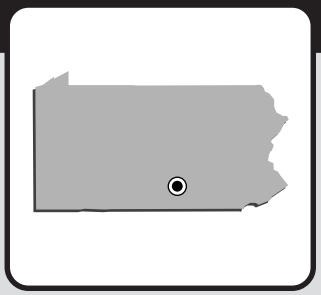
Mechanicsburg Naval Inventory Control Point
Mechanicsburg, Pennsylvania



Engineering Field Division/Activity:	NORTHDIV
Major Claimant:	COMNAVSUPSYSCOM
Size:	824 Acres
Funding to Date:	$14,792,000
Estimated Funding to Complete:	$14,290,000
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:**	6	**Not Evaluated:**	0
RCRA Corrective Action:	0	**Medium:**	3	**Response Complete:**	5
RCRA UST:	0	**Low:**	1	**Total Sites:**	15
Total Sites:	15				

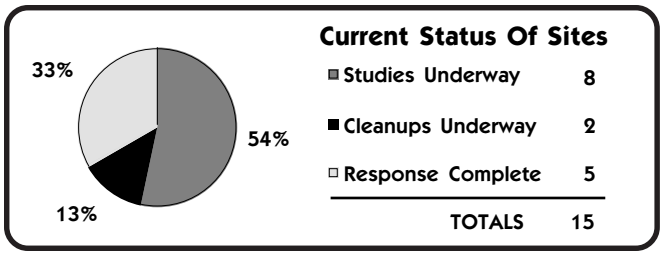
NPL

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 performs inventory control point support functions, including integrated logistics support planning and execution, maintenance of logistics support data, inventory management of assigned secondary items, weapons systems, end items and equipment for Naval ships, submarines and aircraft. NAVICP Mechanicsburg also provides common base support services to 30 tenant activities. Past defense industrial and inventory disposal contributed to the contamination of the sites on the installation. Current operations include pollution prevention practices to prevent further contamination. 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. 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 known species that have been designated as endangered or threatened by the federal and state authorities located in the area of NAVICP Mechanicsburg.

For greater community involvement, the Technical Review Committee (TRC), formed in FY88, has been maintained. The Restoration Advisory Board (RAB) was formed in FY95. A publicly available Information Repository is located at the Mechanicsburg Public Library.



All 15 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 12-15 in FY96. Feasibility Studies (FSs) and Remedial Designs (RDs) were prepared for three sites. Extended Site Inspections (ESIs) were conducted and the Navy prepared No Further Action (NFA) Decision Documents (NFADDs) for Sites 4 and 5. Three additional NFADDs were completed for Sites 2, 6 and 8, in FY93.

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 is scheduled for completion in FY98. Contaminated soil has been removed at the burn pits and is currently undergoing remediation. A bioremediation process is being 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.

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 completed for Sites 1 and 9 in FY90. A base-wide Ecological Risk Assessment (ERA) is planned for FY96.

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. Six of the 15 sites at the installation received a high risk ranking. Five of the high risk scores were due to contaminated groundwater, the sixth 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) was scheduled to perform a Public Health Assessment for the installation in November 1995, but due to the government shutdown, it was rescheduled for the spring of FY96.

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, 2, 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 FY96.

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.

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.

MECHANICSBURG NAVICP HISTORICAL PROGRESS

FY84

Sites 1-7- Seven sites (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.
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 competed 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.

PROGRESS DURING FISCAL YEAR 1995

FY95

Base-wide - Completed a base-wide Ecological Risk Assessment.
Base-wide - 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).

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Site 3 - Monitoring of the progress of the bioremediation will continue. A Focused Feasibility Study and pilot study on additional remedial treatment technologies will be performed.
Sites 1 and 3 - RI/FS for two sites will be completed.
Site 4 - An SI started in FY88, will be completed.
Sites 12-15 - An RI will be performed for four sites.

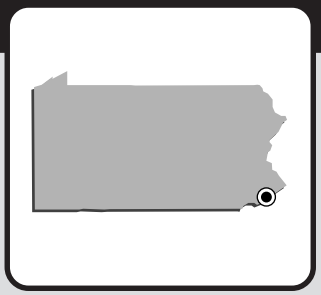
FY97

Site 3 - An RA will continue.
Site 9 - Groundwater LTM will be complete. Soil and sediment LTM will continue.
Sites 12-15 - An RI/FS will be completed at these sites.
Site 14 - The RA Phase will start.

