation of this authority requires that Navy, the purchaser, the community, and the regulatory agency work very closely together. Not only is this partnership in the spirit of the Base Realignment and Closure (BRAC) process and our environmental cleanup program, but it is mandated by statute. The Governor and EPA Administrator (for National Priorities List [NPL] facilities) are vested with the ultimate authority to determine if sufficient protections and assurances are in place to allow the property transfer to go forward.

The ETA allows the Governor (or, for a facility on the NPL, the Administrator of EPA with the concurrence of the Governor) to defer a particular covenant that is ordinarily required to be in the deed of federal properties that are transferred. This covenant provides that all necessary remedial actions have been taken prior to transfer of the property. By deferring the covenant, a federal property can be transferred for productive reuse early relative to when it could otherwise be transferred by deed.

What Does the Statute Require?

For property to be transferred early, the Governor (and EPA Administrator at NPL sites) must find that:

1. the property is suitable for transfer for the use intended by the transferee, and the intended use is consistent with the protection of human health and the environment;
2. there has been public notice and opportunity for comment on the proposed transfer;
3. the transfer will not substantially delay any necessary response action at the property; and
4. the deed or transfer agreement restricts property use as necessary, assures cleanup will continue, and provides assurance that Navy will budget sufficient funds to meet its cleanup requirements.

The Section 334 provision allowing early transfer maintains the federal government's cleanup liability and obligation to ensure the protection of human health and the environment. It also supports the President's Plan to revitalize base closure communities and speed economic recovery while the Navy continues to implement an environmental program that is protective of human health and the environment. A diagram providing a brief and easy to understand schematic of this new authority follows. Questions, comments, or further information on implementing this new authority should be directed to Mr. Joe Graf of the Naval Facilities Engineering Command, at (703) 325-6431, DSN 221.

Early Transfer Authority

(aka Section 334; Deferral Authority;
120(h)(3)(C) Authority)

Applies To All Transfers @ BRAC & Non-BRAC Installations: but not to Other Federal Agencies unless it is receiving the property with the understanding that it will subsequently transfer the property to a non-federal entity.

Involves "Deferral" of the CERCLA 120(h)(3)(A)(ii)(I) Covenant: "All remedial action necessary to protect human health and the environment with respect to any such substance remaining on the property has been taken before the date of such transfer..."

NPL or ... non-NPL?

NPL National Priorities List

Deferred by: EPA w/ Governor's concurrence

Non-NPL Non-National Priorities List

Deferred by: Governor

1. **If** property is suitable for transfer for the use intended;
2. **If** intended use is consistent w/ protection of human health and environment;
3. **If** public notice and 30 day comment;
4. **If** deferral & transfer doesn't substantially delay response action; and
5. **If** deed/agreement has assurances.

Assurances:
1. Restrictions on use to protect human health & environment.
2. Restrictions on use to allow remediation.
3. Cleanup schedule (approved by regulator).
4. Adequate budget request to Office of Management and Budget (OMB), subject to congressional authorizations & appropriations

When Cleanup Is Complete: Deliver a document to transferee containing a warranty that all necessary response action has been taken - this warranty will satisfy the covenant!

Final Requirement: The obligations under CERCLA 106 (obeying orders), 107 (e.g. natural resource liability), and 120 (need to follow CERCLA process) still apply to federal agencies!

Moffett Federal Airfield Landfill Cap Design Completed

The U.S. Navy is pleased to announce that a final engineering design to cap one landfill at Moffett Federal Airfield is complete. The landfill is designated Installation Restoration (IR) Site 1 at Moffett Field (See Figure 1). Waste materials at Site 1, as well as wastes moved from the nearby Site 2 landfill, will be contained by the Site 1 cap.

