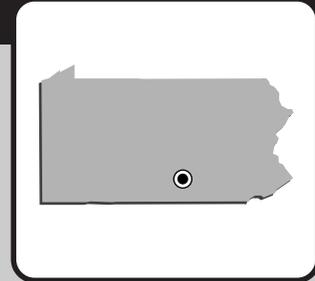


MECHANICSBURG NAVAL INVENTORY CONTROL POINT

MECHANICSBURG, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV
Major Claimant: COMNAVSUPSYSCOM
Size: 824 Acres
Funding to Date: \$15,195,000
Estimated Funding to Complete: \$32,312,000



Base Mission: Provides inventory management of stored materials
Contaminants: Heavy metals, PCBs, pesticides, volatile and semi-volatile organic compounds

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	15	High:	3	Not Evaluated:	0
RCRA Corrective Action:	0	Medium:	3	Not Required:	9
RCRA UST:	0	Low:	0		
Total Sites:	15				



Sites Response Complete: 8

EXECUTIVE SUMMARY

Mechanicsburg Naval Inventory Control Point (NAVICP), formerly known as the Ships Parts Control Center (SPCC), is located in Hampden Township, at the eastern boundary of Mechanicsburg, Pennsylvania, approximately seven miles west of Harrisburg. Development of the NAVICP installation began in 1942. The NAVICP primary mission is to provide inventory management and supply support for parts of weapon systems for Naval ships and submarines. Past defense industrial and inventory disposal contributed to the contamination of the sites on the installation. The prominent site types are disposal sites, landfills, and spill sites. Environmental investigations determined that groundwater, soil, and surface water/sediments have been contaminated with petroleum products, the chemical additive PCB, heavy metals, pesticides, volatile and semi-volatile organic compounds and dioxin. Mechanicsburg NAVICP was listed on the National Priorities List (NPL) in May 1994 based on potential migration of contaminants to the groundwater.

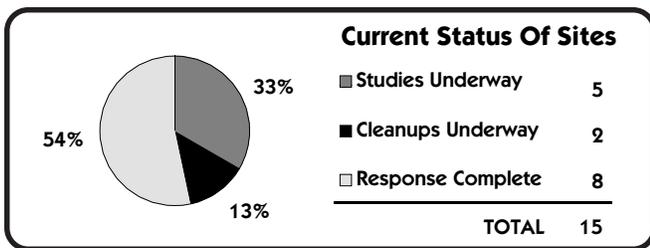
Contaminant migration pathways at Mechanicsburg NAVICP include surface runoff and groundwater movement. Contaminants may enter streams, groundwater discharge or the storm water collection system. Potential receptors include humans with private wells to the north and northwest of the installation and aquatic organisms that inhabit nearby streams. An Basewide Ecological Risk Assessment will be completed in FY97 to address potential receptors located in the NAVICP Mechanicsburg area.

All 15 IR sites at Mechanicsburg are CERCLA sites. Seven sites were identified during the Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), which was completed in FY84. The Navy conducted a Site Inspection (SI) in FY89-FY91, which included the seven sites identified in the IAS and four additional sites. The EPA had conducted a RCRA Facilities Assessment (RFA) in FY89, in which a total of 68 Solid Waste Management Units (SWMUs) and Areas of Concern (AOCs) were identified. Of these 68 SWMUs, 11 were previously

identified Installation Restoration (IR) sites. Although the RFA was completed in March 1989, the Navy did not receive a copy until late 1994. Four of the SWMUs were added to the IR program, as Sites 12-15, in FY95. A Remedial Investigation (RI) was conducted for four sites, which included Site 9 (the Storm Water Drainage Ditch) in FY89 and Sites 1, 3 and 7 in FY93. An RI is planned for Sites 3, 12-15 in FY97. Feasibility Studies (FSs) and Remedial Designs (RDs) were prepared for four sites (Sites 1, 3, 9 and 12). Extended Site Inspections (ESIs) were conducted and the Navy prepared No Further Action (NFA) Decision Documents (NFADDs) for Sites 4 (FY96) and 5 (FY95). Three additional NFADDs were completed for Sites 2, 6 and 8, in FY93. Response is complete on 8 sites (Sites 2,5, 6,8,10 before FY95 and Sites 1,4,7 in FY96).

A major undertaking in the cleanup program at Mechanicsburg NAVICP is an Interim Remedial Action (IRA) for soil removal and treatment at Site 3 (Ball Road Landfill and Burn Pits). It was started in FY93 and completed in FY96. Contaminated soil was removed at the burn pits. A bioremediation process was used primarily for petroleum products and organic compounds. Additional treatment processes are being discussed with regulators to address all contaminants of concern. If the ongoing negotiations for cleanup levels can be achieved, the Navy plans to return the treated soil to the site. Returning the soil would thereby save the costs for disposal and fill material, and ultimately save landfill space.

The cleanup of Site 9 has been very aggressive. Site 9, the storm water drainage ditch has contamination present in soil and sediment. The Record of Decision (ROD) for the site outlined several remedial actions to be taken. The first action, completed in April 1991, was excavation of contaminated soil from segment 1. The second action, for fencing off the site, was completed in June 1991. The third action was for the installation of a gabion dam, completed in November 1991. The fourth action, for removal of "hot spots" of contaminated sediment from segment 3, was completed in February 1993. The fifth action, completed in December 1993, was to remove contaminated sediment from Sub-basin E of the storm water system, a source of contamination in the ditch. Site 9 is scheduled for final cleanup and Response Complete in FY98.



MECHANICSBURG NAVICP RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - The NAVICP is located in the Cumberland Valley within the Susquehanna River basin, south of the Conodoguinet Creek and north of Yellow Breeches Creek. The region is typified by the presence of sink holes, poorly drained depressions and disappearing surface streams. Contaminant migration pathways at Mechanicsburg NAVICP include surface runoff and groundwater movement. Contaminants may enter streams through groundwater discharge or the storm water collection system. Most surface runoff on the activity is collected by the storm drainage system and discharged to an open drainage ditch, which discharges to Trindle Spring Run and finally into the Conodoguinet Creek. Surface water flow is seasonal, high during peak rainfall and dry in summer and fall. The uppermost groundwater aquifer under the installation is unconfined and largely restricted to the area's carbonate rocks. Groundwater flow rates and directions at the facility are largely controlled by fractures, faults, and joints. It is possible that contaminants may enter and migrate along these fractures to private wells north and northwest of the facility, Trindle Spring Run, Conodoguinet Creek and other wells.



NATURAL RESOURCES - Potential receptors include humans with private wells to the north and northwest of the installation and aquatic organisms that inhabit Trindle Spring Run and underground streams and ponds. Although the surrounding area supports a diverse community of birds, amphibians, reptiles and mammals, due to the high amount of land development, there are few animals actually living on the installation. There are no aquatic ecosystems on the installation property. There are no known species that have been designated as endangered or threatened by the federal and state authorities located in the area of NAVICP Mechanicsburg.



RISK - A Human and Health Risk Assessment was accomplished for Sites 1 and 9 in FY90. A base-wide Ecological Risk Assessment (ERA) is planned for FY97. For the Department of Defense (DOD) Relative Risk Ranking System, four of the CERCLA sites were determined to have a high ranking, and three have a medium ranking.

The Department of Defense (DOD's) Relative Risk Ranking system was used to rank the risk factors for all the sites on the installation in FY95. Three of the 15 sites at the installation received a high risk ranking. Two of the high risk scores were due to contaminated groundwater, the third was for contaminated soil, which has the potential for contaminating the groundwater. The reason for the high rankings of the groundwater is that it has the potential for reaching off site wells. Few of the nearby wells are used for drinking water. Site 9, the Storm Water Drainage Ditch, has the

potential for contaminating a nearby stream, Trindle Spring Run, where there could be both human and ecological receptors.

The Agency for Toxic Substance and Disease Registry (ATSDR) completed an initial site visit on April 16-18 1996 to perform a Public Health Assessment for the installation. ATSDR issued NAVICP a "D" ranking. This means that NAVICP has a low priority to receive a ATSDR health assessment in FY97.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - NAVICP Mechanicsburg was proposed for inclusion on the National Priorities List (NPL) January 18, 1994 and was listed in May 1994, with an HRS score of 50.00. A potential for migration of hazardous materials into the groundwater at five sites; (Sites 1-3, 5 and 7) was the factor which drove the placement of the installation on the NPL.



