CECIL FIELD NAVAL AIR STATION
CECIL FIELD, FLORIDA

Engineering Field Division/Activity:	SOUTHDIV
Major Claimant:	CINCLANTFLT
Size:	31,366 Acres
Funding to Date:	$20,904,000
Estimated Funding to Complete:	$29,236,000

Base Mission: Provides facilities, services and material support for the operation and maintenance of Naval weapons and aircraft to activities and units of the operating force as designated by the CNO

Contaminants: Heavy metals, halogenated aliphatics, phthalate esters, polynuclear aromatic hydrocarbons

Number of Sites:	
CERCLA:	18
RCRA Corrective Action:	1
RCRA UST:	5
Total Sites:	24

Relative Risk Ranking of Sites:			
High:	10	Not Evaluated:	2
Medium:	4	Not Required:	5
Low:	3		

NPL | **BRAC III**

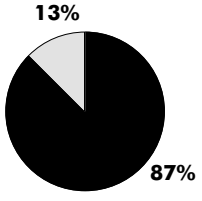
Sites Response Complete: 3

EXECUTIVE SUMMARY

Naval Air Station (NAS) Cecil Field is located primarily in Duval County, and partially in Clay County, Florida. Downtown Jacksonville, Florida is approximately 14 miles northeast of the installation's main entrance. The typical air station operations that contributed to the contaminated sites on the facility include: equipment maintenance, fuel and oil storage and disposal, fire training, and target ranges. Groundwater, surface water, and soil contamination resulted from the installation's operations. Current operations include pollution prevention technologies to prevent further contamination. NAS Cecil Field was placed on the National Priorities List (NPL) primarily due to the presence of the organic solvent TCE in the soil and the resulting groundwater plume at Site 16, the Aircraft Intermediate Maintenance Department (AIMD) Seepage Pit. There was also concern about lead contamination in the soil at Site 15, an ordnance disposal/shooting range site.

The area surrounding the station is rural in character and sparsely populated. Jacksonville is the only appreciably sized city in the area. Contaminants have migrated downward to the lower zone of the surficial aquifer, approximately 90 feet deep, at a number of sites. However, no contaminated groundwater has migrated into the intermediate-shallow rock aquifer or off base. Surface water contamination has occurred in numerous ditches and creeks that drain into several larger nearby water bodies located on base, including Lake Fretwell, Rowell Creek, and Sal Taylor Creek. However, no contaminated surface water has been detected off base.

Work for the Navy's Installation Restoration Program (IRP) got underway at NAS Cecil Field in 1984. The Initial Assessment Study (IAS) identified 18 CERCLA sites. Since that time, an additional six Underground Storage Tank (UST) sites have been added to the program and one RCRA Corrective Action site (SWMU 1) was added in FY88. An additional 250 BRAC gray area sites were discovered during the Environmental Baseline Survey (EBS) and 235 tanks environmental assessments. Confirmatory sampling was initiated on the gray area sites beginning in FY95 and continued into FY97.



Current Status Of Sites

Studies Underway	0
Cleanups Underway	21
Response Complete	3
TOTALS	24

Most of these potential sites will go no further action, and others will have extremely minor cleanups once the study contractor completes the sampling. If or when any of these potential sites uncover any extensive cleanup, they will be transferred into the official IR or Petroleum program. The use of the 14 mile long 103rd St pipeline, which supplies jet fuel to the base, has been discontinued in favor of trucking fuel to the base due to a July 1997 leak in the pipeline. To date five IRAs have been completed in the IR program, including Sites 5, 11, 16, 17 and 18, and four IRAs in the Petroleum Program, including the North Fuel Farm, the Truck Stand, Day Tank 2, and the Jet Engine Test Cell. In FY97, Remedial Action (RA) began at Sites 1, 2, Jet Engine Test Cell, and the South Fuel Farm and a ROD was signed for Site 10.

In order to conduct the cleanup in an orderly manner, 12 of the sites at NAS Cecil Field, identified during the PA/SI have been divided into seven Operable Units (OUs) based on the types of wastes disposed or typical profile of suspected contaminants. OU 1 (Sites 1 and 2) are landfills. OU 2 (Sites 5 and 17) are oil/sludge disposal areas. OU 3 (Sites 7 and 8) are fire training areas. OU 4 (Site 10) is a rubble disposal area. OU 5 (Sites 14 and 15) are ordnance disposal areas. OU 6 (Site 11) is a pesticide disposal area. OU 7 (Site 16) is the AIMD seepage pit. OU 8 (Site 3) is an oil/sludge disposal area. The remaining Sites, 4, 6, 9, 12, 18 and 19 are referred to as Potential Sources of Contamination (PSCs).

Several major successes in the cleanup program at Cecil Field have taken place. Risk reduction IRAs have been accomplished by source (soil) removal at Sites 5, 17, 11 and 16 and unexploded ordnance (UXO) removal was completed at Site 18. In the Petroleum Program, IRAs have been accomplished at the North Tank Fuel Farm, the Truck Stand, Day Tank 2 and the Jet Engine Test Cell. Innovative technologies are being used where appropriate. Natural attenuation of groundwater for petroleum products and TCE is being used, following source removal, at Site 17 (Oil/Sludge Disposal Pit-Southwest) the Jet Engine Test Cell, at Day Tank 1, and at the North Fuel Farm. Natural attenuation is proposed for Site 8 (Fire Fighting Training Area) and Day Tank 2 , and will also be part of the treatment train at Site 3 (Oil/Sludge Disposal Area), Site 16 (AIMD Seepage Pit) and the North Tank Fuel Farm. The Bioslurper is currently operating at the North Tank Fuel Farm for free-product removal and bioventing of the soils. Air sparging and bioventing are proposed for groundwater and soil remediation, respectively, at Site 5. At the South Fuel Farm, bioventing is the chosen remediation for soils and air sparging for groundwater remediation.

CECIL FIELD NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - There are three aquifers of concern at NAS Cecil Field: the surficial, the shallow rock (or Intermediate), and the Floridian. No contamination has migrated downward into the shallow rock aquifer or the Floridan. Migration by surface water is also a potential pathway since there are numerous ditches and creeks throughout the installation. The major receiving waters on base include Lake Fretwell, Rowell Creek, and Sal Taylor Creek.

There are contaminated groundwater plumes in the surficial aquifer. Direct impact to potable water sources is not anticipated. The presence of confining clay sediments and artesian conditions impedes downward migration from the surficial aquifer to the shallow rock and Floridan aquifers. NAS Cecil Field and the majority of the surrounding areas receive their potable water from the deep Floridan aquifer.

NATURAL RESOURCES - Aquatic organisms, in the receiving waters of surface and groundwater migrating from NAS Cecil Field, and animals which rely on these areas for feeding and water are the primary, potential receptors. Base personnel who fish Lake Fretwell are also potential receptors. Lake Fretwell, located on the base, was temporarily closed to fishing due to discovery of low level PCBs in the fish, but was reopened in 1997 after further study showed no risk.

RISK - Baseline Human Health and Ecological Risk Assessments (BRA) were completed for Sites 1, 2, 3, 5 7, 8, 10, 11, 14, 15 and 17. In FY 98, BRAs are scheduled for Sites 4, 6, 9, 12, 18 and 19. At all sites with groundwater contamination, human health is at risk only if you drink the groundwater, which is not being done. At Sites 1, 2, 10 and 14 there is no human health risk. At Sites 5 and 17 there is an ecological risk due to runoff and shallow groundwater discharging to nearby drainage ditches and wetlands. For Sites 7 and 8, there is human health and ecological risk for exposure to Site 7 soils containing PAHs and limited ecological risk at Site 8 in sediments. At Site 11, human health risk is present for both soils and groundwater. At site 15, an ecological and human health risk is present due to lead and PAHs in the surface soil. At Site 16 groundwater is infiltrating into a storm drain and eventually discharging to the environment, causing a potential for an ecological risk.

The Navy completed a Relative Risk Ranking for the installation in FY95. Ten of the 25 sites at Cecil Field received a "high" risk ranking. Though the majority of the high ranked sites were disposal sites and spills from petroleum tanks, there was also high ranked contamination found at a firing range and fire fighting training sites. Groundwater was the media of greatest concern.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NAS Cecil Field was placed on the National Priorities List (NPL) in December of 1989 with an HRS score of 31.99. Placement on the list was driven by the presence of the solvent TCE in the soil and the groundwater at Site 16. There was also concern about lead contamination at Site 15, an ordnance disposal area and shooting range site.