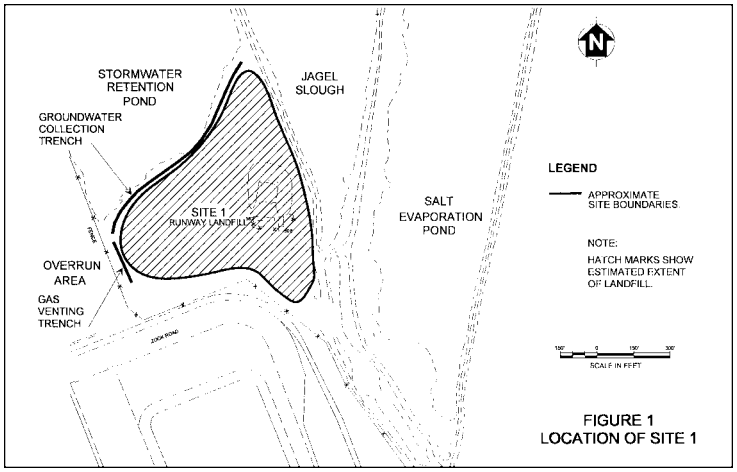


FIGURE 1
LOCATION OF SITE 1

The community had the opportunity to be involved in the decision making process for the landfill cleanup. A proposed plan outlining the revised remedy was sent to citizens on the site mailing list and is now available at the Pioneer Room in the City of Mountain View City Hall and the Navy's offices in San Bruno. A public meeting was held on March 20, 1997 to present the proposed revised remedy being considered for both landfills and solicit community input on the revised alternatives. The public comment period ran from March 7 to April 11, 1997. The final remedy and basis for selecting it are documented in the Record of Decision (ROD). The Navy, U.S. Environmental Protection Agency (EPA), California EPA, including the Department of Toxic Substances Control and Regional Water Quality Control Board, signed the ROD on August 19, 1997. All community concerns were addressed in the responsiveness summary section of the ROD.

The cleanup action at Site 1 will have four components: multilayer landfill cap, groundwater monitoring, gas monitoring, and institutional controls. The cap will eliminate direct contact with wastes and reduce erosion, infiltration, and surface contaminant migration. Capping has been proven to be an effective remedy for landfills and protects human health and the environment.

The cap will be constructed in three layers according to design standards approved by state regulatory agencies. The primary layer is the barrier layer that is made of clay and constructed to minimize water infiltration. A foundation layer beneath the barrier layer provides a solid foundation for the barrier layer. Another soil layer above the barrier layer is planted with grass to protect the barrier layer from erosion. As a further protective measure, a man-made fabric will also be placed above the barrier layer as a biotic barrier to minimize penetration of the barrier layer by plant roots and burrowing animals. Gas vent pipes will be located in the landfill to passively carry gases from the refuse to the surface. Figure 2 shows the cap layer configuration.

Wells will be installed around the perimeter of the landfill so that groundwater can be monitored after the cap is in place. In addition, a groundwater collection trench will be constructed along the northern perimeter of the landfill, just south of the edge of the stormwater retention pond. This trench will serve as an extra safeguard to protect the plants and animals living in the adjacent stormwater pond in the event that chemicals in the groundwater at the landfill migrate northward toward the stormwater pond.

Landfill gases will be passively vented through riser pipes located within the landfill waste. Because landfill gases have migrated just west of the landfill in the past, a passive gas-venting trench also will be installed as part of the Site 1 cleanup action. The gas-venting trench will be installed west of the landfill to allow any future gases migrating from the landfill to escape to the surface.