MECHANICSBURG NAVICP PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	15							
SI	8		1					
RI/FS	2		2	4				
RD	2			3	3			1
RA	2				1	5		1
IRA	1(4)		1(1)	1(1)				
RC	5			1		1	5	3
Cumulative Response Complete	33%			40%		47%	80%	100%

Philadelphia Naval Complex
Philadelphia, Pennsylvania



Engineering Field Division/Activity: NORTHDIV

Major Claimant: BUMED/COMNAVSEASYSCOM/CINCLANTFLT

Size: 1,153 Acres

Funding to Date: $31,477,000

Estimated Funding to Complete: $11,436,000

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, development, testing and evaluation of shipboard systems

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

Number of Sites:		Relative Risk Ranking of Sites:			
CERCLA:	11	High:	7	Not Evaluated:	2
RCRA Corrective Action:	12	Medium:	9	Response Complete:	8
RCRA UST:	8	Low:	5	Total Sites:	31
Total Sites:	31				

BRAC I

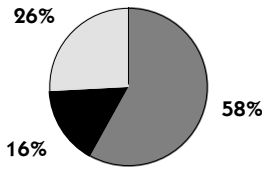
BRAC II

EXECUTIVE SUMMARY

The Philadelphia Naval Complex includes the Philadelphia Naval Hospital (NAVHOSP), the Philadelphia Naval Station (NAVSTA) and the Philadelphia Naval Shipyard (PNSY). The Base Realignment and Closure (BRAC) of 1988 mandated the closure of the NAVHOSP. In 1990, BRAC II directed the closure of NAVSTA Philadelphia, and placed the PNSY in a closed and reserved status. In 1995, BRAC IV completely closed the Shipyard function but retained some Navy tenant activities.

The Philadelphia Naval Complex is situated 4 miles south of the Philadelphia central business district at the confluence of the Delaware and Schuylkyll Rivers. It encompasses approximately 1,170 acres, with PNSY accounting for 300 acres and Naval Base (NAVBASE) 793 acres (NAVBASE owns the land while NAVSTA owns most of the buildings; henceforth, all lands and buildings will be referred to as NAVBASE). The off-base parcel consists of the former Hospital (50 Acres) and its supporting buildings, and the Capehart housing area (27 acres). The current plan for the Philadelphia Naval Complex is to excess the NAVHOSP, the NAVBASE properties and the majority of PNSY properties. The BRAC 95 "footprint" is under development to segregate the retained from the excess property. The retained Navy activities include: The Norfolk Naval Shipyard (NNSY) Naval Foundry and Propeller Center; The Naval Surface Warfare Center, Carderock Division - Ship Systems Engineering Station (NSWCCD-SSES); 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 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, with coordination from the BRAC Cleanup Team (BCT) and the DOD Base Transition Coordinator. The Reuse Plan also addresses the leasing of selected PNSY facilities and properties.



Current Status Of Sites

Studies Underway	18
Cleanups Underway	5
Response Complete	8
TOTALS	31

The Navy Installation Restoration Program (IRP) was instituted to identify potential contamination at Naval facilities resulting from past operations and to implement corrective measures at sites that proved to have elevated concentrations of constituents of concern. Although the Philadelphia Naval Complex is not listed on the NPL, and does not require a Federal Facilities Agreement (FFA) to regulate the IRP, all Remedial Investigations (RIs), studies, designs and Remedial Actions (RAs) are being conducted in accordance with the IRP, CERCLA and the National Oil and Hazardous Substance Pollution Contingency Plan (NCP) criteria, and in cooperation with EPA Region III and the Pennsylvania Department of Environmental Protection. An Initial Assessment Study (IAS), completed in July 1983, identified 11 potentially contaminated sites. 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 an Remedial Investigation/ Feasibility Study (RI/FS) and are under a Record of Decision (ROD) which requires two phases of soil remediation actions. Phase I, involving excavation and removal of soil exceeding 10 mg/kg of the chemical additive PCB concentration, was completed. An amended ROD was signed in 1995 to change the cleanup level to 5 ppm. The remediation at Sites 6, 7 and 15 is completed. IR Sites 1, 2 and 5 are contaminated with heavy metals from debris and sandblast grits; and Sites 12-14 are contaminated with petroleum hydrocarbon. These six sites are currently in the RI/FS Phase. Sites 4 and 5 are presently undergoing additional sampling and feasibility studies. Sites 9, 12 and 14 were transferred to the State's Petroleum Cleanup Program. Site 14 will be recommended for No Further Action (NFA). Sites 10 and 11 are candidates for no further action based upon the IAS findings and subsequent sampling. A dredging operation was conducted as required at Site 8 to allow for additional ship berthing; however, future requirements for dredging are being evaluated.