LEGAL AGREEMENTS - A Federal Facility Agreement (FFA) was signed in FY91 between the Navy, EPA, and the Florida Department of Environmental Protection (FDEP). The FFA identified sites for Remedial Investigation and Feasibility Study (RI/FS) activities and further screening. Based on the FFA, a Site Management Plan (SMP) was implemented in FY92 and is updated annually. A consent agreement with the state of Florida allows the station to operate tanks which are out of compliance until FY00. The Florida Petroleum Contamination Agreement allows the Navy to establish and manage the UST cleanup program. A RCRA Hazardous and Solid Waste Amendments (HSWA) permit was issued in October 1987.

PARTNERING - The installation has encouraged partnerships with federal and state regulatory agencies and promoted public involvement by coordinating with local regulatory agencies, natural resource trustees, and other interested agencies and organizations. Because of this partnering team approach to solving problems, the amount of time required for the installation's sites to proceed from the investigation phase to the remedial process has been reduced.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in FY91. The TRC was converted to a Restoration Advisory Board (RAB) in September 1994. There are 12 active community members on the RAB. Meetings are held on a monthly basis. The RAB is involved in the review and decision making process for all the sites on the base. The RAB acts as a conduit for information dissemination to the local neighborhoods, resulting in a high degree of trust towards the Navy and the cleanup activities. The RABs from NAS Cecil Field, NAS Jacksonville, and NS Mayport held a joint RAB meeting in FY97 to share information and ideas.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was developed in FY91.

INFORMATION REPOSITORY - The Information Repository was established in FY91. All cleanup documents are available to the public at the Westconett Library in Jacksonville, Florida.

BASE REALIGNMENT AND CLOSURE

BRAC - In July 1993, the Base Realignment and Closure (BRAC) Commission recommended the closure of NAS Cecil Field and relocation of its aircraft, dedicated personnel, and equipment to MCAS Cherry Point, North Carolina; NAS Oceana, Virginia; and MCAS Beaufort, South Carolina. The 1995 BRAC Commission redirected the relocation to include primarily NAS Jacksonville and NAS Oceana. Additionally, OLF Whitehouse was redirected to NAS Jacksonville in lieu of closing.

BRAC CLEANUP TEAM - The installation's BRAC Cleanup Team (BCT), formed in FY94, is made up of a Navy representative, an EPA Region IV member and a representative from FDEP. The BCT has secured a C.L.E.A.N. contractor for conducting studies and a Remedial Action Contractor for cleanup activities.

DOCUMENTS - As a result of BRAC, NAS Cecil Field completed a basewide Environmental Baseline Survey (EBS) in November 1994 and completed the BRAC Cleanup Plan (BCP) in March 1994.

Environmental Conditions of Property Classification						
1	2	3	4	5	6	7
16,148 acres	45 acres	20 acres	0 acres	20 acres	91 acres	1,259 acres

REUSE - During FY95, the installation finalized the EBS and a BRAC Land Reuse Plan. The NAS reuse plan provides for the base property and facilities to remain an aviation facility. Additionally, provisions were made for light and heavy industry to locate on the property as well as recreational areas for the local community and areas to be forested. The City of Jacksonville Ports Authority will eventually own the entire base, excluding the Credit Union. Potential lessees that fit the re-use plan are now being sought by the City. By May 1998, 68 parcels will have a Finding of Suitability to Lease (FOSL) signed and one parcel will have a Finding of Suitability to Transfer (FOST) signed. The majority of those 68 buildings will go to Northrop Grumman. Regulatory concurrence for CERFA clean acreage was obtained in 1994. The Draft EIS went out for public comment in FY97 and is scheduled to become final approximately January 1998 with the signing of the ROD approximately October 1998.

CECIL FIELD NAS
RELEVANT ISSUES

FAST TRACK INITIATIVES - As a BRAC installation, NAS Cecil Field has made use of "Fast Track Initiatives", which have speed up the pace of cleanup. The team uses environmental partnering, which has improved communications and increased concurrent activities. The team also uses a geographical information system (GIS), which has helped keep track of the large amount of data generated by the cleanup program.

HISTORICAL PROGRESS

FY85

Sites 1-12 and 14-19 - The Initial Assessment Study (IAS) was completed in July 1985 and identified 18 potentially contaminated sites.
UST 5 - The Initial Site Characterization (ISC), was completed.

FY88

RCRA HSWA permit issued.
Sites 1-12 and 14-19 - A Site Inspection (SI), completed in March 1988, addressed all 18 CERCLA sites.
SWMU 1 - A RCRA Facility Assessment (RFA) was completed for SWMU 1.

FY90

Placed on the NPL.

FY91

FFA was signed.
CRP was completed.
The Information Repository was established.
Site 13/UST 5 - Site was transferred to UST program.

FY92

Site Management Plan (SMP) was completed.
USTs 1 and 6 - An ISC was completed for two UST sites.

FY93

Sites 1, 2, 5, 11 and 17 - Remedial Investigation/Feasibility Study (RI/FS) activities were started at five CERCLA sites.
Sites 5, 11, 16 and 17 - In order to meet a fast deadline, a Focused Feasibility Study (FFS) was completed and four Interim Records of Decision (IRODs) were prepared.
SWMU 1 - A Corrective Measures Study (CMS), completed in March 1993 recommended the removal of the tank.
UST 3 - An ISC was completed.
UST 5 - An investigation was completed in September 1993.
UST 6 - A Corrective Action Report (CAR) was completed.

FY94

BCP was completed.
RAB was established from the previous TRC.
Sites 3 and 14-16 - RI/FS activities were started at four CERCLA sites.
Site 11 - An IROD for removal of pesticide drums and contaminated soil was signed in September 1994.
Site 16 - An IROD was signed in May 1994 and 2 IRAs were completed in July 1994. The IRAs called for the removal of a RCRA-permitted storage tank as well as the contaminated soils.
SWMU 1 - The CMI was begun in May with the work to include removal of the tank and removal of contaminated soil.
USTs 2 and 3 - Interim Corrective Measures were completed. Tank and soil removal completed at UST 2. CAR phase, including tank removals, and Implementation phase (IMP) completed at UST 3.
UST 6- IMP phase was started.
IRODs were also signed for Sites 5 and 17

FY95

EBS was completed.
Land Reuse Plan completed.
Sites 1 and 2 - Submitted final RI/FS and BRA. ROD signed and submitted to regulatory agencies.
Sites 5 and 17 - IRA started at both sites. Submitted final RI/FS and BRA. ROD signed and submitted to regulatory agencies.
Sites 7, 8, 10, 11 and 15 - Completed RI/FS workplan. Completed confirmation sampling.
Site 11 - Two IRAs initiated and completed..
Site 16 - Final RI/FS completed. RD was completed. .
Site 3 - Draft RI/BRA/FS submitted.
SWMU 1 - Corrective Measures Implementation (CMI) completed and site listed as RC.
UST 2 - ISC completed.
UST 3- Listed as RC and received Site Close-out in March 1995.
EBS Gray Sites - Began the stand alone workplans for the 250 gray sites (potential sites).

FY 96

Sites 1, 2, 5 and 17 - The RI/FS report was completed.
Site 5 - One IRA soil treatment was completed and another IRA for soil treatment was begun. In summer 1996, the BCT decided to discontinue ex-situ treatment of the soil in favor of in-situ (bioventing) treatment concurrently with the groundwater treatment (air sparging).
Sites 17 and 18 - IRAs completed
Sites 7, 8 and 10 - Draft RI/BRA report submitted.
Site 14 - Began RI/FS.
Site 16 - ROD was approved by the regulatory agencies.
Site 3 - Final RI report submitted. USGS begins study to determine if intrinsic bioremediation of groundwater is occurring.
UST 1 - Two IRAs were begun, one for soil removal and another for bioslurping
UST 2 - The Corrective Action Plan (CAP) was completed
UST 5 - Two IRAs were begun.
UST 6 - Transferred environmental responsibility to NAS Jacksonville.
UST Gray Site Zones - Phase 1 site assessment begun for all tank gray sites. Report to be submitted mid FY97.
BRAC EBS Gray Sites - Completed field sampling program for 80% of gray sites.
Signed FOSL for 60 acres in Yellow Water Weapons Area

Cecil Field NAS
PROGRESS DURING FISCAL YEAR 1997

FY97

Draft EIS completed
Lake Fretwell reopened.
Sites 1 and 2 - Began RA.
Site 5 - The IRA was stopped due to the high operation and maintenance costs and, in turn, an alternate remedial action plan will be implemented in FY98 along with the groundwater RA.
Site 17 - RD completed. Began natural attenuation monitoring for groundwater.
Sites 7 and 8 - Complete the final RI/BRA/FS.
Site 8 - Began RD.
Site 10 - Completed no further action ROD
Site 15 - Completion of final RI/BRA/FS was delayed to FY98, due to the large size of this site. The additional study work will help reduce the overall cost and time to remediate the site.
Site 11 - Submitted Final RI/BRA/FS.
Site 16 - Groundwater remediation was delayed to FY98 so as to implement a cost saving recommendation made by the Cleanup Review Tiger Team.
Site 3 - Completed the final RI/BRA/FS.
BRAC EBS Gray Sites - Completed the initial Phase II sampling.
UST 1 - Completed the CAP.
UST 2 - Completed the Design, but the IMP was delayed due to shortage of funds.
UST 4 - Completed the RAP, and completed the soil removal
UST 5 - Completed the RAP, but delayed the IMP until the tank is no longer operational and can be removed so as to make cleanup easier and cheaper by removing the contaminated soil.
UST 6 - Complete the IRA. Begin LTO. (Hawkins property transferred to NAS Jacksonsville).