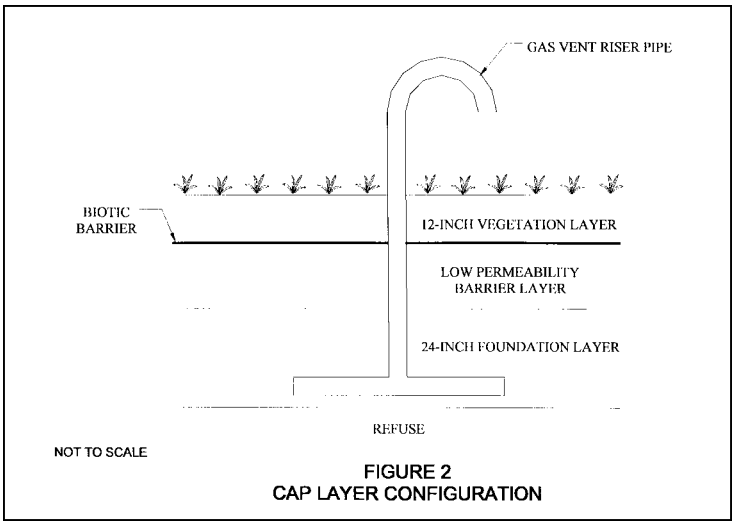


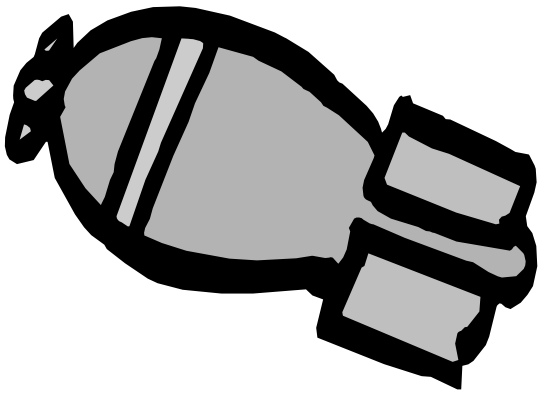
FIGURE 2
CAP LAYER CONFIGURATION

A Health and Safety Plan will be followed to minimize risks to site construction workers and the community during construction. After construction is completed, Site 1 will be monitored to ensure the remedy remains protective. Land uses that could disrupt the cap will not be allowed, although nondestructive projects (for example, a walking trail) could be constructed.

Reprinted from Moffett Federal Airfield Superfund Site, August 1997. For more information, please contact Mr. Hubert Chan, Engineering Field Activity West (415) 244-2562, DSN 494-2562.

Unexploded Ordnance - The Long Pole in Closing BRAC Bases

By Timothy J. Anderson



Introduction

Due to the safety and environmental factors associated with unexploded ordnance (UXO), it has become a major focus area for Base Realignment and Closure (BRAC) installations. According to Department of Defense (DoD) guidance, areas with known or suspected UXO contamination must be cleared prior to final transfer of property. The Department of Defense Explosive Safety Board (DDESB) has final approval on all property transfer with past UXO contamination. Installations that have been through the UXO clearance process can serve as case studies and provide lessons learned for this challenging process. UXO has become the long tent pole in the BRAC process. Because there is little guidance available, the work done at Naval Air Facility (NAF) Adak is presented here as an example of the UXO investigation and clearance process.

Background

In March of 1993, NAF Adak was placed on the BRAC list. A UXO record search revealed that approximately 50% of all explosive ordnance discovered on NAF Adak was located in the industrial and housing areas. The UXO problem at NAF Adak is unique because of the size and location of suspected UXO, Adak's climate, and the fast-track schedule requirements associated with its cleanup.

The UXO investigation and clearance of NAF Adak has been separated into two areas, each approximately 1,200 acres in size. The UXO plan of action is to break the investigation and clearance into three phases: surface clearance and geophysical investigation; intrusive sampling; and clearance. The surface clearance and geophysical investigation will use magnetometer detection equipment with advanced signal conditioning and analysis. Based on geophysical investigation, 10% of the screened anomalies will be intrusively investigated. When the intrusive sampling is completed, a risk-based assessment will be conducted to determine the scope of clearance required. Initial plans call for a four-foot clearance depth throughout the surveyed area, based on future reuse plans.

Site History

NAF Adak is located on Adak Island, one of the western Aleutian Islands within the Andreanof Group. It is approximately 1,200 miles west of Anchorage. The island is included in the Alaska Maritime National Wildlife Refuge. The northern half of the island includes the Naval Complex, while the southern half is a wilderness area under the jurisdiction of the U.S. Fish and Wildlife Service (USFWS) and is undeveloped except for hiking trails.

Adak Island's maritime climate is characterized by persistently overcast skies, high winds and frequent, often violent, cyclonic storms originating in the northern Pacific Ocean and the Bering Sea. The weather can be very localized with fog, low cloud ceilings, precipitation, and clear weather all present simultaneously within a distance of a few miles.