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). The final document in January 1995 listed 179 SWMUs and AOCs at the Philadelphia Naval Complex. Only 12 of these sites are currently expected to require an RA.

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, which is characterized by flat plains and low valleys. 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 coastal plain of southeastern Pennsylvania is drained by the Delaware River and its tributaries; the largest tributary is the Schuylkill River. The Delaware River forms the southern and eastern boundaries of the NAVBASE and PNSY, while the Schuylkill River forms the western boundary. All 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 - The Navy has completed two Environmental Impact Statements (EISs). The draft EIS for the NAVBASE property was completed in December 1995. The final EIS is expected to be completed and submitted to the EPA in July 1996. The draft EIS for the Hospital property was completed in August 1994. A supplemental draft EIS was issued in January 1996 to provide additional alternatives. Philadelphia Naval Complex maintains a monitoring program of wildlife at the facility. Two endangered species have been identified in the area: the Peregrine Falcon and the Short-nose Pigeon. 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 Feasibility Studies (FSs) are in progress at Sites 1, 2, 4 and 5. The results are presently being reviewed by the regulators. A base-wide ecological risk screening is being conducted to create a broader understanding of the Philadelphia Naval Complex. Northern Division will continue to discuss the risk assessment process with the BRAC Cleanup Team (BCT).

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. 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), EPA Region III, and the Commonwealth of Pennsylvania Department of Environmental Resources (PADER). Supporting the BCT are the members of the Project Team, which includes technical specialists from EPA, PADER, Philadelphia Naval Complex, the City of Philadelphia, Northern Division and contractors.

COMMUNITY INVOLVEMENT

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

COMMUNITY RELATIONS PLAN - The Community Relations Plan (CRP) was issued in February 1995 and is being updated on a quarterly 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 and the use of electronic communication media. The weekly meetings include a representative from the City of Philadelphia and members of the project cleanup team. A partnering agreement has been developed and signed by BCT members.

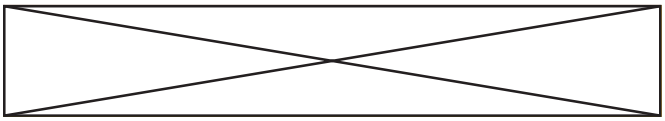
DOCUMENTS - A BRAC Cleanup Plan (BCP) was prepared in March 1994. The plan was revised extensively in March 1995, and it is currently undergoing its annual revision to include new information and status of the properties. Three Environmental Baseline Survey (EBS) reports were prepared by NORTHDIV. The 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, which were categorized as follows:

Category 1 - NFA - 6 sites
Category 2 - confirmatory sampling - 15 sites
Category 3 - full sampling - 16 sites
Category 4 - other action - 21 sites

The EBS Phase II work plan was prepared and implemented for the 31 sites in Categories 2 and 3 in January 1995. The results are currently being reviewed by the BCT . Of the 21 review items for Category 4, 14 were either closed-out based on additional investigation or addressed by another environmental program. The remaining eight review items (one item was divided and counted twice) required further investigation and/or surface

Philadelphia Naval Complex

cleaning, waste removal, or other action. These are expected to be completed by summer 1996.



LEASE/TRANSFER - Property transfer in the excess areas of the Naval Complex will be performed by deed. Within the retain area, a master leasing agreement has been established. 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. As of February 1995, 26 potential tenants have been identified. Five FOSLs were completed for reuse of the NSY and NAVSTA buildings and facilities. Reuse includes: ship repair, railcar components manufacturing and office spaces.