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

Final EIS expected to be complete and ROD signed
Sites 1 and 2 - Continue with monitoring program (LTO).
Site 5 - Complete the groundwater design, begin the RA for remaining soils and groundwater.
Site 17 - Continue with the natural attenuation monitoring (LTO).
Site 7 - Complete the RD, and begin the RA.
Site 8 - Complete RD. Begin natural attenuation monitoring (LTM).
Sites 4 and 14 - Complete the RI/FS. Close out the sites.
Site 15 - Complete the RI/FS. Begin the RD and RA.
Sites 3, 11 and 16 - Complete RD, begin the RA
Sites 6 and 18 - Complete the RI/FS screening sampling and Tech Memo. Prepare RI/FS confirmation sampling workplan.
Site 9, 12 and 19 - Complete the RI/FS screening sampling and Tech Memo. Close out the site.
BRAC EBS Gray Sites - Complete remediation of gray sites identified in Phase II sampling. Begin Phase III sampling on those sites identified as problems in Phase II and begin RA on these phase III sites.
Base closure activities begin along with transferring of aircraft (S-3s).
UST 1 - Complete the RAP, Complete the 2 IRAs and begin some phase of the IMP.
UST 2 - Complete the IMP and start LTO.
UST 4 and 5 - Continue LTM for NA parameters.
UST 5 - Start IMP and tank removal.
UST 6 - Complete the IMP.

FY99

Sites 1 and 2 - Continue with monitoring program (LTO).
Sites 3, 5, 15 and 16 - Continue the RAs.
Sites 8 and 17 - Continue with the natural attenuation monitoring (LTO).
Site 7 - Continue the groundwater monitoring (RA).
Site 11 - Continue the groundwater LTM
Sites 6 and 18 Complete RI/FS confirmation sampling.
BRAC EBS Gray Sites - Complete remediation of Phase III gray sites.
Base closure activities continue along with transferring of aircraft.
Begin ACM Design and Abatement
Begin LBP Design and Abatement
UST 1 - Continue phases of IMP and abandon tanks in mound.
UST 2 - Continue LTO
USTs 4, 5 and 6 - Continue LTM for NA parameters
UST 5 - Continue the IMP.

Cecil Field NAS
PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	13	5						
RI / FS	5	8						
RD	2	3	4					
RAC		3	6		7	1		
RAO						1	4	3
IRA	7(9)		1(1)	1(1)		1(1)	1(1)	
RC	1		2		7	1	4	3
Cumulative % RC	6%	6%	17%	17%	56%	61%	83%	100%

RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA	1							
RFI / CMS	1							
DES								
CMI	1							
CMO								
IRA								
RC	1							
Cumulative % RC	100%	100%	100%	100%	100%	100%	100%	100%

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	5							
CAP	1	4						
DES			1					
IMP				2	1	1		
IMO					1		1	2
IRA	1(1)		2(2)		2(3)	1(1)		
RC	1				1		1	2
Cumulative % RC	20%	20%	20%	20%	40%	40%	60%	100%

JACKSONVILLE FLEET AND INDUSTRIAL SUPPLY CENTER
JACKSONVILLE, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: COMNAVSUPSYSCOM
Size: 50 Acres
Funding to Date: $2,600,000
Estimated Funding to Complete: $0

Base Mission: Supplies fuel to all Jacksonville area installations

Contaminants: Diesel fuel, JP-5 jet fuel

Number of Sites:

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

Relative Risk Ranking of Sites:

High:	0	Not Evaluated:	0
Medium:	0	Not Required:	2
Low:	0		

Sites Response Complete: 2

PROGRESS AND PLANS

RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA	2							
RFI / CMS	2							
DES								
CMI		1						
CMO								
IRA								
RC	1	1						
Cumulative % RC	50%	100%	100%	100%	100%	100%	100%	100%

JACKSONVILLE NAVAL AIR STATION
JACKSONVILLE, FLORIDA

Engineering Field Division/Activity:	SOUTHDIV
Major Claimant:	CINCLANTFLT
Size:	3,820 Acres
Funding to Date:	$54,226,000
Estimated Funding to Complete:	$72,565,000

Base Mission: Provides services and support operations for aviation activities and aircraft overhaul. The complex houses a naval aviation depot, a naval supply center, and several air squadrons

Contaminants: Acids, caustics, cyanide, heavy metals, low-level radioactive radium paint wastes, oil, paint, PCBs, pesticides, phenols, radioisotopes, waste solvents

Number of Sites:	
CERCLA:	47
RCRA Corrective Action:	3
RCRA UST:	20
Total Sites:	70

Relative Risk Ranking of Sites:			
High:	18	Not Evaluated:	5
Medium:	9	Not Required:	24
Low:	14		

NPL

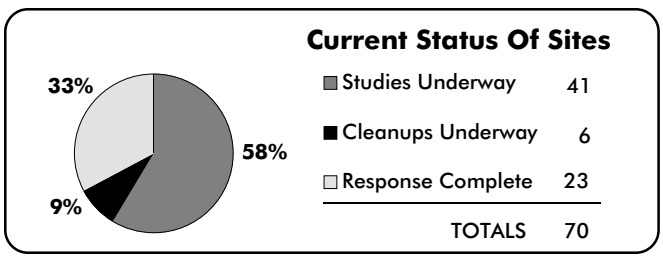
Sites Response Complete: 23

EXECUTIVE SUMMARY

Jacksonville Naval Air Station (NAS) is located in southwestern Duval County, within the limits of the city of Jacksonville, Florida, approximately ten miles south of the central business district and 15 miles from the Atlantic Ocean. Jacksonville NAS includes the following site-types: fire fighting training areas; waste storage and disposal areas; transformer storage areas; radioactive waste disposal areas; and other miscellaneous support and maintenance areas. The media types of greatest concern are soil, groundwater and sediments. Typical air station operations have contributed to the contaminants of concern, including solvents, sludge from on-site treatment plants, and low-level radioactive waste. Over the years, contaminants have migrated into nearby soils and local groundwater supplies. This led to the placement of the NAS on the National Priorities List (NPL). Current operations include pollution prevention technologies to prevent further contamination. A Federal Facilities Agreement (FFA) between the Navy and the EPA was signed in October 1990, which governs the cleanup schedule.

The groundwater of northeast Florida is made up of two aquifer systems: the deep Floridan aquifer and the shallow aquifer. The deep Floridan aquifer is the principle aquifer for supplying water to the City of Jacksonville and the NAS. It is not a major concern for contamination because a 300-foot thick confining layer protects it, and it has an upward flow of water because of artesian pressure. The shallow aquifer is of primary concern because of its potential for contamination from surface sources. The migration of contaminants in surface water at Jacksonville NAS is not a major concern.

A Technical Review Committee (TRC) was formed in FY88. For greater community involvement, the TRC was converted to a Restoration Advisory Board (RAB) in March 1995 and meets monthly in Jacksonville, Florida. There are fifteen members in the RAB, made up of Navy employees, state and federal regulators and local citizens. A charter for the RAB has been developed and after receiving technical training, RAB members have reviewed several Interim Records of Decision (IROD) and Remedial Investigation/ Feasibility Studies (RI/FS). An Information Repository was established in FY91 at the Wesconnett Public Library in Jacksonville, Florida.



