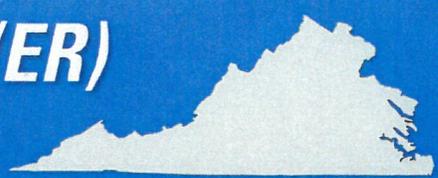


Navy/Marine Corps Environmental Restoration (ER) Partnering in Virginia



A Bridge to Successful Cleanup

Cleaning contaminated sites at military installations can be difficult, both scientifically and logistically. Some planning and execution problems arise from the varied policies of the multiple organizations involved in the cleanup process – the Navy, (including the Naval Facilities Engineering Command [NAVFAC] Mid-Atlantic and NAVFAC Washington), the Marine Corps, the Navy's consultants, the Virginia Department of Environmental Quality (VDEQ), and Region III of the Environmental Protection Agency (EPA).

Until the mid-1990s, these parties lacked flexibility and sufficient concern for each other's organizational goals. The resultant "us versus them" mindset created a sometimes tense and often counterproductive working relationship. Clearly, there had to be a better way.

Building the Bridge

Was there a solution? Used by the construction industry since the 1980s, Partnering is a process based on the premise that collaborative decision making is essential to success in complex situations. In the Virginia-Navy ER Program, partnering was first used on a limited basis in 1992 to resolve issues surrounding the initiation of a Federal Facilities Agreement for the Naval Weapons Station (NWS) Yorktown. Based on this initial success, a formal partnering process began at NWS Yorktown in 1995. Since then, the number of Tier I teams that are responsible for managing the cleanup programs at military installations has grown to eight, resulting in significant time and cost savings.

What is Partnering?

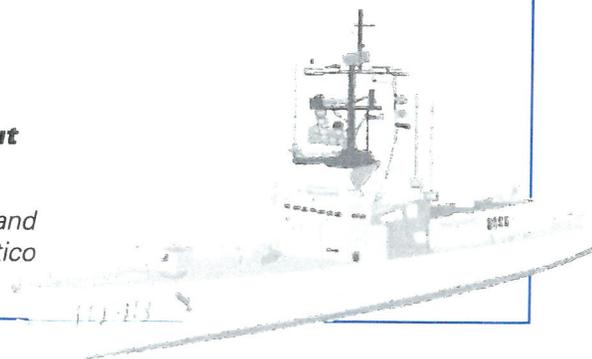
Partnering is a process that brings key players together to work as a team to achieve mutually beneficial goals. The relationship is based on trust, dedication to common goals, and an understanding of each team member's individual expectations and values. The common goal is to protect human health and the environment while reducing cleanup cost and time. This brochure discusses the use of partnering principles by the VDEQ, EPA Region III, the Navy, the Marine Corps, and their consultants to investigate and cleanup former disposal sites.

How Does Partnering Work?

Partnering develops communication and trust among participants, thereby discouraging competitive or adversarial relationships. Team members take joint responsibility for maintaining and nurturing the partnering relationship. Partnering also promotes the open exchange and consideration of new ideas to avoid tunnel vision and such responses as "that's the way we have always done it".

"I know that there are some who don't take partnering seriously. To these skeptics I would ask that they check out our record of accomplishment."

— Bruce Frizzell, Former Head of the Natural Resources and Environmental Affairs Branch at Marine Corps Base Quantico



Each organization also empowers its team representatives to conduct daily business to resolve most issues and problems at the level where they occur. Management involvement should be a last resort.

What is the Investment?

You can't just throw people in a room and expect great results. There is an investment in training. The trust, communication, and meeting-management skills necessary for effective partnering are learned through formal training sessions and professionally facilitated team meetings. Effective partnering also requires regularly scheduled meetings to keep the process moving and to resolve any issues quickly. The training pays off as teams develop their partnering skills and are able to self-facilitate their meetings. Self-facilitated teams are better equipped to continue the streamlined cleanup process at their bases. Investments are also made in opportunities for the teams to share with one another, especially, their success stories and lessons learned. Opportunities include a website and Joint Partnering Teams meetings. The joint meetings also provide a forum for discussion and training on current issues.