LEGAL AGREEMENTS - The Navy, EPA and Pennsylvania Department of Environmental Protection (PADEP) are currently working on a rough draft of a Federal Facility Agreement (FFA) for Mechanicsburg NAVICP. It is scheduled to be completed and in place in FY97. The Site Management Plan (SMP) is also being drafted and should be complete in FY97.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - The Technical Review Committee (TRC), formed in FY88, has helped foster good working relationships between the regulatory agencies, local municipalities, and the Navy. To update the public on cleanup progress, the TRC sponsored a media day highlighting a cleanup project. For greater community involvement a Restoration Advisory Board (RAB) was formed. About 20 RAB members from the community attend the monthly meetings. A publicly available Information Repository is located at the Mechanicsburg Public Library.



COMMUNITY RELATIONS PLAN - The Community Relations Plan (CRP) was completed in December 1992.



INFORMATION REPOSITORY - An Administrative Record and an Information Repository for the installation were established in September 1988. A copy of the Administrative Record is in the Information Repository, which is available for public viewing at the NAVICP, Safety, Health and Environment Division and also at a public library in Mechanicsburg.

HISTORICAL PROGRESS

FY84

Sites 1-7 - Were identified in September 1984, during the Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA) conducted under CERCLA guidelines. At the time of the IAS, three sites (Sites 1, 2 and 6) were determined not to pose a threat to human health or the environment and were not recommended for further investigation. Later, Sites 1 and 2 were re-added and have continued with the Installation Restoration (IR) phases. Four sites (Sites 3-5 and 7) were recommended for further investigation.

FY85

Sites 8-11 - Four sites were identified after the IAS.

FY88

Sites 1-5, 7, 8, 10 and 11 - Site Inspection (SI) was started at nine sites. **Site 9** - Polychlorinated Biphenyls (PCBs) a chemical added to oils, were discovered in sediment deposits in Site 9, the Storm Water Drainage Ditch.

The site was not included in the SI but a Remedial Investigation/ Feasibility Study (RI/FS) was started.

FY89

Site 9 - The RI/FS was completed. The RI/FS determined that PCBs in the storm water drainage ditch were a result of past disposal practices at the installation.

FY90

Site 9 - Remedial Design (RD) phase was started.

FY91

Sites 1-3, 5, 7, 8 and 11 - An SI was completed for seven sites in October 1990. The SI detected; chlorinated hydrocarbons at Site 1; petroleum products, volatile organic compounds, pesticides, PCBs, and metals at Site 3; subsurface anomalies confirming the potential for buried materials at Site 4 and chlorinated hydrocarbons at Site 7.

MECHANICSBURG NAVICP HISTORICAL PROGRESS

Site 9 - Removal actions completed at Site 9 included; removal of contaminated soil from segment 1, providing fencing, and installing gabion dams.

Site 10 - Completed RD phase and started Remedial Action (RA) phase for a Final Remedial Action (FRA), which consisted of removal of leaking Underground Storage Tanks (USTs) and associated contaminated soil.

FY92

Sites 1, 3 and 7 - An RI/FS was started for Sites 1, 3 and 7.

Site 4 - Two separate soil excavations were conducted at Site 4 (Radioactive Waste Disposal Area). No evidence of radioactive contamination was found, and therefore, a No Further Action (NFA) decision was recommended for this site.

Site 5 - An Extended Site Inspection (ESI) was completed in September 1992 and concluded that further investigation under an RI/FS was not warranted.

Site 9 - The RD for a PCB "hot spot" removal was completed and awarded.

Site 10 - The RA phase and an FRA for tank removal were completed.

FY93

Site 3 - An IRA began in September 1993 and is scheduled to be complete in FY96. The IRA consists of removal of contaminated soil at the Burn Pits followed by bioremediation of contaminated soil. State and federal regulatory agencies are in ongoing discussions to determine additional treatment processes to be used for the soil.

Site 7 - The RI/FS was completed in March 1993 and recommended for NFA.

Site 9 - A Remedial Design (RD) phase at Site 9 was completed. Long Term Monitoring (LTM) started in June 93 and will continue through FY98. The second annual groundwater sampling and analysis was

performed. The soil and sediment monitoring plan and initial sampling was completed. Contaminated soil and sediment were removed from a "hot spot" in segment 3. Contaminated soil was removed from sub-basin E of the Storm Water Drainage Ditch, a source of contamination for the ditch.

Site 10 - An ESI for Site 10 was completed and recommended for NFA.

FY94

Site 9 - The third annual groundwater sampling and analysis work was performed. The first annual soil and sediment monitoring work was performed. The water budget study, completed in April 1994, concluded that the Pennsylvania Department of Environmental Protection (PADEP) request for the Navy to fill sinkholes in the storm water drainage system ditch would cause flooding and sediment deposition downstream. This report helped settle the lawsuit between the Navy and the state.

Site 10 - The Navy continued to monitor hydrocarbon levels in groundwater, at the request of the state. Quarterly monitoring was performed for one year.

FY95

Basewide - A Time Critical Removal Action (TCRA) was initiated at the Tredegar Industries, Inc. property adjacent to NAVICP. The removal action removed approximately 600 tons of PCB contaminated soil.

Site 3 - The Interim Remedial Action (IRA) for bioremediation of contaminated soil continued. Sampling for additional contaminants of concern and monitoring of bioremediation was done.

Site 4 - The EPA concurred with the Navy's NFADD.

Sites 12-15 - These sites were added due the findings of the RCRA Facility Assessment (RFA).

PROGRESS DURING FISCAL YEAR 1996

FY96

Basewide - Began a basewide Ecological Risk Assessment. Started work on the Site Management Plan.

Site 4 - Completed PA/SI.

Sites 1 and 9 - Completed RI/FS.

Site 3 - Completed RI/FS FIELD work. This work included sampling the Biocell, 5000 cubic yard pile and the unexcavated area. Performed groundwater modeling for the design of a landfill. Tasked contractor to

perform a focus feasibility study. RAC contractor performed site maintenance for ongoing bioremediation.

Sites 3 and 9 - IRAs completed, two at Site 9.

Site 11 - The RA was delayed for FY96 due to extensive EPA comments on the Remedial Action Plan and now planned for FY98.

Sites 3 and 12-15 - Completed the draft RI work plan for higher regulatory priority.

Sites 1, 4 and 7 - Response Complete.

PLANS FOR FISCAL YEARS 1997 AND 1998

FY97

Basewide - Complete the Ecological Risk Assessment and Site Management Plan.

Sites 3 and 12-15 - Complete RI/FS.

Sites 3 and 12 - Complete Remedial Design.

Site 1 - Complete the Human Health Assessment.

Site 11 - An IRA will be conducted and planned completion in FY98. Continue negotiations for Federal Facilities Agreement.

FY98

Site 3 - The RA for soil will continue.

Site 9 - RA is scheduled for completion.

Site 9 - Groundwater LTM will continue. Soil and sediment LTM will continue.

Site 11 - Complete IRA.

Sites 12-15 - A RI/FS will be completed at these sites. Continue negotiations for Federal Facilities Agreement.

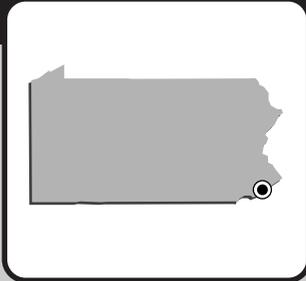
Site 9 - Response Complete is planned.

MECHANICSBURG NAVICP PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	9	1						
RI / FS	1	2	5					
RD	1		2					5
RAC	1			1				6
RAO								
IRA	2(5)	2(3)		1(1)	1(1)			1(1)
RC	5	3		1				6
Cumulative % RC	33%	53%	53%	60%	60%	60%	60%	100%

PHILADELPHIA NAVAL COMPLEX

PHILADELPHIA, PENNSYLVANIA



Engineering Field Division/Activity: NORTHDIV
Major Claimant: COMNAVFACENGCOM
Size: 1,153 Acres
Funding to Date: \$25,466,000
Estimated Funding to Complete: \$10,801,000

Base Mission: Provided general and specialized clinical hospitalization services to active duty members of the armed forces and their dependents; provided logistical support for ships and service craft; overhauled, repaired and outfitted ships and craft; research,

Contaminants: Heavy metals, PCBs, POLs, solvents, volatile organic compounds

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	10	High:	3	Not Evaluated:	0
RCRA Corrective Action:	12	Medium:	8	Not Required:	13
RCRA UST:	8	Low:	6		
Total Sites:	30				

BRAC I, II

Sites Response Complete: 13

EXECUTIVE SUMMARY

The Philadelphia Naval Complex includes the Philadelphia Naval Hospital (NAVHOSP), the Philadelphia Naval Station (NAVSTA) and the Philadelphia Naval Shipyard (PNSY). Closure (BRAC) of 1988 and 1990 mandated the closure of NAVHOSP and NAVSTA respectively, and placed the PNSY in a closed and preserved status. In 1995, BRAC IV excessed the PNSY property previously identified for preserved status and not required to support the remaining activities.