To simplify and expedite the cleanup process, three Operable Units (OUs) were defined based on geographic location, type and nature of contaminants, and media contaminated. OU 1 consists of disposal pits and an ex-PCB storage area, Sites 26 and 27. OU 2 consists of Sites 2-4, and 41-43 and is known as the Wastewater Treatment Plant Area. OU 3 consists of six sites (Sites 11-15 and 48) and is known as the Industrial Area. In addition, the installation has nineteen Underground Storage Tank (UST) sites, six of which have received No Further Action (NFA). In February 1993, the Navy's Radiological Affairs Support Office (RASO) performed a radiological survey of various sites at Jacksonville NAS. Another radiological survey was begun in September 1994 at the nine sites of concern and was completed in FY96. The completion was delayed due to funding constraints in FY95. Soil removal / relocation was accomplished at three sites. Soil from sites 13 and 18 was removed and placed on site 26. A portion of the soil at site 26 was moved to the landfill area.

There are several areas where Jacksonville NAS is having significant success. A Remedial Response Decision System (RRDS) document was finalized in October 1995. The document was created as a management tool for identified Installation Restoration Sites at Jacksonville NAS. This system is an innovative approach. It establishes guidelines and criteria for evaluating existing site data and proposing remedial responses. Implementation of the RRDS began in FY94, with the first remedial decisions made in FY95.

For risk reduction at Site 26 (Old Main Registered Disposal Area), an IRA, begun in FY95 and completed in FY96, to place berms around the drainage ditches to direct surface runoff away from the ditches, to retain the solvents on the site and to block their migration path, was accomplished. At Site 18 (Radioactive Waste Fill Area) in FY95, an IRA, to erect fences to minimize the chance of human and animal contact with the contaminated soil, was accomplished. There is a plan to consolidate sites by digging up and moving contaminated soil from other sites to the fenced in area of Site 26.
In an effort to accelerate cleanups, contaminated waste from Sites 41 and 43 were stabilized (chemical and physical treatment of soils and metals) and were consolidated on Site 42 in FY97. The treated soil will then be used as filler for a settling pond, which reduces the cost for clean fill. Site 2 and a UST were treated at the same time. Petroleum products from both sites were treated at a thermal desorption plant which was set up at Site 2. The treated UST soil will be used for fill at Site 42. At Site 26, base personnel instead of contractors are operating a passive recovery system for Liquid Non-Aqueous Phase Liquid (LNAPL). This will be completed in FY98.

JACKSONVILLE NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - The groundwater of northeast Florida is made up of two aquifers: the deep Floridan aquifer and the surficial aquifer. The surficial aquifer is exposed at the land surface and is composed of sand, silts and clays and a thin limestone unit. Below the surficial aquifer is an aquiclude, which separates the surficial aquifer from the deep Floridan aquifer. Of the 53 inches of average annual precipitation, approximately 5 to 13 inches recharge the surficial aquifer. Precipitation that does not recharge the surficial aquifer is either evapotranspired or is discharged from the station as storm runoff. The surficial aquifer is exposed at land surface so contaminants spilled or disposed of at near the surface can readily percolate downward and then migrate laterally under the prevailing groundwater flow rate and direction. The Floridan aquifer is confined at the Naval Air Station by the aquiclude and water levels within the aquifer exceed land surface. The Floridan aquifer is recharged naturally by rainfall where the limestone of the aquifer is exposed at the surface in areas away from the station. The Floridan aquifer is the principle aquifer for supplying water to the City of Jacksonville and the NAS. It is very unlikely that contamination could reach the Floridan aquifer because it is overlain by the 300-foot thick aquiclude and the direction of groundwater flow is upward from the Floridan aquifer toward the surficial aquifer. The surficial aquifer is of primary concern because of its relative ease of contamination from surface sources. The migration of contaminants in surface water at Jacksonville NAS is not a major concern.

NATURAL RESOURCES - The NAS is bounded on three sides by off-base housing developments which use the shallow aquifer supply for their domestic water purposes. Surface waters from the station migrate into the St. John's River which is rated by the Florida Department of Regulations as a Class III waterbody, a protected waterway, and is designated for fish and wildlife propagation and human recreational uses. Endangered species present in the area include the Manatee and various waterfowl.

RISK - A Baseline Risk Assessment for Human Health and Ecological Risk Assessment, as part of the RI/FS for Sites 26 and 27, was performed in FY95, following EPA guidance. Risks for potential future land uses are above EPA risk range for surface soil and groundwater. In FY97, a risk assessment, in conjunction with an RI/FS, will be done at OU 2 (Sites 2-4 and 41-43). In FY98, a risk assessment, in conjunction with an RI/FS, will be done at OU 3 (Sites 11 - 15 and 48).

The Navy completed a Department of Defense (DOD) Relative Risk Ranking for the installation in FY95. Of the 64 sites at Jacksonville NAS, 18 sites currently have a high relative risk ranking. The contamination was from a variety of site types, from disposal areas and a fire fighting training area to sludge beds and a polishing pond. The other sites receiving high rankings were for contamination of surface water with the potential for both human and ecological receptors. There was only one site, Site 48 (Navy Exchange (NEX) Laundry), which had evidence of high risk soil contamination. The Agency for Toxic Substance and Disease Register (ATSDR) performed a public health assessment for the installation in March 1995.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NAS Jacksonville was placed on the National Priorities List (NPL) 12 December 1989 with a Hazard Ranking System (HRS) score of 31.02. Site 26 (Old Main Registered Disposal Area) was the likely site driving the inclusion of Jacksonville NAS on the NPL because of its many years as the main site for waste disposal. Based on an FY83 study, there was a potential for contaminants (including the organic solvent TCE, the chemical additive PCB, cadmium, chromium, lead, copper and mercury) to migrate in groundwater off-site and endanger local water supplies. At that time, there were private wells in shallow groundwater within three miles of the hazardous substance site that provided drinking water to an estimated 300 people.

LEGAL AGREEMENTS - A FFA, signed in October 1990, was between the Navy, EPA and the State of Florida. The Site Management Plan (SMP), established in the FFA for Jacksonville NAS, is updated annually. In addition, the Florida Petroleum Contamination Agreement was signed in October of 1990 with the State of Florida and established the Petroleum Site Management Plan. This plan is updated biannually.

PARTNERING - Jacksonville NAS established a partnering team, which includes EPA, Florida Department of Environmental Protection (FDEP), Comprehensive Long Term Environmental Action Navy (CLEAN) contractors, Remedial Action contractors, Navy personnel from Naval Facilities Engineering Command (NAVFAC) Engineering Field Division (EFD) Southern Division (SOUTHDIV), and Jacksonville NAS. The team was formed in December 1993. It meets regularly to plan the work to be accomplished and come to agreement on any problems. A general acceleration of the Installation Restoration (IR) process at Jacksonville NAS was accomplished through the use of partnering. Less time is spent in reviewing documents and making plans due to the increased communication between team members.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A TRC was formed in FY88 for regulatory involvement. For greater community involvement, the TRC was converted to a Restoration Advisory Board (RAB) in March 1995 and meets the third Tuesday of each month in the Timucuan Elementary School Library in Jacksonville, Florida. There are fifteen members in the RAB, made up of Navy employees, state and federal regulators and local citizens. Members are elected to a two year term. Membership includes two base employees, two local bank employees, an insurance company employee, an engineering consultant, an environmental consultant, and a retired civil service employee. A charter for the RAB has been developed and initial team building and technical training sessions have been conducted. Based on the technical training the RAB members have been able to review IR documents and they also had a tour of the NAS.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was completed in 1991. In addition, Jacksonville NAS has published seventeen Fact Sheets.

INFORMATION REPOSITORY - An Administrative Record and Information Repository were established in FY91. NAVFAC SOUTHDIV maintains the Administrative Record. The Information Repository is located at the Wesconnett Public Library in Jacksonville and contains copies of Administrative Record documents.

JACKSONVILLE NAS
HISTORICAL PROGRESS

FY83

Sites 1-6, 8-18, 20-32 and 34-43 - An Initial Assessment Study (IAS), equivalent to Preliminary Assessment (PA) for 40 CERCLA sites was completed.
Site 19 and USTs 1 and 4 - Initial Site Characterization (ISC) completed for three RCRA UST sites.

FY86

Sites 2-4, 11-15, 26 and 27- Site Inspections (SI) for ten sites completed.

FY88

Site 26 - Surface water drainage controls completed.