Success Stories

At Naval Surface Warfare Center, Dahlgren the team completed a Pilot Study/Removal Action Site 61 at (Gambo Creek Ash Dump). The site contained an assortment of hazardous and non hazardous materials (gun primers, pyrotechnic flares, active gun propellant, ash, and steel cable) which was further complicated as the site extended into the low-tide area along Gambo Creek. The removal action required the testing of multiple mechanical screening technologies to determine their overall efficacy and applicability to full-scale application. 4,553 lbs of munitions and explosives of concern (MEC) and 3,249 lbs general scrap metal was recovered along with 52 gun propellant grains bringing a successful closure to the removal of waste materials disposed at the site.



Removal Action completed at Site 61A at Dahlgren

"I think that the collaborative work that we do amongst the EPA, VADEQ, Navy, and Marine Corps using the partnering process provides us a great opportunity to learn new things and make great strides restoring our environment. It's not always easy but our successes mean so much more when all parties reach a consensus. I am a firm believer that when we put our combined resources together towards a common goal the end product is a superior one"

– Paul Leonard, EPA Region 3 Director of Federal Facilities Remediation and Site Assessment Office



Sediment remediation at JEB-Little Creek

A dredge removal action was implemented at SWMU 3 at JEB Little Creek to address metals contamination in sediment; however, various areas of the site were inaccessible due to proximity to bulkheads and piers, without the use of engineering controls such as sheet piling or complete demolition and rebuilding. Through open discussion amongst the partnering team members, including the EPA Biological Technical Assistance Group, a site closeout strategy was developed for SWMU 3 that utilizes a treatment technology to address metals contamination in these areas at the same time considering sustainable energy practices. The placement of powdered activated carbon to the sediment surface as will reduce the bioavailability of sediment contaminants in the upper biologically active zone, which is the primary source of exposure to benthic organisms and the water column. The addition of the amendment sequesters contaminants in the sediment that would otherwise enter pore water through dissolution. The use of amendments to actively sequester contaminants in sediment is less energy-intensive, less expensive, and less disruptive than conventional remediation technologies such as dredging. Unlike a capping technology, use of the amendment at SWMU 3 does not require post-placement maintenance.



St. Juliens Creek Annex munitions investigation by electromagnet

Site UXO 1 at St. Juliens Creek Annex located in the Southern Branch of the Elizabeth River was identified as a location where munitions items were potentially dropped into the river during historic loading and unloading operations from a wharf. During a geophysical investigation over 1,600 magnetic anomalies were identified in the river sediments adjacent to UXO 1. The St. J's partnering team needed to determine if these anomalies were munitions items or non-munitions items such as scrap metal at the same time blending in the team's desire for green and sustainable practices in the remedy. The team integrated unexploded ordnance technical support, researched several methods, and ultimately selected a technology that had not been used before for underwater removal of potential munitions items from the sediment. An electromagnet was used instead of traditional clam shell dredging to recover the metallic debris significantly reducing the environmental impacts and the amount of sediment generated that would have needed to be disposed. This technique achieved a cost savings of \$500,000 over the traditional dredging option and was a much more green and sustainable solution. The employment of this innovative technology was made possible by the partnering team's ability to seamlessly integrate technical support during scoping discussions to come up with the best possible solution.

"In the 14 plus years that I have been the Community Co-Chair for the St. J's RAB, I have always been impressed with the way each and every one of you have conducted the meetings and on-site visits. The St. J's RAB has been on track every step of the way and has accomplished what it set out to do. I've seen a lot of good things happening over here."

— Bob Mann, Community Co-Chair for the St. Juliens Creek Restoration Advisory Board (RAB) and local community member

A Tiered Approach

The Navy, Marine Corps, EPA Region III and VDEQ coordinate cleanups at Virginia installations through three different tiers (levels) of partnering teams. At each tier, participants contribute expertise and resources to achieve common goals and provide installations with tools to effectively address cleanup.