The Philadelphia Naval Complex is located at the confluence of the Delaware and Schuylkill Rivers. The property identified for disposal encompasses 1,091 acres, with PNSY accounting for 266 acres and Naval Base (NAVBASE) 825 acres (NAVBASE owned the land while NAVSTA owned most of the buildings; henceforth, all lands and buildings will be referred to as NAVBASE). The former NAVBASE includes the Capehart Housing area. Another off-base parcel is the former Hospital (49 acres) and its supporting buildings. The BRAC 95 "footprint" has been developed to segregate retained property from excess property. The retained land is identified as Naval Surface Warfare Center, Carderock Division - Ships Systems Engineering Station (NSWCCD-SSSES), includes the Norfolk Naval Shipyard Detachment (NNSY-DET) Naval Foundry and Propeller Center; certain waterfront facilities under the cognizance of the Naval Inactive Ship Maintenance Facility (NISMF); Public Works Center San Francisco Detachment Philadelphia (PWC DET); the Naval Bureau of Medicine (BUMED); and the Naval Fleet and Industrial Supply Center (FISC).

The Philadelphia Naval Complex is not listed on the NPL, and does not require a Federal Facilities Agreement (FFA). However, all Remedial Investigations (RIs), studies, designs, and Remedial Actions (RAs) are being conducted in cooperation with EPA Region III and the Pennsylvania Department of Environmental Protection. Currently there are 30 sites; 10 sites are classified as CERCLA, 12 are RCRA CA, and 8 are USTs with 10 sites in the study phase. An Initial Assessment Study (IAS) was

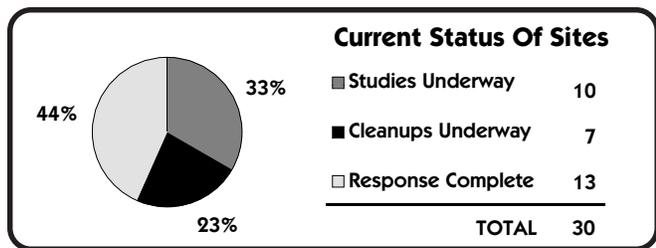
completed in July 1983. Subsequent confirmation studies in 1986, 1987 and 1988 identified an additional 4 sites, Sites 3, 6, 7 and 15, referred to as PCB Sites, underwent a Remedial Investigation/Feasibility Study (RI/FS) and were under a Record of Decision (ROD). Two phases of remedial action were required. An amended ROD was signed in 1995 to revise the second phase. This amended ROD saved approximately \$1.4 million in remedial costs. The remediation at Sites 3, 6, 7, and 15 is completed, and response is complete on 13 sites.

IR Sites 1 & 2 are dredge spoils and construction debris disposal areas and are contaminated with heavy metals and sandblasting grit. While the RI for these sites are in their final stage, a removal action is being conducted to remove the sandblasting grit and construction debris. This removal action is expected to result in no further action for the sites.

IR Sites 4 & 5 are landfill areas contaminated with asbestos, sandblasting grit, heavy metals, and construction debris. In 1994 a removal action stabilized the river bank along site 4, and a similar removal action has begun along Site 5. The sites are in the RI Phase, and final remediation of these Sites is expected early FY 1998.

Sites 9, 12, and 14 were transferred to the State's Petroleum Cleanup Program, and Sites 10 & 11 were closed out.

In 1991, EPA conducted a RCRA Facility Assessment (RFA) and produced a draft report which identified 167 Solid Waste Management Units (SWMUs) and 15 Areas of Concern (AOCs). Fifteen of these SWMUs are known to have had releases into the environment, and have proceeded into an expanded investigation. One of these 15 SWMUs have been transferred to the State's Petroleum Cleanup Program, one has been completely remediated, and five have been proposed for no further action. Risk Assessments will be accomplished on the remaining SWMUs.



PHILADELPHIA NAVAL COMPLEX RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - Philadelphia Naval Complex is located on what originally was known as League Island. This island and the Philadelphia area lie within the Atlantic Coastal Plain Physiographic Province. Much of the original topography has been extensively altered through filling operations. These filling operations have connected the island to the mainland and expanded the island into the river in several places. The soil types at Philadelphia Naval Complex have been classified by the Soil Conservation Service as urban land. The fill material consists of sand, gravel, rubbish, garbage, cinders and similar material in excess of five feet thick throughout much of the complex. The hospital property is also located on altered wetland. The Delaware River forms the southern and eastern boundaries of the NAVBASE and PNSY, while the Schuylkill River forms the western boundary. Surface drainage flows directly into the Delaware River, the Schuylkill River or into the Naval Reserve Basin, which drains into the Schuylkill River. Tidal fluctuations from both rivers and the Atlantic salt wedges have extended upstream past the facility. Underlying the area is the Potomac-Raritan-Magothy aquifer system. This system consists of a sequence of fluvial and estuarine sedimentary strata which accumulated on the metamorphic basement rock. This aquifer system yields three separate aquifers at different depths.



NATURAL RESOURCES - A draft Environmental Impact Statement (EIS) for the disposal and reuse of the excess portion of the NAVBASE was available to the public in January 1996. A public hearing on the DEIS was held in January 1996. The final EIS was filed in June 1996 and the Record of Decision (ROD) is in progress and expected to be completed in Fall 1996. No significant issues have been identified to date. The compliance process required by Section 106 of the National Historical Preservation Act is underway and should be completed at the same time as the ROD. Two endangered species have been identified in the area: the Peregrine Falcon and the Short-nose Sturgeon. The cultural survey report, finalized in 1994 found the following: three archeological sites with potential for eligibility on the National Register of Historic Places: a World War I Barracks site, a structure of unknown origin/use at the south end of the Marine Corps Parade Grounds, and an area surrounding Quarter A. The survey also found two National Register-eligible historic districts with 2,287 contributing buildings, structures and objects. Two buildings, Building 100 Marine Barracks, and the Commandant Quarters, Quarters A at NAVBASE are listed on the National Register of Historic Places with two others eligible and under consideration. Presently, the Pennsylvania State Historic Preservation Officer is reviewing the reports. The final cultural survey report of the Hospital parcel was completed in 1993 with the recommendation that the entire site, 47 buildings, be declared a National Register-eligible historic district. There are no potential significant archeological sites at the Hospital.



RISK - Philadelphia Naval Complex is not on the NPL, thus no comprehensive Agency for Toxic Substance and Disease Registry (ATSDR) Public Health Assessment was done. However, human health risk assessment and ecological screens are being done at a number of sites. Of the 17 sites evaluated, three are high, eight are medium and six are low under the Department of Defense (DOD) Relative Risk Ranking System.

REGULATORY ISSUES



LEGAL AGREEMENTS - A ROD for Sites 3, 6, 7 and 15 was signed in February 1992. An amended ROD for these sites was signed in December 1995. An Action Memorandum to implement bank stabilization at Site 4 was finalized in November 1993, and an Action Memorandum to remove blasting grits and debris was signed in August 1995.



PARTNERING - A partnering agreement has been developed and signed by BCT members. The members include: Naval Facilities Engineering Command (NAVFAC) Northern Division (NORTHDIV), Environmental Protection Agency (EPA) Region III, and the Commonwealth of Pennsylvania Department of Environmental Protection (PADEP).

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - In February 1994, a Restoration Advisory Board (RAB) was established, and is chaired by the BRAC Environmental Coordinator (BEC) and a representative from the community. Meetings have been held monthly since its inception, and are advertised in the local newspaper.



COMMUNITY RELATIONS PLAN - The Community Relations Plan (CRP) was issued in February 1995 and is being updated on a semi-annual basis.



INFORMATION REPOSITORY - An Information Repository was established at the Free Public Library of Philadelphia, Passyunk Branch, 20th and Shunk Streets.

BASE REALIGNMENT AND CLOSURE



BRAC - In FY94, an Environmental Baseline Survey (EBS) for the Hospital was completed. Two EBSs for the PNSY and the NAVBASE were completed in FY95. None of the property was identified in accordance with the Community Environmental Response Facilitation Act (CERFA) as uncontaminated. However, property was identified as transferable in accordance with CERCLA. The Navy conducted an EBS Phase II investigation which required a study of 57 areas at the Philadelphia Naval Complex. Currently 21 areas have been identified for further evaluation.