The mean monthly temperature ranges from a low of 32.9˚F in February to a high of 51.3˚F in August. The highest recorded temperature on the island was 75˚F in August 1956, and the lowest temperature recorded was 3˚F in January 1963 and February 1964.

Project History

Adak Island was largely uninhabited in August 1942 when it was developed as an air base and staging area to re-take the Japanese-held islands of Attu and Kiska. In the summer of 1943, there were approximately 100,000 soldiers and 100 ships stationed at the base. At the end of World War II, the base was known as Davis Air Force Base. The U.S. Air Force withdrew in 1950, and the U.S. Navy took control in 1951, at which time the area was re-designated Naval Air Station (NAS) Adak. The island population grew from about 200 in 1953 to over 5,600 in 1990. In March 1993, the Navy announced the closing of NAS Adak, and in July 1994 it was re-designated Naval Air Facility Adak.

(continued on page 8)

"Unexploded Ordnance" (cont'd from page 7)

Naval Facilities Engineering Command Engineering Field Activity Northwest (EFA NW) is tasked with all aspects of the BRAC closure of NAF Adak. Presently, NAF Adak is decommissioned and in caretaker status. The fast track cleanup plan calls for NAF Adak to be transferred by October 1998 with environmental cleanup continuing into the next century.

The UXO Problem on Adak

In February 1996, Explosive Ordnance Disposal Mobile Unit Eleven (EODMU 11) conducted a limited archive search and a geophysical survey for UXO at these four areas:

- The open burn and open detonation range complex, Solid Waste Management Unit (SWMU) 1
- Coastal minefield, SWMU 2
- Andrew Bay seawall, SWMU 8
- The Mortar Impact Area, Source Area (SA) 93

As a result of their work, it was recommended that all four areas be fenced off and not be transferred until a later date. Ordnance found in the downtown area of Adak included small arms ammunition, 500-pound bombs, 10-inch projectiles, rockets, mortars, grenades, explosives, flares/smokes, and fuses. There are several reasons why so much ordnance was found in a present-day light industrial and residential area. First, this area is and was the center of activity for the island. During World War (WW) II, a significant amount of ordnance operations occurred in the present day downtown areas. Kuluk beach, where there is now housing, was the original bomb storage site when ordnance was brought ashore by landing craft. There were ammunition piers located in a nearby cove and bay. Ordnance loading, arm and de-arm stations were in several different locations around the airfield. During WW II, numerous coastal artillery and anti-aircraft batteries protected the island. The most likely reason for finding the large amount of ordnance in the downtown area is because residents brought ordnance they had found in the outer areas of Adak home with them. However, because large items were found, there was an obvious UXO problem in the downtown area that could seriously affect future reuse options.

Interestingly enough, there have been no deaths or injuries related to exposures to UXO. This is most likely the result of an aggressive UXO educational program on Adak. All active duty personnel were required to attend a UXO briefing conducted by EOD personnel upon arrival at Adak. All personnel who intended to venture out into the wilderness were required to attend a UXO safety brief. All agencies that operated offices on Adak had some type of program to educate their personnel on the dangers associated with UXO.

Attacking the UXO Problem

Since the downtown area of Adak was in the footprint of all the reuse scenarios for Adak, we knew we had a big problem on our hands. The first step we took was to determine what policy was available on UXO. This presented the first of numerous lessons learned. There is very little policy available on UXO. At the time, the Department of Defense (DoD) and the Environmental Protection Agency (EPA) were discussing their respective Range Rule and Munitions Rule. DoD's primary regulatory order covering the clearance of UXO is laid out in DoD 6055.9-STD. This provides the authority to the DDESB to review and approve plans for transfer or disposal of DoD real property when ammunition, explosives or chemical agent contamination exists or is suspected to exist.