FY89

SWMU 2 - Corrective Measures Implementation (CMI) and an IRA started.

FY91

UST 1 - Corrective Action Plan (CAP) was started.

FY92

Sites 1, 5-10, 16-18, 20-25, 28-32 and 34-45 - SI for 32 sites completed.
Sites 1, 6, 10, 24, 34, 36 and 37 - Seven sites listed as Response Complete (RC) after SI phase.
Sites 7, 19 and 33 - Moved three CERCLA sites to the UST program.
Site 19 - Investigation (INV) completed for one RCRA UST site.
SWMU 3 - CMI and IRA started for RCRA site SWMU 3.

FY93

Sites 26 and 27 - Remedial Investigation/Feasibility Study (RI/FS) began for OU 1 sites.
Sites 2-4 and 41-43 - Implemented RI/FS Work Plan for OU 2 sites.
USTs 2, 3, 5, and 8 - ISC completed for four RCRA UST sites.
USTs 3, 5 and 8 - Three RCRA UST sites were listed as Response Complete after the ISC.
UST 4 - CAP was started.

FY94

All Sites - The RASO performed a radiological survey of various sites at the installation and released the final report in FY94. The report recommended further evaluation and delineation of radiological contamination. As a result of these recommendations, the installation initiated a radiological survey in September 1994.
All Sites - Implementation of RRDS document for decision making began, with the first remedial decisions made in FY95.
Sites 18 and 27 - Two IRAs were completed at Site 27, one IRA was started at Site 18. A fence was erected on both sites to restrict access and soil removal was completed on Site 27.
Sites 26 and 27 - ROD signed in August 1994 with estimated completion of FY96, was for recovery of Light Non-Aqueous Phase Liquid (LNAPL) at Sites 26 and 27.
SWMU 1 - Corrective Measures Study (CMS) completed, CMI and Final Remedial Action (FRA) started.
UST 2 - CAP completed and Implementation (IMP) was begun.
UST 4 - Removal action for removal of contaminated soil and waste containers from UST 4 (Gas Hill Building 159) was completed.
UST 9 - ISC completed.

FY95

All Sites - A radiological survey of all sites that had the potential for radiological contamination, was completed in late FY95.
All Sites - An RRDS document was finalized in October 1995. The document has been created as a management tool to establish guidelines and criteria for evaluating existing site data and proposing remedial responses. The first decision was made using this system in November 1995.
Sites 11, 13 and 26 - Three IRAs were started at three CERCLA sites. Soil removal at Sites 11, 13, and 26 - Started groundwater treatment Site 26. Site 11 was completed in FY95, Site 13 to be completed in FY99 and Site 26 to be completed in FY98.
Sites 18 and 26 - IRAs were begun to reduce risk to human exposure: At Site 18 (Radioactive Waste Fill Area), fences were erected to minimize the chance of human and animal contact with the contaminated. This action is complete. At Site 26 (Old Main Registered Disposal Area), berms were placed around drainage ditches to direct surface runoff away from drainage ditches and to contain contaminants on the site. This action to be complete in FY96.
Sites 26 and 27 - A Baseline Risk Assessment for Human Health and Ecological Risk Assessment was performed at the sites during an RI/FS.
Sites 2-4 and 41-43 - Began RI/FS activities at six sites.
Sites 2, 41 and 43 IRAs for soil removal and soil stabilization at Sites 41 and 43 and thermal desorption for Site 2 were completed. The ROD for these actions was signed in FY94.
Sites 2, 41-43 - An IROD signed in February 1995 was for soil stabilization at Site 42. The stabilized waste from two other sites (Sites 41 and 43) is to be placed with the stabilized soil at Site 42. Soil which was treated by thermal desorption (Site 2) will be used for fill. In addition to saving time, use of the stabilized waste for filler reduces the cost for the cleanup project.
USTs 7 and 10 - CAP begun.
UST 7 - ISC completed.
UST 9 - CAP completed.
SMWU 02 - Intrinsic bio-remediation on groundwater was begun.
SWMU 03 - A removal (IRA) was accomplished.

FY96

Sites 47, 49 and 51 - PA/SI completed.
Sites 26 and 27 - RI/FS activities were completed. ROD was completed.
Sites 2-4 and 41-43 - RI/FS activities continued at six sites.
Site 26 - Intrinsic bio-remediation on groundwater is ongoing.
Site 25 - The IRA for berms was completed.
Site 42 - An IRA for in-situ soil treatment to stabilize the soil was completed.
Sites 11-15 and 48 - Engineering Evaluation/Cost Analysis (EE/CA) was completed for six sites to determine what steps to take for final cleanup.
Sites 11 and 48 - Two IRAs for groundwater treatments were started.
UST 01 - A Remedial Design (RD) was completed and approved for the shallow plume. The deep plume received a NFA for this site. The IMP was begun. Three IRAs for soil removal vapor extraction and plume containment were begun.
UST 02 - The Monitoring Only Plan (MOP) was completed and a NFA was received for this site. RC dates back to FY94.
UST 07 - CAP was completed and approved by FDEP. An IRA for soil removal was completed. An IMP was begun.
UST 10 - CAP was completed and approved by FDEP. CAP recommended a MOP. Site is RC.
SWMU 01 - Removed two hazardous waste tanks and associated piping.
SMWU 02 - Intrinsic bio-remediation continued. Groundwater monitoring continued under RCRA permit.
SWMU 03 - CMI completed and site is RC.

JACKSONVILLE NAS
PROGRESS DURING FISCAL YEAR 1997

FY97

Sites 11-15, and 48 - RI/FS activities continued at six sites.
Site 18 - An IRA begun in FY94 for soil removal is complete.
Sites 26 and 27 - Remedial Design (RD) is complete.
Sites 26 and 27 - Remedial Action started.
Sites 2-4, - RI/FS activities continued at these three sites.
Sites 41-43 - RI/FS activities completed and sites became RC.
Sites 9 and 15 - An IRA for soil removal was begun.
Site 47 - An IRA was completed that installed a fence to prohibit entrance into a contaminated area.
UST 01 - The RA was completed and 2 IRAs were completed. RAO System was turned on.
UST 10 - Implemented MOP.
UST 07 - Implemented MOP.
UST 04 - Continued with Interim Monitoring until MILCON is awarded to construct new fuel farm.
UST 11 - SA was completed. IRA removal action was conducted. Site is RC.
UST 13 - Completed CAP for this site. NFA was approved.
UST 16 - IMP was completed. Site is RC.
SWMU 01 - CMI was completed.
SMWU 03 - Groundwater monitoring began under RCRA permit.

PLANS FOR FISCAL YEARS 1998 AND 1999

FY 98

Site 21 - RI/FS activities are to be completed.
Sites 26 and 27 - Complete RA. LTM starts for both sites. Sites become RC.
Sites 9, 15, 47 and 48 - Complete IRAs.
Site 38 - Begin IRA for soil contamination.
Site 47 - Begin IRA for soil contamination.
Site 51 - Begin IRA for source removal.
UST 01 - LTO to start in FY98 and continue until 2000.
UST 04 - Interim Monitoring to continue until the MILCON is completed to replace the Tanks at Gas Hill.
UST 07 - Continue MOP for this site. Complete the IMP.
UST 10 - Continue MOP and request NFA with conditions or NA
UST 13 - Complete the CAP.
UST 15 - Complete CAP for this site.
UST 16 - Continue MOP at this site.
SWMU 01 - Complete the removal IRA and begin CMO.
SWMU 02 - Intrinsic bio-remediation RA is complete, a RC will be recorded and Long Term Groundwater Monitoring to begin
SMWU 03 - Annual groundwater monitoring continues under RCRA permit.

FY99

Sites 11, 12, 13, 15, 38, 50 and 51 - Complete the IRAs.
Site 26 and 27 - Continue LTM.
Site 11, 12, 13, 14 and 15 - RI/FS to be completed.
Sites 3 and 4 - Complete the LTM.
Site 23 - PA/SI to be completed and no further action. Site is RC.
SWMU 01 - The CMO is to be completed and LTM to begin. Site is RC.
SMWU 02 - Groundwater monitoring is to be completed.
SMWU 03 - Groundwater monitoring continues under RCRA permit.
UST 07 - Complete the IMO and site will be RC.
UST 15 - Complete the Design.
UST 16 - LTM to be completed.