BRAC CLEANUP TEAM - The BRAC Cleanup Team (BCT) was formed in November 1993 and continues to expedite the review process and facilitate communication between its members through weekly meetings. The weekly meetings include a representative from the Local Reuse Authority and members of the project cleanup team.



DOCUMENTS - A BRAC Cleanup Plan (BCP) was prepared in March 1994. The plan was revised extensively in March 1995, and it is currently undergoing its annual revision to include new information and status of the properties. Three Environmental Baseline Survey (EBS) reports were prepared by NORTHDIV. The final report for the Hospital was completed in June 1994, and the final reports for PNSY and NAVBASE were issued in December 1994. The EBS was done in accordance with DOD and ASTM guidelines. The results identified 57 review items.

Environmental Conditions of Property Classification

1	2	3	4	5	6	7
0 acres	627 acres	8 acres	0 acres	8 acres	83 acres	148 acres

The EBS Phase II work plan was prepared and implemented for the 31 sites in Categories 2 and 3 in January 1995. The results have been reviewed by the BCT. Twenty-one (21) of these sites were reviewed for Category 4, 14 were either closed-out based on additional investigation or addressed by another environmental program. The remaining eight sites (one item was divided and counted twice) required further investigation and/or surface cleaning, waste removal, or other action.



LEASE/TRANSFER - Property transfer in the excess areas of the Naval Complex will be performed by deed. Within the retained area, a master leasing agreement has been established.

PHILADELPHIA NAVAL COMPLEX RELEVANT ISSUES

When the City expresses interest in a particular building, Northern Division performs a site-specific Environmental Baseline Survey. A Finding of Suitability for Lease (FOSL) is then issued and when approved, the lease is executed. The first sublease took effect on 1 May 1994 with three subsequent subleases approved. Nine FOSLs were completed for buildings and facilities.



REUSE - The disposal of the NAVHOSP and NAVBASE properties has been implemented in accordance with the Community Reuse Plan. This plan was developed by the City of Philadelphia, Office of Defense Conversion. The City of Philadelphia Office of Defense Conversion has issued reuse plans for the Philadelphia Complex in two parts. A plan for the hospital was issued in 1993, while the plan for the remainder of the complex (NAVBASE, PNSY and the Capehart housing area) was completed in September 1994. PNSY and NAVBASE have been divided into four areas for future development

purposes. They are as follows: The Shipyard area's primary role will be providing locations for heavy industries. As part of BRAC IV, a significant portion of the PNSY is now planned for disposal rather than preservation. The Local Reuse Authority is revising the reuse plan and seeking tenants that would continue the shipbuilding/refitting or similar functions historically associated with the Philadelphia Naval Complex. The League Island Center Parcel is projected for research and development, educational, light industrial and commercial facilities and administrative facilities. The Girard Point Industrial Park is envisioned as an industrial and distribution warehouse area. The East End Commercial Park will accommodate an intermodal transportation facility. A waterfront park is planned along the Delaware River. The Capehart Housing area is to remain residential, and the redevelopment plan foresees the parcel being sold to a private developer.

The NAVHOSP reuse includes townhouses, a park, and a parking lot.

HISTORICAL PROGRESS

FY83

Sites 1-15 - An IAS, similar to a Preliminary Assessment (PA), and subsequent confirmation studies in 1986-1987 were performed for the NSWC and the PNSY. One UST site (Site 009) and fourteen CERCLA sites were identified.

FY87

Sites 1-8 and 12-15 (PNSY) - A Site Inspection (SI) was completed.

FY90

Sites 3, 6 and 15 - A Remedial Investigation/Feasibility Study (RI/FS) was completed.
USTs 4 and 5 (PNSY) - The Initial Site Characterization (ISC) was completed.
Site 7 (PNSY) - The RI/FS was completed.

FY91

Site 3 (PNSY) - An Interim Remedial Action (IRA) was completed.
USTs 1 and 2 (PNSY) - The ISC phase was completed.
UST 4 (PNSY) - The Corrective Action Plan (CAP) was completed.

FY93

UST 1 (NAVHOSP) - The ISC was completed, the RI/FS is in progress, and is expected to be completed in FY96.
UST 2 (NAVHOSP) - The PA was completed.

FY94

UST 3 (PNSY) - The ISC was completed.

FY95

UST 2 (NAVHOSP) - The CAP was completed, and the corrective action Design (DES) was completed.
Site 6 (PNSY) - The Remedial Design (RD) was completed.
Site 4 (PNSY) - An IRA was completed. The river bank was stabilized to prevent the corrosion of the existing waterfront landfill.
Sites 1 and 2 (PNSY) - IRAs were initiated to remove asbestos, debris and blasting grits.
UST 6 - The ISC was completed.
USTs 1, 2 and 4 - The CAPs were completed.
UST 4 - DES was completed.
SWMUs 1-16 - An RFA identified 16 SWMUs that require remediation. RFI was completed for SWMUs 5 and 13.
Site 7 (NSWC) - RD was completed.
SWMU 15 - Was determined to require NFA.

PROGRESS DURING FISCAL YEAR 1996

FY96

Sites 1, 2 and 5 (NS) - Completed one phase of a (IRA) removal action to remove construction debris and a second phase was started to remove sandblasting grit. This is expected to result in no further action.
Site 15 (NS) - Remedial Design was completed.
Sites 3, 6 and 15 (NS) - remedial action is complete and site 6 was closed out.
Site 4 and 5 (NS) - continued in the RI/FS phase. Another removal action was initiated to stabilize the river bank along site 5.
SWMU 14 (NS) - had a RCRA RFI/CMI completed and SWMU 5 had a RFI completed.
UST 3 and 4 (NS) - Implementation is underway.
Site 3, 6, 15 (NS) - Response Complete and is expected to be closed out.
USTs 1 and 2 (NH) - IMP was completed.
USTs 1 and 2 (NH) - Response Complete.
Site 12 (NSY) - a removal action was initiated and is on-going to remove free product, and a site characterization is underway.
SWMUs 3, 4, 6, 11 and 14 (NSY) - has completed an RCRA RFI/CMS.
SWMU 5 (NSY) - CMI was completed.
SWMUs 4, 6 and 11 (NSY) - Response Complete.

UST 1 (NSY) - IMP was completed.
UST 1 (NSY) - Response Completed.
UST 3 (NSY) - Design Completed
USTs 1 and 3 (NSY) - CAP Completed..
Site 7 (NSWCCD) - remediation was complete and the site closed out.
Site 8 (NSWCCD) - Ecological screen (RI/FS) was initiated to evaluate the risk of contaminated sediments.
Site 9 (NSWCCD) - A MILCON project removed contaminated solid soil from area, and site characterization was initiated
Site 14 (NSWCCD) - site characterization was drafted and it appears as if no further action will be required.
SWMU 2 (NSWCCD) - had a RFI completed and SWMUs 15, and 16 response is complete with no further action expected.

During FY96 environmental concerns continued to focus on the environmental concerns at the east side of the base. Also, remedy was complete for one UST. Remediation began at SWMU 13 to decontaminate the incinerator and remove the stack. Removal of the stack is currently on hold pending historic recordation and Pennsylvania State Historic Preservation Officer approval of the work as part of the National Historic Preservation Act.

**PHILADELPHIA NAVAL COMPLEX
PLANS FOR FISCAL YEARS 1997 AND 1998**

FY97

Sites 1 and 2 (NS) - remedial action is expected to be complete and the sites closed out.
Sites 4 and 5 (NS) - the remedial investigation is expected to be complete and the remedial action initiated.
Sites 1, 2, 4 and 12 (NS) - RI/FS is expected to be completed
Sites 4 and 5 (NS) - Remedial Design is to be completed.
Sites 1, 2 and 13 (NS) - Remedial Action is scheduled for completion.
Sites 1, 2 and 13 (NS) - Response Complete is expected.
Site 13 (NS) - remedial action will be implemented.
 CMI.
SWMU 9 (NS) - IRA is expected for completion.
SWMUs 3, 10, 12, 13 and 14 (NS) - Expect Response Completion.
USTs 3 and 4 (NS) - is expected to complete IMP.
UST 4 (NS) - IRA is anticipated for completion.
USTs 3 and 4 (NS) - is expected to be Response Complete.
Site 12 (NSY) - design for soil and possibly groundwater remediation is expected.
SWMU 3 (NSY) - is expected to have corrective measures complete and SWMU 10 is expected to have it's RFI complete.

UST 1 (NSY) - should have long-term operations completed.
UST 2 and 5 (NSY) - implementation should be complete with initiation of long-term operations underway for UST 5.
Site 9 (NSWCCD) - is expected to have the remedial implementation underway.
Site 14 (NSWCCD) - is expected to be closed out.