The Navy's primary regulatory order covering the clearance of UXO is contained in Naval Sea Systems Command OP 5, Volume 1, Sixth Revision. The order provides general information to help determine assessment depths for UXO contamination. Generally, the order states that assessment and remediation depths can be determined by site specific information. This information can be gained by delineating the site boundaries, types of ordnance used, soil characteristics, reviewing historical documents, interviews, and on-site investigations. The order includes the stipulation that the approved remediation plan may be modified based on actual conditions encountered during the remediation. If UXO is consistently found at less than the predicted depths, the remediation depth may be reduced. For Navy commands, any document requiring DDESB approval must first go through the Naval Ordnance Center (NOC).

If after investigating the site the investigator cannot determine the appropriate assessment depth, the NOC provides guidelines on assessment depths based on future property end use:

UXO ASSESSMENT DEPTHS

Planned End Use	**Depths**
Unrestricted *(commercial, residential, utility)*	10 feet
Public Access *(farming, agriculture, surface recreation, vehicle parking)*	4 feet
Limited Public Access *(livestock grazing, wildlife preserve)*	1 foot

All UXO projects will require a minimum of two submittals to the DDESB. The first submittal will occur before intrusive investigation work begins. This submittal contains information gained during the geophysical survey portion of the project. At Adak, due to the fast track cleanup plan, our first DDESB submittal was forwarded to the NOC before we completed the geophysical investigation. This presented some problems as we did not know the extent of the site and did not know what areas of the site we were going to intrusively investigate. This is not the preferred approach, but if time is critical the work can be accomplished in this manner.

Drilling operations, soil sampling and other non-UXO related work is done under the escort of trained UXO or EOD personnel. As a precaution against an encounter with UXO, areas where intrusive work is to take place should be surveyed by geophysical equipment before proceeding. If the geophysical equipment detects any type of magnetic anomaly, the intrusive sampling location is moved to an area where no magnetic anomalies are detected.

The final report to the DDESB will contain the results of the UXO survey and clearance work completed. The DDESB will evaluate the work completed, the end use of the cleared property, and the transfer agreements. The transfer agreements should include covenants, institutional controls or deed restrictions applied to the cleared UXO property. The DDESB has the authority to approve the transfer with the

proposed end use restrictions or they can impose stricter controls on the transferring property.

Geophysical Survey Design and Sampling

We developed a Statement of Work (SOW) from which a Request For Proposal (RFP) could be made. The Army Corps of Engineers, Ordnance and Explosive Center of Expertise and Design Center (CEHNC), Huntsville, Alabama has an excellent Internet web page located at:

www.hnd.usace.army.mil/oew

This web page contains a database of UXO projects, on both investigation and clearance work. Also included are numerous Statements of Work (SOWs) for different types of UXO work. These example SOWs were invaluable in preparing a thorough and sound SOW for our Adak project.

The SOW provided to our contractor broke the project down into six tasks, as follows:

1. archival search and Applicable or Relevant and Appropriate Requirement (ARAR) investigation,
2. location surveys and mapping,
3. conduct geophysical investigation,
4. intrusive work plan and site health and safety plan preparation,
5. conduct intrusive investigation, and
6. UXO identification training.

The original project schedule was set for approximately one year. After the contractor performed a site walk of the nearly 2,500 acres to be surveyed, they advised that a project schedule of one year was not feasible, primarily due to the harsh weather conditions and sensitive equipment that would be used.

Prior to initiating any UXO investigation or clearance actions, an agreement among all parties must be reached regarding the reuse scenario. This saves time and money in the long run. During this stage of the project, EFA NW had the assistance of the Mare Island Naval Shipyard (MINSY), Explosive Safety Office. MINSY is going through a similar BRAC action and has a staff of highly trained UXO personnel. With help from their staff, a large number of WW II records were found. Using these records, it is possible that one of Adak's UXO sites can be signed off with no further action.

The regulatory agencies and potential property re-users all want to see where UXO was found. To do this, we organized a computerized Geographic Information System (GIS). This system proved to be an invaluable asset for discussing project results with regulators and property re-users. Additionally, the DDESB requires a record of all UXO items found, and a GIS is an excellent way to organize all of this information.