JACKSONVILLE NAS
PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	41			1	1	1		
RI / FS	4	3	1	5			4	19
RD		2			1		2	22
RAC			2				1	24
RAO								13
IRA	14(17)	2(2)	4(4)	7(7)	1(1)			1(1)
RC	12	3	2	2				28
Cumulative % RC	26%	32%	36%	40%	40%	40%	40%	100%

RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA								
RFI / CMS	1							
DES								
CMI	1	1	1					
CMO				1				
IRA	1(1)		1(1)					
RC	1		1	1				
Cumulative % RC	33%	33%	67%	100%	100%	100%	100%	100%

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	15	1						
CAP	4	1	2		3	2	1	3
DES				1				2
IMP	1	2	1			2	3	5
IMO				1			1	10
IRA	2(2)	2(3)			1(1)			
RC	5	2		1	1		1	10
Cumulative % RC	25%	35%	35%	40%	45%	45%	50%	100%

KEY WEST NAVAL AIR STATION
KEY WEST, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CINCLANTFLT
Size: 18,615 Acres
Funding to Date: $16,609,000
Estimated Funding to Complete: $5,672,000

Base Mission: Maintains and operates facilities and provides services and materials to support operations of aviation activities Partial closure under BRAC IV

Contaminants: Heavy metals, PCBs, pesticides, volatile organic compounds

Number of Sites:
CERCLA: 8
RCRA Corrective Action: 7
RCRA UST: 5
Total Sites: 20

Relative Risk Ranking of Sites:
High: 8
Medium: 4
Low: 4
Not Evaluated: 0
Not Required: 4

BRAC IV

Sites Response Complete: 4

PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	5	3						
RI / FS			2		3			
RD								
RAC								
RAO								
IRA	4(4)	1(1)						
RC		3	2		3			
Cumulative % RC	0%	38%	63%	63%	100%	100%	100%	100%

RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA	7							
RFI / CMS			3		3	1		
DES								
CMI								1
CMO								
IRA	2(2)	1(1)	2(2)					1(1)
RC			2		3	1		1
Cumulative % RC	0%	0%	29%	29%	71%	86%	86%	100%

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	5							
CAP	3	1						
DES		1	1	1				
IMP			1	1	1			
IMO						1		
IRA	1(1)	1(1)						
RC	1		1	1	1	1		
Cumulative % RC	20%	20%	40%	60%	80%	100%	100%	100%

MAYPORT NAVAL STATION
MAYPORT, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CINCLANTFLT
Size: 3,286 Acres
Funding to Date: $25,313,000
Estimated Funding to Complete: $67,121,000

Base Mission: Ship and on-shore maintenance activities for 34 surface ships

Contaminants: Heavy metals (lead), pesticides, PCBs, volatile organic compounds (chlorobenzene, toluene, benzene, ethylbenzene)

Number of Sites:	
CERCLA:	0
RCRA Corrective Action:	25
RCRA UST:	12
Total Sites:	37

Relative Risk Ranking of Sites:			
High:	22	Not Evaluated:	5
Medium:	3	Not Required:	4
Low:	3		

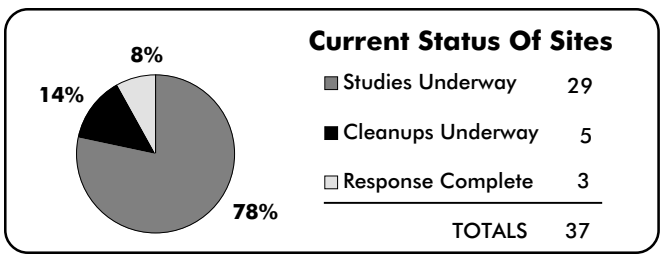
Sites Response Complete: 3

EXECUTIVE SUMMARY

Naval Station (NS) Mayport lies on the southern bank at the mouth of the St. Johns River. The station is approximately 14 miles east of Jacksonville, Florida. Navy station operations normally associated with ship and on-shore maintenance activities contributed to contaminated sites on the installation. The primary site types of concern are the landfills, oily waste treatment sites, pesticide and transformer storage sites, spill areas and fire fighting training sites. Contaminants of concern include waste oils, mercury waste, asbestos, paints, solvents, pesticides, liquid industrial wastes, photo processing wastes and construction debris. Current operations include pollution prevention technologies and hazardous waste minimization programs to prevent further contamination. A Hazardous and Solid Waste Amendment (HSWA) RCRA permit governing the investigation and cleanup of hazardous waste sites was issued by EPA to NS Mayport in March 1988 and renewed on June 15, 1993.

NS Mayport operates the Installation Restoration Program (IRP) investigations under the RCRA/HSWA program (not under CERCLA). A RCRA Facility Assessment (RFA) was conducted by EPA Region IV in 1989. The RFA identified 56 Solid Waste Management Units (SWMUs) and two Areas of Concern (AOCs). Eighteen of the sites listed in the 1988 permit entered the IR Program as SWMU sites and seven additional SWMU sites were added since based upon investigations identifying contaminant levels requiring cleanups. There are currently 12 Underground Storage Tank (UST) sites on NS Mayport (including one at a satellite activity).

A major success in the cleanup program at NS Mayport involves the Oily Waste Treatment Plant (OWTP), which contains a waste oil pit and sludge drying beds. The OWTP is located 200 feet from the St. Johns River and there is an Light Non-Aqueous Phase Liquid (LNAPL) plume moving toward the river from SWMUs 6 and 7. An Interim Measure (IM), funded in FY94 and completed during FY95, included the construction of five sumps. The five sumps remove LNAPL contaminated groundwater. The fluids are then processed through the OWTP and a Wastewater Treatment Plant (WWTP). To further remediate the site, a bioslurping and bioventing system was funded in late FY 96 and is under construction (FY 97-FY 98). This system will remove LNAPL contaminated groundwater and provide oxygen to allow indigenous microorganisms to remediate the petroleum contaminated soil above the water table. This will be one of the largest sites to use the bioslurping technology. Innovations on this site include mounting equipment on trailers to allow easy future reuse at other sites and employing PWC Jacksonville SCAPS equipment to install direct push wells (in lieu of conventional wells).



Interim Measures (IMs) funded in FY 97 included a cap for pesticide contaminated soils at SWMU 15, installation of a liner in a stormwater ditch and retention basin to cap contaminated soils at SWMU 14, and removal of contaminated surface soils at SWMUs 23 and 24.

NS Mayport and North Island NAS (San Diego, CA) are the two Navy activities selected for the Navy Environmental Leadership Program (NELP). The NELP activities serve as test beds for new and innovative technologies and management practices. Successes will be implemented throughout the Navy and Marine Corps. Four NELP innovative technology contracts were awarded in FY94--three for installation restoration (IR) and one for pollution prevention (P2). One IR technology contract was for low temperature thermal desorption for treating petroleum contaminated soil at the Oily Waste Treatment Plant. Two IR contracts involved bioremediation and bioaugmentation treatment; bioremediation to treat petroleum contaminated concrete surfaces and petroleum contaminated surface soil at the Fire Fighting Training Center and bioaugmentation to treat pesticide contaminated surface soil at an Old Pesticide Handling Area. The P2 innovative technology contract involved an UV oxidation process to treat oily bilge water. Oversight contractors are currently reviewing independent data to determine the level of success of these contracts. The NELP innovative technology cleanup contracts have enabled Interim Measures (IMs) to be planned and implemented under the same contract, allowing the remediation work to proceed at a faster pace.

A NELP II innovative technology, funded in FY 96 and recently completed (FY 97), involved using innovative direct push wells for investigating groundwater contamination at a pesticide site (SWMU 15).

For greater community involvement, a Restoration Advisory Board (RAB) was started in FY95. A public Information Repository was established in October 1994.

MAYPORT NS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - Contaminants at NS Mayport can migrate both by surface water and by groundwater. NS Mayport sits at the mouth of the St. Johns River. The station occupies 3,400 acres of land, of which approximately 1,667 acres are brackish marsh, sand spits, beachfront and dredge material holding areas. Major wetlands exist in the southwestern portions of the station. Dredge material holding areas have displaced some of the wetland areas within the station's boundaries. Surface water runoff eventually drains into Sherman Creek, Chicopit Bay, the St. Johns River and the Atlantic Ocean. There are three aquifers below NS Mayport; a shallow aquifer, near the surface; a secondary artesian aquifer under some areas of the station; and the deep Floridan Aquifer. The upper, shallow aquifer consists of near-surface layers of sand and shell fragments. These deposits vary greatly in composition, thickness, and permeability. NS Mayport groundwater movement is primarily lateral through the shallow aquifer because vertical movement is impeded by underlying clay sediments. The groundwater from the shallow aquifer discharges into streams, ditches, and marshes in the area. The artesian aquifer is imbedded in clayey soil between the shallow and Floridan Aquifers. At the NS, the Floridan Aquifer occurs at a depth of 400 feet. There is sufficient artesian pressure in the Floridan Aquifer so the groundwater flows to the surface and there is an upward hydraulic gradient between the two aquifers, therefore there is little danger of contamination reaching the deeper aquifer from the surface.