REUSE - 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 City 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 that will support the overall industrial activities. The East End Commercial Park will accommodate large site development that is not generally available elsewhere in the Philadelphia region. At present, EBS and Findings of Suitability to Transfer (FOST) are being prepared for two subparcels within the east end. The transfers are planned for 1996. An intermodal transportation facility is also being considered. A waterfront park is planned along the Delaware River. The Capehart Housing area is to remain residential. The redevelopment plan foresees the parcel being sold to a private developer.

The NAVHOSP is to be divided into three sections. The eastern and southern portion of the property, with mature vegetation, will serve as an extension to the existing Roosevelt Park. Nine hundred parking spaces will be provided in the area fronting Broad Street, and the plan for the north-central and western areas of the parcel is planned for the development of a nursing home/managed care facility and townhouse consistent with nearby area uses.

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.

PROGRESS DURING FISCAL YEAR 1995

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.

Philadelphia Naval Complex
PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

UST 2 (NAVHOSP) - RA of soil removal is planned to start.
Sites 1-3, 5, 12 and 13 (PNSY) - The RI/FS is expected to be completed.
Sites 1-3, 12 and 13 (PNSY) - The RD is expected to begin.
Sites 1-3, 6 and 15 - Begin an RA phase.
Sites 1, 2 and 5 - Begin a removal action.
UST 3 - The CAP is expected to be completed.
USTs 2 and 3 - The design for the RA is expected to be completed.
SWMUs 5 and 13 - Two removal actions are planned, shoreline stabilization will be done at SWMU 5; the removal of the smokestack and the incinerator is planned for SWMU 13.
Site 14 - A draft RI recommending NFA is expected.
Site 7 (NSWC) - RA is expected to be done.
SWMUs 3, 7-10 and 12 - Corrective Measures Study (CMS) is expected to be done.
SWMUS 5 and 13 - Corrective Measures Implementation (CMI) planned.

FY97

UST 2 (NAVHOSP) - RA is expected to be completed.
Site 4 (PNSY) - The RI/FS is expected to be completed.
Sites 4 and 5 (PNSY) - The RD is expected to begin.
Site 5 - Begin RA phase.
Site 4 - Begin a removal action.
USTs 2, 3 and 4 - The Implementation (IMP) of the remedy is expected to be completed.
SWMU 14 - The CMS is expected to be done.
SWMUs 3, 7 - 10, 12 and 14 - Designs for corrective action are planned.
SWMUs 10, 12 and 15 - CMI will begin.
Site 8 (NSWC) - The RI/FS is expected to be completed.
SWMU 16 - CMS is planned.

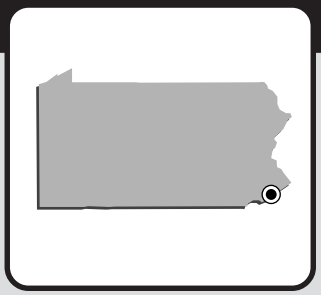
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	11							
SI	9							
RI/FS	3		5	1				
RD		2	5	2				
RA			6	1	3			
IRA	2(2)	1(1)	3(3)					
RC	2		4	2	3			
Cumulative Response Complete	18%		55%	73%	100%			

RCRA CA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
RFA		12						
RFI		2						
CMS			6	1				
DES				7				
CMI			2	2	5			
IRA			2(2)					
RC		3	2	2	5			
Cumulative Response Complete		25%	42%	58%	100%			

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	7	1						
INV								
CAP	1	4	2					
DES		2	2					
IMP			2	3				
IRA								
RC		3		1	1	3		
Cumulative Response Complete		38%		50%	63%	100%		

Philadelphia Naval Surface Warfare Center, Carderock Division
Philadelphia, Pennsylvania



Engineering Field Division/Activity: NORTHDIV

Major Claimant: COMNAVSEASYSCOM

Size: 20 Acres

Funding to Date: $1,338,000

Estimated Funding to Complete: $14,908,000

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:

CERCLA:	3
RCRA Corrective Action:	4
RCRA UST:	1
Total Sites:	8

Relative Risk Ranking of Sites:

High:	0	Not Evaluated:	7
Medium:	0	Response Complete:	1
Low:	0	Total Sites:	8

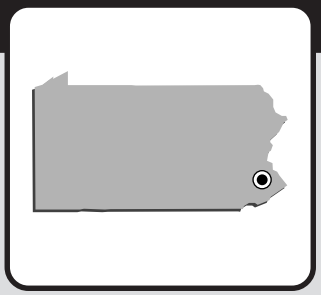
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	2							
SI	2							
RI/FS	1			1				
RD		1			1			
RA			1			1		1
IRA								
RC			1			1		1
Cumulative Response Complete			33%			67%		100%

RCRA CA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
RFA		2						
RFI								
CMS								
DES				1				
CMI				1				2
IRA								
RC		1		1				2
Cumulative Response Complete		25%		50%				100%

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	1				1			
INV								
CAP								
DES						1		
IMP							1	
IRA					1(1)			
RC							1	
Cumulative Response Complete							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: $7,109,000

Estimated Funding to Complete: $31,568,000

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	Response Complete:	1
RCRA UST:	1	Low:	0	Total Sites:	10
Total Sites:	10				

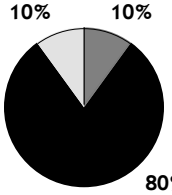
NPL

BRAC II

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 activities. 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 local groundwater wells. In 1980, the Navy began a study of contaminated waste disposal sites at the base under the Naval Assessment and Control of Installation Pollutants (NACIP) program. In the early 1980's, there was some speculation that the presence of the organic solvent TCE in the groundwater was causing birth defects in the area which was accompanied by media coverage. A survey conducted by the Health Department concluded the birth defect rate was within the normal statistical range. Numerous local drinking water wells have been taken out of service due to the spreading contamination, including wells on NAWC. 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 through the weathered zone. 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.



Current Status Of Sites

Studies Underway	1
Cleanups Underway	8
Response Complete	1
TOTALS	10

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 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. An Information Repository is available to the public at the Bucks County Public Library in Doylestown, Pennsylvania.

At the end of FY95, only one site was still in the Study Phase. Eight sites were in the Cleanup Phase. UST 1, an UST that contained heating oil, is Response Complete (RC). The tank and surrounding contaminated soil have been removed. A Record of Decision (ROD) for extraction and treatment of groundwater will be completed at Operable Unit (OU) 3 in FY96. Remedial Action (RA) should then be completed. In FY97 at Site 9 (Area D), an RA of a pump and treat system for groundwater is expected to be completed. An RA for extraction and treatment of groundwater will be completed in FY97 for OU 1. OUs 1 and 3 will also begin Long Term Monitoring (LTM). These actions will reduce the risk at these high risk sites.

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.

NAWC Warminster was included on the 1991 Base Realignment and Closure (BRAC) list for realignment. The property was divided into eight parcels, with 393 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.

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. The Final Draft Land Reuse Plan is being reviewed. The BRAC Cleanup Team (BCT) has been established.

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. Due to the high permeability of the weathered rock layer, the greatest migration pathway is laterally through the weathered zone. Contaminants can be carried by this 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. The Warminster Municipal Authority supplies potable water to an enlisted men's housing development, and to all other areas within a three mile radius of NAWC. 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.

The Western Fork tributary originates from a stormwater culvert. Surface water runoff from Sites 1-3 and portions of the airfield enter the stream. The stream bank on Navy property is vegetated with wildflowers, vines, and shrubs and a small forested wetland. Biota observed or expected within the stream and banks include invertebrates, small fish, reptiles, amphibians, birds, and mammals.

The Eastern Fork tributary originates about 200 feet north of Site 4. This area of the stream provides excellent habitat for a large variety of wildlife before flowing north through small woodlots and subdivisions. The origin also receives surface water runoff from an intermittent stormwater drainage ditch from Site 8. The drainage ditch is primarily bordered by maintained lawns, gravel and blacktop. The headwaters of Southampton Creek originate about 1,000 feet from the southeast boundary of the base via a storm sewer. Groundwater and surface water flow and runoff from Sites 5-7 are generally towards this area. The creek then flows through a subdivision and subsequent wooded wetland corridor to Pennypack Creek. The wooded areas provide habitat for birds, reptiles and amphibians, and mammals. Surface water and sediment sample results from these streams exceed ecological screening level criteria.