Tier I teams include individuals representing the installation's environmental office; the Navy (or Marine Corps), State and EPA project managers; contractor staff; and technical specialists. By meeting regularly to develop strategies, evaluate studies, and decide and execute required remedies they improve the quality and consistency of actions taken at the installation.

Tier II teams are made up of program managers that mirror Tier I representatives. Their primary role is to support Tier I teams by resolving issues raised by Tier I, discussing new guidance & policy, providing clarification and guidance, and addressing technical concerns. Policy conflicts that can't be resolved at the Tier II level are elevated to Tier III.

Tier III consists of senior level managers responsible for key environmental policy, programming and budgeting decisions. These managers work together to resolve potential differences in organizational policies and goals that might hinder the progress of Tier I and II. Tier III also assists in making sure resources are available for Tier I and II and are able to share ideas and resources across Virginia.

"Implementation of partnering by the Navy has greatly accelerated cleanup in Virginia, established a strong working relationship between the Navy and DEQ, resulting in a cleaner, healthier environment for the Commonwealth."

— Durwood Willis, Former Director Office of Remediation Programs, VDEQ

Measure of Success and The Future

Since 1992, the Navy, Marine Corps, EPA, VDEQ, and their contractors have been successfully implementing partnering and using facilitation skills to streamline the ER process to expedite cleanups. All agencies agree that the partnering process should continue. By helping the teams to function well, the successes have been significant and all involved, including agency management, believe the effort is worth the investment.

As a result of the collaborative work environment that partnering has created, the teams are able to integrate Green and Sustainable Remediation (GSR) into the partnering team's evaluations of remedial options. The Navy's sustainable remediation evaluation includes the use and implementation of the SiteWise tool into projects as the remedial alternatives are evaluated. All projects use this tool at the Feasibility Study phase to help reduce the Navy's carbon footprint impact from remedial actions. At EPA Region III, all of the RPMs go through a sustainable cleanup checklist as part of their GSR evaluation. An example of GSR in Virginia is Site 2 for St. Juliens Creek where the Remedial Design included a Life-cycle assessment to compare the environmental footprints of cover options. This allowed for reuse and recycling of onsite materials, rather than importing new materials onsite.

"With limited resources, it just makes sense for all agencies to work together towards a common cleanup goal, while ensuring the protection of human health and the environment. The partnering process has achieved demonstrated results toward that goal!"

— Bob Schirmer, NAVFAC
Environmental Restoration Business Line Manager

Navy teams in Virginia have received a number of recent awards. The Chief of Naval Operations and Secretary of the Navy have annual team of the year awards. JEB-Little Creek (2013) and St Julien's Creek (2012) won the award for the environmental restoration team category.

The environmental remediation Partnering team at the Naval Station Norfolk has been successful in rapidly addressing environmental cleanup issues and moving the site through the CERCLA process for a number of years. As a result, the base was the first Navy facility in Virginia to achieve Construction Completion for all of their CERCLA disposal sites. Teamwork amongst the regulatory agencies and the Navy allowed them to efficiently meet all requirements of the Construction Completion milestone.

Members of the NSN partnering team were "coined" on November 1, 2010 by the commanders of the Naval Station Norfolk and Naval Support Activity Norfolk, with the Navy's prestigious award for Environmental Restoration, for achieving the successful construction completion milestone.



Naval Station Norfolk partnering team at Construction Complete ceremony

In Virginia, the Navy teams are well on their way to closing out all of their sites. Out of the 553 sites identified in Virginia, 83% have achieved the response complete milestone.

For fiscal year 2013, EPA Region 3 Federal Facility Site successes included remedies involving:

- 548 million gallons of groundwater approximately the same as 830 Olympic sized swimming pools,
- 84,000 cubic yards of soil, enough to cover 1 soccer field to a depth of 14 feet, and
- 17,000 cubic yards of sediment, or enough to cover 1 soccer field to a depth of 2.75 feet

The success of the partnering process in Virginia is well-documented and demonstrates the ability of the regulatory community and the Navy to achieve significant progress in the environmental remediation program now and in the future.

For More Information

Contact the Navy installation environmental program director or EPA/VDEQ remedial project manager. You may also direct comments to:

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