NATURAL RESOURCES - Neither the shallow groundwater nor the surface water downgradient from NS Mayport is used as a public source of potable water. Portions of the shallow aquifer are contaminated, but this aquifer is not used for drinking water. The deeper Floridan Aquifer, which is a source of potable water, has no contamination. The United States Geological Survey (USGS) is providing a groundwater flow model to determine the flow patterns of groundwater at NS Mayport. About half the NS land area is wetlands, brackish marsh, sand spits, beach front and dredge material holding areas. Because a large percentage of the base has been filled using dredged material from the St. Johns River and the turning basin, there have been problems in determining "background" levels for comparison values for contamination.

Since the town of Mayport (including homes and playgrounds) borders the NS, there is a potential for contaminants reaching human receptors through surface runoff. Because of a clay cap between the aquifers, no potential exists for contaminants to enter a deeper aquifer which is used as a source of potable water. Therefore, the primary receptors at NS Mayport are plants and animals utilizing surface waters rather than humans utilizing groundwater. In the vicinity of NS Mayport, there are several species of animals that are designated as endangered or protected; among these are the American Alligator, the Arctic Peregrine Falcon, the Least Tern, the Southeastern Kestrel, wood stork, piping plover, eastern indigo snake, loggerhead turtle, ridley turtle, leatherhead turtle, two species of sturgeons, the West Indian Manatee, and the Right Whale. A 20-acre man-made, fresh-water lake is used by residents for fishing and recreation.

RISK - The Navy completed the Department of Defense (DOD) Relative Risk Ranking for the installation in FY95. Of the 37 installation sites--Solid Waste Management Units (SWMUs) and Underground Storage Tank (UST)-22 currently have received a "high" risk ranking; many ranked high in multiple media categories. The most common high ranked media category was groundwater. The high ranking was due to the close proximity of the community of Mayport and the existence of a migration pathway to the groundwater at most of the sites. Four landfill sites (SWMUs 2-5) were ranked high in five media categories (groundwater, surface water with human receptor, sediment with human receptor, sediment/ ecological marine receptor, and soil). By their nature, old landfills contain a wide variety of contaminants, and in this case even background level of the sites are difficult to determine due to the unknown origin of some of the fill.

RESTORATION PROJECTS - The two dredge material holding areas were filled to capacity during the FY 94 dredging cycle. Toxicity testing, performed during the FY 94 dredging cycle, indicated potential ecological problems with the dredge material holding areas. During FY 97, additional toxicity testing (during a non-dredge cycle) was conducted; this testing indicates no ecological problems resulting from the holding areas.

The FY 97 dredging cycle was forced to use ocean disposal. Until the issue is resolved to allow removal of soils from the existing dredge material holding areas, the Navy will be forced to continue to use expensive ocean disposal, purchase additional land for holding dredge materials, or postpone future dredge cycles.

For the area adjacent to SWMU 2, where soils contaminated with the chemical additive PCB were removed, a restoration project is planned for FY 98. NS Mayport is planning a tree-planting project for local elementary schools to perform during Earth Week activities.

REGULATORY ISSUES

LEGAL AGREEMENTS - A Hazardous and Solid Waste Amendment (HSWA) RCRA permit was issued to NS Mayport in March 1988; and revised and renewed on June 15, 1993. This permit will expire on June 15, 2003.

PARTNERING - Partnering between EPA Region IV, Florida Department of Environmental Protection (FDEP), NS Mayport Installation Restoration Coordinator (IRC), and Naval Facilities Engineering Command Southern Division (SOUTHDIV) Remedial Project Manager (RPM) began in July 1994. This cooperative arrangement has succeeded in accelerating the investigation and cleanup process at Mayport.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - The first Technical Review Committee (TRC) meeting for NS Mayport was held in November 1989. For greater community involvement, the TRC was converted to a Restoration Advisory Board (RAB) in FY95. A community briefing, to explain the purpose of the RAB and solicit community participation, was held in December 1994. The first regular monthly meeting was held in February 1995. Meetings are held at the Atlantic Beach City Hall. The RAB, made up of five community members, EPA, FDEP, and Navy personnel, has toured the station and received training on regulations, field work techniques, Navy budgeting, and contracting processes, risk assessment and communication, local hydrogeology, data validation, and the Navy Environmental Leadership Program (NELP). Currently, members are reviewing several reports on the investigation and the recommendations and conclusions regarding remediation. Meetings recently were scaled back from monthly to quarterly due to a reduction in study and clean-up funding for NS Mayport.

COMMUNITY RELATIONS PLAN - The installation's Community Relations Plan (CRP) was originally finalized in November 1992 and was updated in June 1997.

INFORMATION REPOSITORY - An Administrative Record was established in October 1993. It was placed in the Installation's Information Repository, which was established in October 1994 and is available for public viewing at the Beaches Branch Public Library in Neptune Beach, Florida.

MAYPORT NS
HISTORICAL PROGRESS

FY86

SWMUs 1-6, 10-16, 26, 28 and 29 - An Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), identified 16 Solid Waste Management Units (SWMUs).

FY88

SWMUs 1-6, 11, 13, 14 and 16 - Completed Extended Site Inspections (ESIs).

FY89

EPA Region IV conducted NS Mayport RFA, identified 56 SWMUs and 2 AOCs.

FY91

USTs 1, 3, 4, 8, 9 and 12 - Initial Site Characterization (ISC) started.

FY92

EPA Region IV approved RCRA Facility Investigation (RFI) and RCRA Facility Assessment/Sampling Visit (RFA/SV) workplan.
UST 5 - ISC started.

FY93

SWMUs 2-5, 13 and 22 - RFI conducted.
SWMUs 26, 49, 50 and 56 - RFA/SV conducted.
UST 6 - ISC started.
USTs 1, 3 and 5 - ISC completed.
USTs 1 and 3 - Corrective Action Plans (CAP) started.

FY94

SWMUs 6-12, 15 and 16 - RFI conducted.
SWMUs 19, 28, 48 and 51 - RFA/SV conducted.
SWMUs 2-5, 13 and 22 - Additional RFI activities conducted.
SWMUs 26, 49, 50 and 56 - Additional RFA/SV activities conducted.
SWMUs 2, 6 and 7 - Began Intermediate Measures (IMs). IM is a RCRA IRA.
SWMUs 6 and 7 - Awarded a Navy Environmental Leadership Program (NELP) innovative technology contract for cleanup of hydrocarbon contaminated soils by low temperature thermal desorption (LTTD).
SWMU 14 - Awarded a NELP innovative technology contract for cleanup of hydrocarbon contaminated concrete surfaces and soils by bioremediation.
SWMU 15 - Awarded a NELP innovative technology contract for biodegrading pesticides in contaminated soil.
UST 4 - ISC completed.
UST 3 - CAP completed.
UST 5 - CAP started and completed.
UST 12 - Interim Remedial Action (IRA) started.

FY95

SWMUs 1, 14 and 17 - RFI conducted.
SWMUs 18, 20, 21, 23-25, 44, 45 and 52 - RFA/SV conducted.
SWMUs 2, 6 and 7 - Continued work on two projects for reducing risk to human health and the environment; one installed five sumps for removal of Light Non-Aqueous Phase Liquid (LNAPL) from groundwater at two RCRA sites (SWMUs 6 and 7); one removed the chemical additive PCB contaminated surface soil at SWMU 2 (Landfill B).
USTs 3 and 5 - Remedial Action (RA) started.
USTs 12-14 - IRA completed.

FY96

SWMU 2 - IM completed for soil removal.
SWMUs 6 and 7 - O and M phase started-pump and treat LNAPL contaminated groundwater.
SWMUs 6 and 7, 14, and 15 - Conducted IM NELP innovative technology demonstrations.
SWMU 7 - Performed bioslurping pilot scale demonstration to determine if this technology would be effective at removing LNAPL and remediating petroleum contaminated soil above water table. Demonstration successful-awarded contract for bioslurping and bioventing in lieu of significantly more expensive Low Temperature Thermal Desorption (to treat sludge drying beds soil above water table) and additional trenching and pumping for LNAPL removal.
SWMU 15 - Awarded NELP II innovative technology contract for additional groundwater investigation adjacent to activity boundary.
SWMUs 23-25 - Added to the IR program during the RFA.
UST 9 - NFA obtained.