Next came the geophysical survey. Prior to the geophysical survey, the contractor surface cleared the area and removed over 45,000 feet of residential fencing. This was done to reduce magnetic interference for the geophysical instruments. During the surface clearance, three UXO items were found. Over 2,000 pounds of scrap metal was hauled away during the first week of the surface clearance.

While the geophysical survey was being completed, the contractor was busy working on the Intrusive Investigation Workplan. This document contained many different subplans. These plans included a site health and safety plan, site mobilization and support plan, a UXO safe holding area plan, a UXO disposal plan, an intrusive sampling plan, a quality control plan and an environmental protection plan. The environmental protection plan raised many questions from the regulators. General questions raised pertained to how to determine if scrap was explosive free, environmental sampling requirements, whether non-reactive residues must meet Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) risk-based criteria in addition to Resource Conservation and Recovery Act (RCRA) reactivity and Toxicity Characteristic Leaching Procedure (TCLP) criteria, and sampling requirements for detonation debris. A number of these questions involved prolonged discussions with the regulators. During past open detonation activities, environmental sampling results have shown that open detonation has been very successful in destroying environmental contaminants. This point should be stressed during negotiations with regulators.

The plan for the intrusive investigation task involves excavating 100% of the anomalies in 10% of the grids that showed anomalies. This task will allow the geophysicists to gain experience and proficiently at identifying UXO anomalies. It also provides evidence to the regulators and property re-users of the accuracy of our geophysical survey results. We are hoping to reduce the total number of anomalies we will have to excavate by showing how accurately we can predict which anomalies are UXO and which anomalies are not.

Due to the limitations of present-day geophysical instruments, we know that we will not find every piece of UXO. The goal of the project is to reach 85% clearance with a confidence level of 90%. Additionally, our contractor is preparing a risk assessment to evaluate the risk posed by remaining UXO to industrial and residential populations on Adak.

Training

The last task is UXO identification training. Our contractor is preparing an educational package that future authorities on Adak can use to inform residents of Adak about the dangers associated with UXO. This requirement will be an important covenant in all transfer documents for Adak. The Navy's previous educational program has been very successful in preventing accidents in the past. UXO identification pamphlets, videotapes, lectures and examples of UXO will all be part of the educational program.

Conclusion

In many ways, a UXO investigation and clearance project does not differ greatly from a typical environmental cleanup project. A CERCLA Preliminary Assessment is similar to an Archive Search for UXO. The CERCLA Site Inspection can be compared to a UXO Geophysical Survey. A CERCLA Remedial Investigation is similar to UXO Intrusive Sampling, and CERCLA Interim Remedial Action is comparable to UXO Clearance. Presently, a project manager has some latitude in which direction to take the project. With this comparison in mind, and a little initiative, a project manager can make the long tent pole in the BRAC process the foundation for a clean and efficient transfer of property.

Tim Anderson can be reached at Engineering Field Activity Northwest (360) 396-0008, DSN 744

TECHNOLOGY APPLICATION TEAMS

Naval Facilities Engineering Service Center (NFESC) provides technical support with innovative technologies through Technology Application Teams (TATs). The TATs are composed of engineers and scientists who have been working with a particular technology to facilitate the implementation of these innovative remediation technologies to the field. Please contact the following personnel for assistance:

- Intrinsic Bioremediation and Risk Assessment
  Carmen Lebron – 805.982.1616. clebron@nfesc.navy.mil
- Bioremediation (Biopile/Bioventing/Bioslurping)
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- Alternative Landfill Capping
  Charles Reeter – 805.982.0469. creeter@nfesc.navy.mil
- Small Arms Range
  Barbara Nelson – 805.982.1668. bnelson@nfesc.navy.mil
- Constructed Stormwater Wetlands
  Leslie Karr – 805.982.1618. lkarr@nfesc.navy.mil
- Ecological Risk Assessment
  Ruth Owens – 805.982.4798. rowens@nfesc.navy.mil
- Seismic Reflection
  Doug Zillmer – 805.982.1556. dzillme@nfesc.navy.mil
- Permeable Reactive Wall
  Charles Reeter – 805.982.0469. creeter@nfesc.navy.mil

NFESC is also providing technical support with a variety of environmental topics using in-house personnel and existing agreements with academia, U.S. Geological Surveys, U.S. Army Corp of Engineers, and Remedial Action Contracts (RACs). Some of the topics include: Data Quality Objectives and Decision Analysis, remedial project cost estimating, geostatistics, Risk-Based Corrective Action (RBCA), policy & guidance assistance and review, and technical library support including document searches. Contact your designated Technical Support Representative (TSR) for additional information.