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 - Human Health Risks calculated following EPA Risk Assessment Guidance exceed risk goals for hypothetical groundwater exposure scenarios (ingestion, inhalation and dermal absorption from showering). Residents receive municipal water. Risks associated with dermal exposure to sediments and incidental ingestion of surface water for children wading in the tributaries of Neshaminy Creek and Southampton Creek have also been identified. Fate and transport analysis required to determine site contributions and additional risk evaluation are in progress.

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.

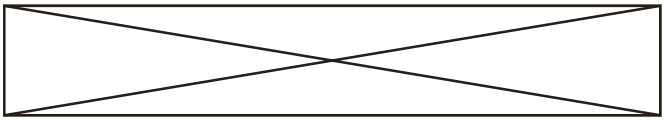
WARMINSTER NAWCAD

BASE REALIGNMENT AND CLOSURE

II **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 Bucks County Economic Adjustment Committee, the newly formed Federal Lands Reuse Authority of Bucks County and the Bucks County Commissioners to set goals and prioritize the remaining work.

DOCUMENTS - 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. 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.



LEASE/TRANSFER - 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.

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 is being reviewed.

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

HISTORICAL PROGRESS

FY85

Sites 1-9 - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA) and a Confirmation Study (CS), equivalent to a Site Inspection (SI) was completed that identified nine sites as potentially contaminated. The Stockpile, originally called Site 9 was found to be a mound of clean native soil with no contaminants. Site 9 was recommended for No Further Action (NFA) and 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 city water system hookups for two residential areas due to the presence of the solvent TCE contamination in drinking water wells. These sites were assessed under an extended RI/FS Work Plan. The RI/FS was completed. A Record of Decision (ROD) was signed for a groundwater extraction and treatment system.

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.

PROGRESS DURING FISCAL YEAR 1995

FY95

A Phase II Environmental Baseline Survey (EBS) was initiated and completed.

Sites 4 and 8 (OU 3) - The ROD for extraction and treatment of groundwater, and the final Remedial Action (RA), was signed.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Site 9 (Area D) - An RI/FS is expected to start for this new site.
Site 4 - An RD is expected to be completed.
Sites 4 and 8 (OU 3) - An RA is expected to be completed.

FY97

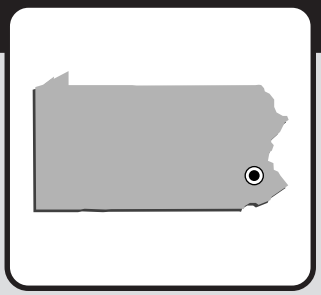
Site 9 (Area D) - An RA of a pump and treat system for groundwater is expected to be completed.
Sites 1-3 and 5-7 (OU 1) - Completion of an RA for extraction and treatment of groundwater is expected.
OUs 1 and 3 - Long Term Monitoring (LTM) is expected to begin.

WARMINSTER NAWCAD
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	9							
SI	9							
RI/FS		1	8					
RD			1	8				
RA			1	8				
IRA			6(6)	1(1)				
RC				3				6
Cumulative Response Complete				33%				100%

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	1							
INV								
CAP								
DES								
IMP	1							
IRA	1(1)							
RC	1							
Cumulative Response Complete	100%							

Willow Grove Naval Air Station
Willow Grove, Pennsylvania



Engineering Field Division/Activity:	NORTHDIV
Major Claimant:	COMNAVRESFOR
Size:	1,090 Acres
Funding to Date:	$2,536,000
Estimated Funding to Complete:	$23,261,000
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	**Response Complete:**	7
RCRA UST:	2	**Low:**	1	**Total Sites:**	13
Total Sites:	13				

NPL

EXECUTIVE SUMMARY

Willow Grove NAS 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 inititated in FY96. Willow Grove NAS 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 Willow Grove NAS, tributaries of the Pennypack and Little Neshaminy Creeks extend to within 1/4 mile of Willow Grove NAS. 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). NAS 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 Willow Grove NAS, 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, however to date a RAB meeting has not been held. RAB meetings are anticipated to be held on a quarterly basis. The CRP is going to be updated in FY96. 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.