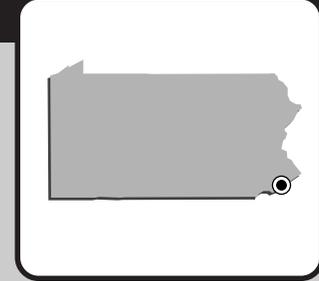
FY98

Site 5 (NS) - RI/FS is to be completed.
Site 12 (NS) - Remedial Design is expected to be completed.
Sites 4, 5 and 12 (NS) - is expected to have the remedial action in place with the beginning of long-term monitoring.
Sites 4 and 5 (NS) - Response Complete is expected.
SWMUs 7-9 (NS) - is expected to have all remedial actions complete.
SWMUs 7-9 (NS) - Expect to have Response Complete.
UST 12 (NSY) - Expect Design to be completed.
UST12 (NSY) - IMP is expected to be complete.
 All remedial actions (NSY) are expected to be complete.
Site 9 (NSWCCD) - is expected to have it's remedial action initiated with the design for SWMU 1 complete.

PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	10							
RI / FS	3		4	1				
RD	1	2	2					
RAC		3	3	2				
RAO								
IRA	4(4)	3(3)						
RC	2	3	3	2				
Cumulative % RC	20%	50%	80%	100%	100%	100%	100%	100%
RCRA CA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
RFA	12							
RFI / CMS		5	5					
DES			1					
CMI		1	4	3				
CMO								1
IRA								
RC		3	5	3				1
Cumulative % RC	0%	25%	67%	92%	92%	92%	92%	100%
UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA	2							
CAP	3	3						
DES	2	1		1				
IMP	1	3	2	1				
IMO						1		
IRA			1(1)		1(1)			
RC	2	3	2			1		
Cumulative % RC	25%	63%	88%	88%	88%	100%	100%	100%

PHILADELPHIA NAVAL SURFACE WARFARE CENTER, CARDEROCK DIVISION PHILADELPHIA, PENNSYLVANIA



Engineering Field Division/Activity: NORTHDIV
 Major Claimant: COMNAVSEASYSKOM
 Size: 20 Acres
 Funding to Date: \$3,207,000
 Estimated Funding to Complete: \$2,527,000

Base Mission: Ensure operational readiness of U.S. and Allied Forces by providing full spectrum technical capabilities necessary to rapidly transition and Energetics product from concept through product to operational employment

Contaminants: Heavy metals, PCBs, POLs

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	3	High:	2	Not Evaluated:	0
RCRA Corrective Action:	4	Medium:	2	Not Required:	4
RCRA UST:	2	Low:	1		
Total Sites:	9				

Sites Response Complete: 4

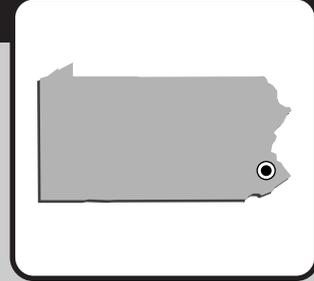
PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	3							
RI / FS	1		1	1				
RD	1							
RAC		1						
RAO								
IRA								
RC		1	1	1				
Cumulative % RC	0%	33%	67%	100%	100%	100%	100%	100%
RCRA CA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
RFA	1	2	1					
RFI / CMS		1						
DES					1			
CMI								1
CMO								
IRA								
RC		3						1
Cumulative % RC	0%	75%	75%	75%	75%	75%	75%	100%
UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA			2					
CAP			1					
DES				1				
IMP					1			
IMO								
IRA								
RC			1		1			
Cumulative % RC	0%	0%	50%	50%	100%	100%	100%	100%

WARMINSTER NAVAL AIR WARFARE CENTER AIRCRAFT DIVISION

WARMINSTER TOWNSHIP, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV
Major Claimant: COMNAVAIRSYSCOM
Size: 818 Acres
Funding to Date: \$11,362,000
Estimated Funding to Complete: \$20,554,000



Base Mission: Research and development for Naval aircraft systems, antisubmarine warfare systems and the associated computer software

Contaminants: Firing range wastes, fuels, heavy metals, industrial wastewater sludges, non-industrial solid wastes, paint, PCBs, sewage treatment sludge, solvents, unspecified chemicals, volatile organic compounds

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	9	High:	8	Not Evaluated:	0
RCRA Corrective Action:	0	Medium:	1	Not Required:	1
RCRA UST:	1	Low:	0		
Total Sites:	10				

NPL

BRAC II

Sites Response Complete: 1

EXECUTIVE SUMMARY

Warminster Naval Air Warfare Center (NAWC) is in Warminster Township, Bucks County, Pennsylvania. The installation was commissioned in 1944 as the Naval Air Development Center. The mission is research, development, testing, and evaluation for Naval aircraft systems. Studies are also conducted in antisubmarine warfare systems and software development. Past operations include aircraft maintenance and repair, pest control, fire-fighting training, machine and plating shops, spray painting, and various materials research and testing. Wastes generated include paints, solvents, industrial wastewater treatment sludge, and waste oils. In 1979, Volatile Organic Compounds (VOCs), primarily the organic solvents TCE and PCE and metals were detected in groundwater wells. In 1980, the Navy began a study of contaminated waste disposal sites under the Naval Assessment and Control of Installation Pollutants (NACIP) program. In the early 1980's, TCE in the groundwater was suspected of causing birth defects in the area. A survey conducted by the Health Department concluded the birth defect rate was within the normal statistical range. NAWC Warminster is an Interim Status Treatment, Storage and Disposal Facility (TSDF) under the RCRA statute for hazardous wastes. Controlled under this permit are two industrial waste storage impoundments, one storage building and one waste oil Underground Storage Tank (UST). NAWC was placed on the NPL in 1989 due to potential groundwater contamination. A Federal Facility Agreement (FFA) was signed in September 1990.

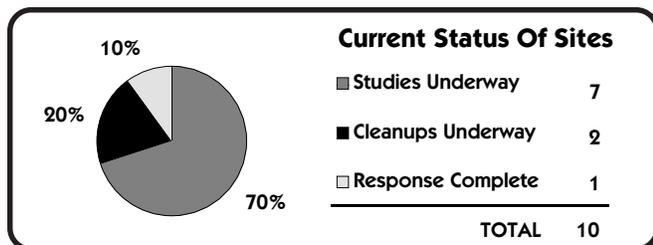
NAWC lies in the Delaware River drainage basin. Surface runoff empties into the Delaware River, which is about 10 miles away. Bedrock underlying NAWC belongs to the Stockton Formation, which is dominantly sandstone with occasional layers of shale. The top layer of bedrock is typically extensively weathered. Due to the high permeability of the weathered rock layer, the greatest migration pathway is laterally. Contaminants can be carried by this lateral flow until the groundwater is either discharged to streams, or dispersed into joints and fractures. Contaminant migration pathways are surface water, soil, soils to

groundwater, and groundwater, potentially affecting both human and ecological receptors.

A Technical Review Committee (TRC) was formed in April 1988 and converted to a Restoration Advisory Board (RAB) in December 1993. The RAB has 15 members and they meet monthly. Although the public was involved with the TRC, the new RAB has proven to be more effective in community outreach and soliciting community involvement. An Information Repository is available to the public at the Bucks County Public Library in Doylestown, Pennsylvania.

In April 1993, off-base residential well sampling indicated groundwater contamination in two neighborhoods. Working with the EPA, the Navy installed water treatment systems for over 50 private homes with contamination greater than drinking water standards. Connections to the local municipal water system were completed in 1994. This action removed potential health risks to the local community.

Currently, there are seven sites in the study phase. As of the end of FY96, an Interim Removal Action (excavation) at Site 4 was in progress from FY93 and now completed. Another Interim Removal Action was completed at Site 8 (Fire Fighting Training). Fieldwork for a soil/sediment RI (Sites 5 and 7) was completed during FY 96 and a draft version of the report is available. A pump and treat system was initiated and long-term monitoring began for Operable Unit 3. Sites 4 and 8 were combined into an Operable Unit in FY 95. Response is complete on UST 1. A Remedial Design was completed for Site 6.



WARMINSTER NAWCAD RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - NAWC lies in the Delaware River drainage basin. Surface runoff empties into the Delaware River, which is about 10 miles away. No constantly flowing streams course through the NAWC property. Intermittent streams are tributaries to Little Neshaminy and Southampton Creeks, which are used for light industrial purposes. Drainage patterns from the NAWC are radial with respect to the topographical high which bisects the property along the main east/west runway. Bedrock underlying NAWC belongs to the Stockton Formation, which is dominantly sandstone with occasional layers of shale. The top layer of bedrock is typically extensively weathered. The weathered rock ranges from 8 to 25 feet thick. Soils in the vicinity are dominantly silt loams.