TECHNICAL SUPPORT REPRESENTATIVES

Naval Facilities Engineering Service Center (NFESC) has dedicated a Technical Support Representative (TSR) for each EFD/EFA. This person is the Point-of-Contact at NFESC for your division or activity regarding Installation Restoration (IR) technical support in remedial technologies.

For Southern Division:
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Philadelphia Naval Complex River Bank Stabilization

By Emil Klawitter

The Girard Point Management Area, histroically used as an active incinerator and landfill, showing a portion of river bank that has undergone stabilization.

The Site 5 Bank Stabilization in Philadelphia was recently completed at a cost of approximately $1.2 million. This bank stabilization is one of six projects needed to complete remediation of the Girard Point Management Area.

The Girard Point Management Area is an area of the Philadelphia Naval Business Center used historically to manage shipyard waste. From the 1940s to 1970s, an active incinerator and landfill were located there.

In 1992, an area of the landfill was directly exposed to the Schuylkill River and during storms would erode into the river. At that time, we initiated a project to stabilize the bank and prevent erosion of the landfill into the river. A geo-textile material was used to cover the exposed landfill and filter out soil fines before they could enter the river. Then a series of gabion mattresses and baskets were used to provide the necessary slope stability with rock armor in certain areas to help provide wave dissipation. During the remedial investigation of the area, it was determined that an additional 1,000 feet of river bank required stabilization. The previous bank stabilization had been in place for several years, and the existing project could be reviewed and lessons learned applied. Paul Briegel, our design manager, worked with Stone & Webster as the design firm and Foster Wheeler as the remedial action contractor. One area of improvement was the use of welded-link gabions. The previous project has used gabion material which was similar to chain-linked fence in that the corners were twisted. The gabion material used on the Site 5 Bank Stabilization had welded intersections. This allows less movement of the gabions due to wave motion.

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BRAC Talking

By Joyce Patterson

I want to thank Phyllis Breland at the Office of the Secretary of Defense (OSD) Base Conversion and Transition Office for updating our list of DOD Base Transition Coordinators (see insert). Our insert also lists Navy BRAC Environmental Coordinators, Environmental Protection Agency (EPA) representatives and state representatives for each Navy BRAC installation. Please review the list and let us know changes and corrections we need to make.

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Just a reminder, valuable resources are available from the Naval Facilities Engineering Service Center to help Remedial Project Managers (RPMs) who are working on BRAC (and non-BRAC) cleanups. Our Technology Application Teams offer experts in cleanup technologies and in the selection and application of innovative technologies. See page 10 for contact information.

Historic Officers' Homes Become Offices

Two of the historic officers' homes at the former Mare Island Naval Shipyard have been leased. Each of the homes contains 7,358 square feet.

Balfour Beauty Construction, Inc., a national contractor specializing in highways and bridges and headquartered in Atlanta, Georgia, will open an office employing six people to administer the company's bridge retrofit contracts in the San Francisco Bay Area.

Another former officer's home will be leased by Pacific Lumber and Shipping Company for use as an employee training center. Pacific Lumber also leases space at the former naval shipyard for storage and wholesale distribution of lumber and related building products.

Both companies will lease these former Navy quarters for two years, each paying annual lease payments of $18,000 in addition to all utility maintenance costs and meter requirements.

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BRAC Talk on the World Wide Web

Don't forget! All *BRAC Talk* issues are posted on the Internet in an Adobe Acrobat PDF (Portable Document Format) file at: www.navy.mil/homepages/navfac/env

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