Current Status Of Sites

Studies Underway	6
Cleanups Underway	0
Response Complete	7
TOTALS	13

Currently, there are six sites in the study phase. Remedial Investigation/ Feasibility Study (RI/FS) activities determined that three sites are sources of chlorinated hydrocarbons in groundwater, and one may be a source of dieldrin contamination to surface water. An 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, 5 and 11 and a Phase I RI began for one site. There are seven sites that are Response Complete (RC).

In the future, the plan is to implement the final approved work plan for the Phase II RI/FS during the spring of FY96. Then, the fieldwork for the Phase II RI will be completed in late FY96. And finally, in FY97, develop a Record of Decision (ROD) based upon the results of the FS and initiate a design for the preferred alternatives.

At Site 10, Navy Fuel Farm, a pilot study is underway to evaluate different methods for free-product recovery of petroleum product floating on the surface of a groundwater aquifer. Results from this study will be of benefit to other cleanup programs.

WILLOW GROVE NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - Although no perennial streams are located within the boundaries of Willow Grove NAS, tributaries of the Pennypack and Little Neshaminy Creeks extend to within 1/4 mile of Willow Grove NAS. 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 Willow Grove NAS are conducive to infiltration of rainfall. Willow Grove NAS 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. Willow Grove NAS 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 Willow Grove NAS 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 Willow Grove NAS 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 Willow Grove NAS 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 Willow Grove NAS that have been listed or determined to be eligible for listing on the National Register of Histroric Places.

RISK - An EPA Baseline Risk Assesment, 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 Assesment (PHA) will be performed by the Agency for Toxic Substances and Disease Registry (ATSDR) and the Navy Environmental Health Center (NEHC). The PHA is required due to the NPL listing. ATSDR planned a site visit in December 1995, but it was postponed due to the delays in the budget process.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - The HRS score for Willow Grove NAS 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 FY96. The FFA will be between the Department of the Navy, the EPA Region III, and the State of Pennsylvania. 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 Willow Grove NAS, the installation initiated the establishment of a Restoration Advisory Board (RAB). Interested parties from the community have contacted the installation about becoming RAB members, however to date a RAB meeting has not been held. RAB meetings are anticipated to be held on a quarterly basis.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) is under development. 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.

WILLOW GROVE NAS
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 Willow Grove NAS. 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 closeout for Sites 4, 6, 8 and 9. Copies were forwarded to the EPA and State of Pennsylvania notifying them of this action.

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 Willow Grove NAS 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 Willow Grove NAS 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.

FY94

Site 11 - An RI was awarded.

PROGRESS FOR FISCAL YEAR 1995

FY95

Sites 1-3, 5 and 11 - A work plan for a Phase II RI was issued.

Site 10 - Completed a removal action for 6,000 cubic yards of soil, which had been stockpiled at the Navy Fuel Farm.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Sites 1-3, 5 and 11 - Implement the final approved work plan for the Phase II RI/FS during the spring of FY96. Complete the fieldwork for the Phase II RI in late FY96.
Sites 1-3 and 11 - Complete the Phase II RI/FS.

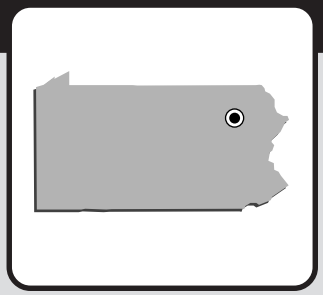
FY97

Sites 1-3, 5 and 11 - In FY97, develop a Record of Decision (ROD) based upon the results of the FS and initiate a design for the preferred alternatives. Initiate RD activities for five sites in FY97 for soils only.

WILLOW GROVE NAS
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	11							
SI	11							
RI/FS			5					
RD					1	5		
RA								6
IRA				1(1)				
RC	5							6
Cumulative Response Complete	45%							100%
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	2							
INV								
CAP								
DES								
IMP	2							
IRA	2(2)							
RC	2							
Cumulative Response Complete	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:

CERCLA:	2
RCRA Corrective Action:	0
RCRA UST:	0
Total Sites:	2

Relative Risk Ranking of Sites:

High:	0	Not Evaluated:	2
Medium:	0	Response Complete:	0
Low:	0	Total Sites:	2

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	2							
SI	2							
RI/FS					2			
RD								
RA								
IRA								
RC					2			
Cumulative Response Complete					100%			