Depth to groundwater ranges from 2 to 14 feet below the land surface. A saturated zone is typically located at the base of the layer of weathered bedrock. Contaminants can be carried by lateral flow until the groundwater is either discharged to streams, or dispersed into joints and fractures. Water is supplied by seven on-site wells. Three other existing wells are contaminated with the organic solvents TCE and PCE and are not used for potable water. In June 1993, the Navy provided bottled water, filtration systems, and city water system hookups for two residential areas due to the presence of the organic solvent TCE contamination in drinking water wells.



NATURAL RESOURCES - The airfield provides a large open field habitat for many terrestrial mammals and birds. There are also small wooded areas bordering the airfield that provide habitat and cover.

NAWC is divided between two drainage basins. There are two small tributaries of Little Neshaminy Creek to the north and headwaters of Southampton Creek to the south. Both local basins lie within the regional basin of the Delaware River.

No known threatened or endangered species are present. Contaminated groundwater affects the Stockton Formation aquifer, which provides water for over 100,000 persons within 3 miles of NAWC. Local surface water bodies are used for recreation and industrial purposes.



RISK - Of the nine CERCLA sites, one received a medium risk ranking and eight received high risk rankings under the Department of Defense (DOD) Relative Risk Ranking System. The high rank was determined by groundwater contamination for each of the eight sites ranked high. Contaminants include paints, oils, solvents, and metals. Groundwater will soon be undergoing treatment at all high risk sites.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - The installation was proposed for the National Priorities List (NPL) in 1986 with a Hazard Ranking System (HRS) score of 57.93. It was listed on the NPL in October 1989. A Pre-Record of Decision (ROD) for Sites 1-8 was signed on 4 October 1989.



LEGAL AGREEMENTS - A Federal Facility Agreement (FFA) was signed between the Department of the Navy (DON) and EPA on 20 September 1990. Operable Unit (OU) 1 was identified in December 1992 as containing Sites 1-3 and 5-7. The OU was addressed in a ROD signed in September 1993 for an interim remedy of a pump and treat system to treat groundwater.



PARTNERING - Successful partnering between the BRAC Cleanup Team (BCT) and the Restoration Advisory Board (RAB) resulted in compressing a project schedule to 15 months for study, design, and construction cost negotiations for the pump and treat

system at OU 3. Another successful partnering effort between the BCT and the RAB was an RA for residential wells contaminated with the organic solvent TCE. A task order under the Comprehensive Long-Term Environmental Action Navy (CLEAN) contract was immediately started by Naval Facilities Engineering Command (NAVFAC), Northern Division (NORTHDIV). The Navy distributed bottled water, installed temporary treatment systems on each affected well, and then coordinated with EPA and the local water authority to install water service to the residential areas. The quick teamwork by the BCT, RAB, and NORTHDIV was significant in gaining credibility with the community.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in April 1988. They met regularly to address cleanup issues. The TRC was converted to a Restoration Advisory Board (RAB) in December 1993. The RAB has 15 members and they meet on a monthly basis. Although the public was involved with the TRC, the new RAB has proven to be more effective in community outreach and soliciting community involvement.



COMMUNITY RELATIONS PLAN - The Community Relations Plan (CRP) was drafted in FY90 and was updated in FY94.



INFORMATION REPOSITORY - An Administrative Record was established in December 1993. A copy of the Administration Record documents are contained in an Information Repository located at the Bucks County Public Library in Doylestown, Pennsylvania and at the Environmental Branch of the Public Works Office at NAWC and at NORTHDIV.

BASE REALIGNMENT AND CLOSURE



BRAC - NAWC Warminster was included on the 1991 Base Realignment and Closure (BRAC) list for realignment. The property was divided into eight parcels, with 353 acres identified as Community Environmental Response Facilitation Act (CERFA) clean. The 1995 BRAC Commission recommended NAWC for closure. Operations will be transferred to NAWC Patuxent River, Maryland, in September 1996. The closure date is anticipated to be March 1997, but the final property transfer date has not been determined. About 100 acres of the property will be retained by the Navy.



BRAC CLEANUP TEAM - The BRAC Cleanup Team (BCT) has been established and includes representatives from NORTHDIV, EPA Region III, and the Pennsylvania Department of Environmental Protection (DEP). The BCT works closely with the Federal Lands Reuse Authority of Bucks County and the Bucks County Commissioners to set goals and prioritize the remaining work. The BRAC Cleanup Plan (BCP) and an Environmental Baseline Survey (EBS) Phase I were completed in FY94. A Phase II EBS is planned for the future.



DOCUMENTS - The BRAC Cleanup Plan (BCP) and an Environmental Baseline Survey (EBS) Phase I were completed in FY94. A Phase II EBS is underway. A Final Draft Land Reuse Plan is currently being reviewed. The Environmental Condition Of Property (ECP) was developed using an EBS conducted by NORTHDIV and supplemented with additional information obtained through discussions with EPA Region III. These figures have not received regulatory concurrence. Additional information (aerial photographs, archive drawings and employee interviews) has recently been obtained and the EBS will be expanded to include this information. 53 Areas of Concern have been identified and are being evaluated.

Environmental Conditions of Property Classification						
1	2	3	4	5	6	7
353 acres	7 acres	0 acres	0 acres	7 acres	7 acres	359 acres

WARMINSTER NAWCAD HISTORICAL PROGRESS



LEASE/TRANSFER - There are 733 acres available for disposal. Currently, 160 acres are being leased on an Agricultural Outlease. Approximately 25% of the property is currently eligible for transfer by deed. The remaining property requires further evaluation.



FAST TRACK INITIATIVES - Implementation of a pump and treat remedy for OU 3 proceeded on a fast track basis with construction being awarded almost concurrent with the signing of the ROD.



REUSE - A county reuse committee was formed to develop a Land Reuse Plan for Warminster, and to address social and economic issues. The Final Draft Land Reuse Plan has been completed.

HISTORICAL PROGRESS

FY85

Sites 1-9 - An Initial Assessment Study (IAS), and a Confirmation Study (CS), were completed that identified nine sites as potentially contaminated. The original Site 9 was closed out. The other eight sites were recommended for further study under a Remedial Investigation/Feasibility Study (RI/FS).

FY86

UST 1 - This Underground Storage Tank (UST) site was identified.

FY87

UST 1 - A leaking 1,000 gallon heating oil tank was removed.

FY90

UST 1 - Contaminated soil was removed and the site was closed out. No further UST remediations are expected.

FY91

Sites 1-8 - Phase I of the Remedial Investigation (RI) was completed.

FY93

Sites 1-3 and 5-7 - In June 1993, the Navy provided bottled water, filtration systems, and water hookups for two residential areas due to the presence of the solvent TCE contamination in drinking water wells. The RI/FS was completed and an interim groundwater Record of Decision (ROD) was signed.

FY94

Sites 4 and 8 - The RI/FS for groundwater was completed.
Sites 1-3 and 5-8 - The Remedial Design (RD) for groundwater was completed.

FY95

A Phase II Environmental Baseline Survey (EBS) was initiated and completed.
Sites 4 and 8 (OU 3) - The final ROD for extraction and treatment of groundwater was signed.

PROGRESS DURING FISCAL YEAR 1996

FY96

Sites 4 and 8 (OU 3) - IRA was completed.
Sites 5 and 7 - An RI/FS was completed.
Site 9 (Area D) - Source investigation field work started.
Site 4 - Source removal action started and completed.
Site 6 - RD was completed.
Sites 4 and 8 (OU 3) - Pump and treat operations started.

Phase III RI/FS nearing completion.
FOSL for Bldg. 108 signed out of NORTHDIV.
OU-3 - Initiate Long Term Monitoring/Operations (LTM/LTO).
EBS Phase II - Investigate 53 Areas of Concern.
Phase II UST - design was started and completed.
UST 1 - Design completed.
UST 1 - RC - tanks were removed; soil investigations continue.

PLANS FOR FISCAL YEARS 1997 AND 1998

FY97

Sites 1, 2, 3, 4, 6, 8 and 9 - RI/FS scheduled for completion.
Sites 1, 2, 3 and 8 - Remedial Design is expected to be complete.
Sites 1, 2, 3, 6, 8 and 9 - IRA is planned to completed.
Site 3 - Expected to be Response Complete.
Sites 5-7 (Area B) - Final ROD is expected to be signed. Initiate groundwater remedy.
OUs 1 and 3 - LTM/LTO.
EBS Phase II - Complete Area of Concern investigation; Initiate course of action.
Phase II UST - Complete tank and soil removal.

FY98

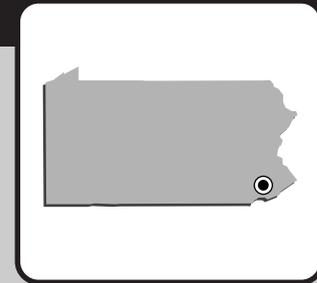
Complete land and building lease/transfer.
Sites 5 and 9 - Plan to complete Remedial Design.
Site 9 - Expect IRA (2) and RA completion. EBS Phase II - Finalize remedial/removal actions.
OUs 1 and 3 - LTM/LTO.
Issue No Further Action (NFA) RODs for applicable sites.

WARMINSTER NAWCAD
PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	9							
RI / FS		2	7					
RD		1	4	2				
RAC			5	1			2	
RAO								6
IRA		2(2)	6(6)	1(2)				
RC			1				2	6
Cumulative % RC	0%	0%	11%	11%	11%	11%	33%	100%
UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA								
CAP								
DES		1						
IMP	1							
IMO								
IRA	1(2)							
RC		1						
Cumulative % RC	0%	100%	100%	100%	100%	100%	100%	100%

WILLOW GROVE NAVAL AIR STATION

WILLOW GROVE, PENNSYLVANIA



Engineering Field Division/Activity: NORTHDIV
Major Claimant: COMNAVRESFOR
Size: 1,090 Acres
Funding to Date: \$2,639,000
Estimated Funding to Complete: \$40,039,000

Base Mission: Reserve Naval Air Station for training of aviation activities

Contaminants: Heavy metals, PCBs, POLs, solvents

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	11	High:	5	Not Evaluated:	0
RCRA Corrective Action:	0	Medium:	0	Not Required:	2
RCRA UST:	2	Low:	6		
Total Sites:	13				



Sites Response Complete: 2

EXECUTIVE SUMMARY

The Naval Air Station Joint Reserve Base (NASJRB) Willow Grove is located 25 miles northeast of Philadelphia, Pennsylvania. The Navy acquired the airfield in 1942, and has used it to train pilots ever since then. The major operations on base that contributed to the environmental problems were the landfilling of paint wastes, the conducting of fire fighter training, and the storing of fuel. The primary contaminants of concern are heavy metals, the chemical additive PCBs, petroleum products, and solvents. A Federal Facilities Agreement (FFA) is planned to be initiated in FY97. NASJRB Willow Grove is not in the process of applying for, renewing, or modifying a RCRA permit; therefore, no RCRA corrective action is required.

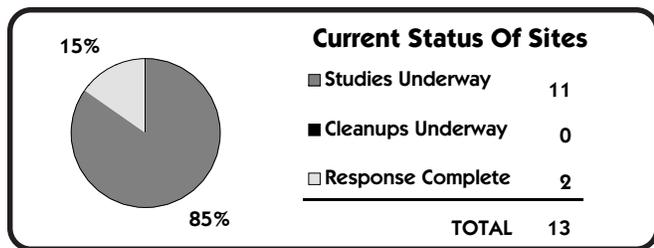
Although no perennial streams are located within the boundaries of NASJRB Willow Grove, tributaries of the Pennypack and Little Neshaminy Creeks extend to within 1/4 mile of NASJRB Willow Grove. Pennypack Creek is designated a warm water fishery by the Pennsylvania Department of Environmental Resources and trout stocking is practiced in Little Neshaminy Creek. Runoff from surface areas is conveyed by a storm drainage system to one of several outfalls to Pennypack Creek or Park Creek (a tributary of Little Neshaminy Creek). NASJRB Willow Grove lies on the Stockton aquifer, which is the primary source of drinking water in the region.

Subsequent to the recent NPL listing of NASJRB Willow Grove, the installation established a Restoration Advisory Board (RAB) and a Community Relations Plan (CRP). Interested parties from the community have contacted the installation about becoming RAB members. The first RAB meeting was held on August 29, 1996. RAB meetings have been held on a quarterly basis. The CRP is going to be submitted in FY97. The plan will provide fact sheets, press releases, and public notices. An Administrative Record (the official file) was established in March 1991 and is maintained by the Navy. The information in the Administrative

Record was placed in two Information Repositories, established in 1991, for public access.

There are 13 IR sites, 11 are CERCLA sites and are 2 RCRA UST sites. Currently, there are eleven sites in the study phase. A Remedial Investigation/Feasibility Study (RI/FS) has determined that three sites are sources of chlorinated hydrocarbons in groundwater, and one may be a source of dieldrin contamination to surface water. A RI for four sites completed in FY93 recommended a Phase II RI/FS to fill data gaps and provide alternatives for cleanup actions. Phase II RI/FS Work Plan activities continue for Sites 1, 2, 3, and 5. There are two sites that are Response Complete (RC), however to date, no concurrence has been received from the State or EPA Region III regarding the proposals for no further action. An IRA was completed for Site 10.

The final approved work plan for the Phase II RI will be implemented during the first part of FY97. The fieldwork for the Phase II RI will then be completed in mid FY97. Also in FY97, the FS will be funded and its preparation initiated. The remainder of FY97 will be devoted to reviewing both the RI and FS documents for Sites 1 and 10 before completion in that same year. Also in FY97, a Site Management Plan (SMP) will be developed in order to support the FFA negotiations with EPA Region III and PA Department of Environmental Protection. Finally in FY97, a Record of Decision will be developed for Site 10 based upon the results of the free product recovery pilot study. In FY98, a Record of Decision (ROD) will be developed based upon the results of the FS and a design for the preferred alternative initiated for Site 1 only. Also, the design for Site 10 will be developed in accordance with the ROD with completion scheduled for FY99. Finally in FY98, funding should be received and RI/FS initiated for Site 11. Sites 2, 3, 5 are expected to be completed. Site 1 Remedial Design is planned for completion.



WILLOW GROVE NAS RELEVANT ISSUES

ENVIRONMENTAL RISK



HYDROGEOLOGY - Although no perennial streams are located within the boundaries of NASJRB Willow Grove, tributaries of the Pennypack and Little Neshaminy Creeks extend to within 1/4 mile of NASJRB Willow Grove. Surface water that is not retained in either the Recreational Pond or the Captain's House Pond is conveyed to one of several outfalls to the Pennypack Creek or Park Creek (a tributary of Little Neshaminy Creek). The soils at NASJRB Willow Grove are conducive to infiltration of rainfall. NASJRB Willow Grove lies on the outcrop of the middle member of the Stockton Formation. The Stockton Aquifer is the primary source of drinking water in the region. NASJRB Willow Grove by virtue of its location on the outcrop of the Stockton Formation, is in the recharge area for this aquifer. Of the rainfall which infiltrates into the soil, approximately half will eventually percolate to the water supply aquifer of the Stockton aquifer and be withdrawn by supply wells. Volatile Organic Compounds (VOCs) have been identified in the potable water supply wells at NASJRB Willow Grove in concentrations which exceed the Ambient Water Criteria of the EPA. The Privet Road Compound (Site 1), the 9th Street Landfill (Site 3), and the Fire Training Area (Site 5), were found to be sources of contamination to the water-table aquifer. The Antenna Field Landfill (Site 2) was found to be a source of the pesticide dieldrin found in surface water.



NATURAL RESOURCES - Wildlife species occurring at NASJRB Willow Grove are those that commonly occur near urbanized areas. It has been determined that endangered and threatened wildlife or plants as recognized by the State of Pennsylvania may be within the boundaries of NASJRB Willow Grove specifically the plant Hairy Beadgrass and the aquatic species Pearl Mussel. Both ponds on the base are available for fishing by military personnel. Pennypack Creek is designated a warm water fishery by the Pennsylvania Department of Environmental Resources and trout stocking is practiced in Little Neshaminy Creek. There are no known sites or buildings on NASJRB Willow Grove that have been listed or determined to be eligible for listing on the National Register of Historic Places.



RISK - An EPA Baseline Risk Assessment, both ecological and human health will be done as part of the Phase II RI. For the Department of Defense (DOD) Relative Risk Ranking System, five of the CERCLA sites were determined to have a high ranking. These sites were ranked primarily due to known contamination to groundwater and identified migration pathways to water supply wells. A Public Health Assessment (PHA) is required to be performed by the Agency for Toxic Substances and Disease Registry (ATSDR) and the Navy Environmental Health Center (NEHC) due to the NPL listing. ATSDR conducted a site

visit in June 1996 to establish a site ranking for the Activity. Based upon their observations and site ranking scheme, NASJRB Willow Grove received a "D" classification which makes it low on ATSDR's priority list.

REGULATORY ISSUES



NATIONAL PRIORITIES LIST - The HRS score for NASJRB Willow Grove was 50.00. The NAS was listed on the NPL in September of 1995. This score was primarily based upon chlorinated hydrocarbons found in the water table aquifer and the pesticide dieldrin in the surface water.



LEGAL AGREEMENTS - For the CERCLA sites, it is planned to initiate an FFA in FY97. The FFA will be between the Department of the Navy, and the EPA Region III. Decision documents that are outdated will be revisited during FFA negotiations for Sites 4 and 6-9. For the two RCRA Underground Storage Tanks (USTs), Corrective Action was completed.



PARTNERING - Prior to Willow Grove's listing on the NPL in September 1995, no formal partnering had taken place. However, now that EPA Region III's involvement has increased, partnering will be integrated into the overall IR process for Willow Grove.

COMMUNITY INVOLVEMENT



RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in FY90 and was very active. Fact sheets were provided for public meetings. Subsequent to the recent NPL listing of NASJRB Willow Grove, the installation initiated the establishment of a Restoration Advisory Board (RAB). The first RAB meeting was held on August 29, 1996. RAB meetings have been held on a quarterly basis.



COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) is under development and will be submitted during FY97. The plan will provide fact sheets, press releases and public notices.



INFORMATION REPOSITORY - An Administrative Record (the official file) was established in March 1991 and is maintained by the Navy. The information in the Administrative Record was placed in two Information Repositories, established in 1991, for public access. They are located at the Horsham Township Municipal Building and at the base Environmental Department. The Information Repositories are updated regularly by the Navy.

HISTORICAL PROGRESS

FY86

Sites 1-9 - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), completed in February 1986, identified nine potentially contaminated sites at NASJRB Willow Grove.

Of the nine sites identified, four sites (Sites 6-9) were determined not to pose a threat to human health or the environment. Five sites (Sites 1-5) were recommended for further investigation because of potential surface and groundwater contamination. Although the recommendation was for further study only at Sites 1-5, all nine sites were included in the SI.

FY88

UST 1 - A waste oil tank was removed.

FY89

USTs 1 and 2 - The Initial Site Characterizations (ISCs) were completed. Contaminated soil and a smaller abandoned tank at UST 1 were found and removed during the removal action. Corrective Action was completed.

FY90

Site 10 - An SI for the original nine sites plus a new site, Site 10, Navy Fuel Farm, was completed in May 1990 and recommended No Further Action (NFA) for Sites 4, 6, 8 and 9. An extended SI was recommended for Site 7 because of trace levels of methylene chloride (a common laboratory contaminant). Sites 1-3 and Site 5 were recommended for an RI/FS. Sites 1, 3 and 5 were determined to be sources of chlorinated hydrocarbons in the water-table aquifer. Site 2 was found to be a source of dieldrin discharge to surface water.

FY91

UST 2 - At the former NEX Service Station, two gasoline tanks and associated contaminated soils were removed and the Corrective Action was completed. A Decision Document was finalized in June 1991 advising all agencies of the finding of NFA and site close-out for Sites 4, 6, 8 and 9. Copies were forwarded to the EPA and State of Pennsylvania notifying them of this action.

WILLOW GROVE NAS HISTORICAL PROGRESS

FY92

Site 7 - A Decision Document was finalized in FY92 for Site 7.

FY93

Site 11 - During construction of an Air National Guard facility at NASJRB Willow Grove in FY93, a new site was found. Site 11, Aircraft Apron, was discovered while digging for drainage when a petroleum odor was detected. Site 11 was initially used as a defueling area for tank trucks. Preliminary sampling has indicated the presence of petroleum products. The contractor finished grading the area for drainage in appropriate personal protective equipment.

Sites 1-11 - At the end of the PA/SI phase, six of 11 CERCLA sites (Sites 1-3, 5, 10 and 11) were scheduled to move into the RI/FS phase. Five sites (Sites 4 and 6-9) were closed out.

Sites 1, 2, 3 and 5 - The RI recommended a Phase II RI/FS be conducted to fill in data gaps and provide alternatives for Remedial Actions (RAs) at Sites 1, 2, 3 and 5.

This Phase II RI/FS was to be awarded in FY93, but since NASJRB

Willow Grove was not on or proposed for the NPL and carried a low funding priority, the Phase II RI/FS was delayed.

Site 10 - A Remedial Design (RD) was started. A pilot recovery system for free-product removal was installed.

Site 11 - Environmental investigations were put on hold due to this site's low risk ranking.

FY94

Site 10 - The free product recovery pilot system continued to operate.

FY95

Sites 1-3, 5 and 11 - A work plan for a Phase II RI was issued. Due to funding constraints and Site 11's low risk ranking, the site was removed from the workplan.

Site 10 - Completed a removal action for 6,000 cubic yards of soil, which had been stockpiled at the Navy Fuel Farm. The free product recovery pilot system continued to operate.

PROGRESS DURING FISCAL YEAR 1996

FY96

Sites 1-3, 5 and 10 - The workplan for RI activities was finalized and approved. Implementation of the workplan was negotiated and funded.

All Sites - Also negotiated and funded was a Site Management Plan to support upcoming FFA negotiations with EPA Region III.

Site 10 - Free product pilot study (IRA) completed.

All Sites - Established a Restoration Advisory Board and held kickoff meeting in August.

The Final Phase 2 RI Workplan was to be approved by EPA Region III at the end of FY96. However, in late August 1996, the RAB was established and a decision was made to allow the newly formed RAB to comment on the workplan as well since fieldwork could not start until the following Spring of FY97. RAB comments have been received and incorporated it was decided it was anticipated that this would occur in mid to late FY96. Approval is now anticipated during 2nd quarter of FY97. Therefore, the FY96 milestones regarding Site 1 and 10 workplan approvals and completion of fieldwork are now FY97 milestones.

PLANS FOR FISCAL YEARS 1997 AND 1998

FY97

Sites 1 and 10 - Complete the fieldwork for the Phase II RI in mid FY97. Initiate and complete a Feasibility Study and Record of Decision for Site 1 only.

All Sites - Negotiate an FFA with Willow Grove's regulatory community and develop the SMP.

Site 10 - Complete the treatability study (FS). Prepare and complete a Record of Decision for restoration of the area based upon the results of the free product pilot study.

FY98

Site 1 - Initiate and complete a design for the preferred alternative.

Sites 2, 3 and 5 - Complete the Feasibility Study and Develop a Record of Decision (ROD) based upon the results of the FS.

Site 10 - Initiate a design for restoration of the area in accordance with the ROD.

Site 11 - Obtain funding and initiate RI/FS activities.

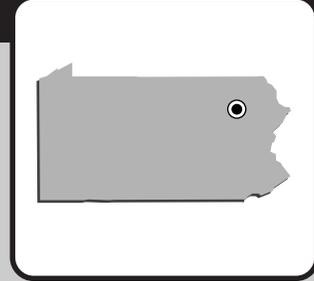
**WILLOW GROVE NAS
PROGRESS AND PLANS**

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	11							
RI / FS			2	3	1			5
RD				1	1	1	1	2
RAC							1	5
RAO								5
IRA		1(1)					1(1)	2(2)
RC								11
Cumulative % RC	0%	0%	0%	0%	0%	0%	0%	100%
UST	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
SA								
CAP								
DES								
IMP	2							
IMO								
IRA	2(2)							
RC	2							
Cumulative % RC	100%	100%	100%	100%	100%	100%	100%	100%

WYOMING MARINE CORPS RESERVE CENTER

WYOMING, PENNSYLVANIA

Engineering Field Division/Activity: NORTHDIV
Major Claimant: CMC
Size: 3 Acres
Funding to Date: \$56,000
Estimated Funding to Complete: \$0



Base Mission: Maintains heavy equipment

Contaminants: POLs

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	2	High:	0	Not Evaluated:	0
RCRA Corrective Action:	0	Medium:	0	Not Required:	0
RCRA UST:	0	Low:	2		
Total Sites:	2				

Sites Response Complete: 0

PROGRESS AND PLANS

CERCLA	FY95 and before	FY96	FY97	FY98	FY99	FY00	FY01	FY02 and After
PA / SI	2							
RI / FS								
RD								
RAC								
RAO								
IRA			1(1)					
RC			2					
Cumulative % RC	0%	0%	100%	100%	100%	100%	100%	100%