PROGRESS DURING FISCAL YEAR 1997

FY97

SWMU - Completed demonstration IM project.
SWMU 7 - Conducted bioventing pilot scale test and began construction of bioslurping and bioventing systems.
SWMU 15 - Conducted NELP II innovative technology demonstration to further groundwater investigation required to determine extent of contamination. Awarded IM to cap pesticide contaminated surface soil.
SWMU 4 - Conducted additional toxicity testing (during non-dredge cycle). Completed the RFI/CMS.
SWMUs 23-24 - Awarded IM to clean-up contaminated surface soils.
UST 1 - CAP and RD completed. Installation of Soil Vapor Extraction (SVE) started.
UST 3 - Completed the IMP phase.
UST 8 and 15 - Completed the CAP. UST 8 is RC.
USTs 12 - SA completed. State approved CAR and Monitoring Only Plan (MOP). Site is RC.

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

SWMUs 8, 9, 10 and 11 - Complete the RFA.
SWMU 7, 12, 13, 15, 16, 17 and 22 - Complete the RFI/CMS phase.
SWMUs 14, 15, 23 and 24 - Complete IM phase.
USTs 1 and 15 - Complete the IMP.
UST 5 - Anticipate RAP modification.
USTs 7, 13 and 14 - Anticipate SA completion.
USTs 8 and 12 - Anticipate start of LTO.
UST 6, 7 and 14 - Anticipate CAP completion.

FY99

SWMU 7 - Complete 2 IM projects and begin CMO phase
SWMU 15 and 25 - Complete an IM.
SWMU 4 - Complete the Design.
SWMU 25 - Complete the RFA.
SWMUs 47, 53 and 55 - RFA/RFI and Phase I/II
UST 13 - IMP and LTO.
USTs 8 and 12 - Complete the LTM.
UST 13 - Complete the CAP.
USTs 5 and 6 - Complete the IMP.
USTs 3 and 15 - LTM continues.

MAYPORT NS
PROGRESS AND PLANS

RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA	14		4	1	2			
RFI / CMS		1	7		4	3		7
DES				1	1		1	14
CMI						2	1	15
CMO								18
IRA	2(2)	1(1)	4(4)	3(4)	1(1)			
RC				1	6			18
Cumulative % RC	0%	0%	0%	4%	28%	28%	28%	100%

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	7	1	3					
CAP	2	3	3	1	1			
DES	2	1						
IMP		1	2	2	1		1	1
IMO					2		1	
IRA	6(7)					1(1)		
RC	1	2		2	4		2	1
Cumulative % RC	8%	25%	25%	42%	75%	75%	92%	100%

ORLANDO NAVAL RESEARCH LABORATORY UNDERWATER SOUND REFERENCE DETACHMENT
ORLANDO, FLORIDA

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: COMNAVSEASYSCOM

Size: 17 Acres owned; 60 Acres in grant

Funding to Date: $258,000

Estimated Funding to Complete: $307,000

Base Mission: Provides Research, Development, Testing and Evaluation (RDT&E) services for acoustic and sonar devices

Contaminants: Paint

Number of Sites:

CERCLA:	1
RCRA Corrective Action:	0
RCRA UST:	0
Total Sites:	1

Relative Risk Ranking of Sites:

High:	0	Not Evaluated:	1
Medium:	0	Not Required:	0
Low:	0		

BRAC IV

Sites Response Complete: 0

PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	1							
RI / FS			1					
RD			1					
RAC			1					
RAO								
IRA								
RC			1					
Cumulative % RC	0%	0%	100%	100%	100%	100%	100%	100%

ORLANDO NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Engineering Field Division/Activity:	SOUTHDIV
Major Claimant:	CNET
Size:	2,075 Acres
Funding to Date:	$12,892,000
Estimated Funding to Complete:	$12,848,000

Base Mission: Army Air Base, 1941-47; U.S. Air Force occupied the installation until 1974; currently used as a Naval Training Center

Contaminants: Asbestos, low-level radioactive wastes, paint, POLs, pesticides, photographic chemicals, solvents

Number of Sites:	
CERCLA:	10
RCRA Corrective Action:	0
RCRA UST:	4
Total Sites:	14

Relative Risk Ranking of Sites:			
High:	2	Not Evaluated:	1
Medium:	1	Not Required:	9
Low:	1		

BRAC III

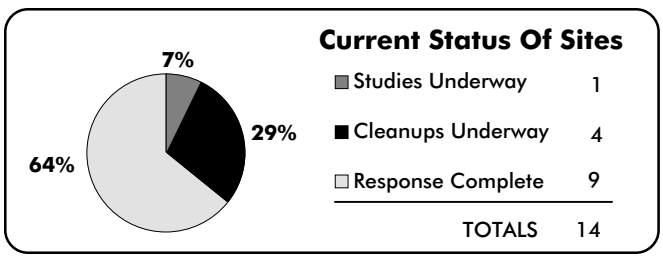
Sites Response Complete: 9

EXECUTIVE SUMMARY

Orlando Naval Training Center (NTC) is located on 2075 acres in Orange County, Florida. The complex is composed of four noncontiguous properties: Main Base, Area C, Herndon Annex and McCoy Annex. The majority of the operational and training facilities are located at Main Base, a 1,093 acre parcel that lies entirely within the Orlando city limits approximately 4 miles northeast of downtown Orlando. Area C is 46 acres and is located approximately 2 miles west of the Main Base. It contains warehouse and laundry operations. Herndon Annex occupies 54 acres on a parcel located about 5 miles south of Main Base. It also contains warehouses and research facilities. McCoy Annex occupies 882 acres and is 12 miles south of the Main Base. It is mainly housing and support community facilities. NTC has been a Naval Training Center since 1968. It was previously used by the Army Air Base, 1941-1947 and Air Force Base from 1952 - 1968.

Groundwater, surface water, and soil contamination have resulted from installation operations. Asbestos, paint, petroleum/oil/lubricants (POL), pesticides, photographic chemicals, solvents and low-level radioactive wastes are contaminates of concern. Contaminants have migrated downward to the shallow aquifer. Surface water contamination has occurred in ditches and creeks that drain into several larger nearby water bodies, including Lake Baldwin, Lake Susannah, Lake Gear, Lake Druid and Lake Barton. There are also numerous wetland areas on and near the base.
Although the area surrounding NTC is urban in character and is surrounded by the Cities of Orlando and Winter Park, threatened and endanger species such as Ospreys, Bald Eagles and Gopher Tortoises nest and range throughout the area. Current operations include pollution prevention technologies to prevent further contamination. NTC Orlando has not been placed on the National Priorities List (NPL).

In July 1993, the Base Realignment and Closure (BRAC) Commission recommended the closure of NTC Orlando and relocation of its activities to Great Lakes and New London. The 1995 Base Realignment and Closure (BRAC) Commission redirected the relocation of the Navy Nuclear Power Training Command from New London to Charleston, South Carolina. A Restoration Advisory Board (RAB) was formed in September 1994 and a Community Relations Plan (CRP) was developed in April 1995. The Administrative Record and Information Repository were also established in FY95 and are available for public viewing at the Orange County Library.



Work for the Navy's Installation Restoration Program (IRP) got underway at NTC Orlando in 1985. The Initial Assessment Study (IAS) assessed 9 CERCLA sites. There are now 10 CERCLA sites and as of FY96, 6 are RC. There are 4 RCRA UST sites, and as of FY96, 2 are RC. Since that time, as part of BRAC, 53 Potential Areas of Concern (PAOCs) and over 300 tank system have been identified as requiring removal and/or assessment. There are Four Operable Units (OUs), OU1 is Site 1, OU2 is Site 3, OU3 is Site 8 and OU4 is Site 5. All 4 OUs are currently being investigated or scheduled for investigation. The RI/FS for Site 1 (OU1, The Main Base Landfill) started in FY95 and the ROD is expected to be completed in FY98. The RI/FS workplan for Site 3 (OU2), the McCoy Annex Landfill, was started in FY95 and fieldwork began in FY-97. The RI/FS fieldwork for Site 8 (OU3), the Old Pesticide Shop and Greenskeeper Storage Area, was started and an IRA to remove contaminated soil was completed in FY-97. The RI/FS for Site 5 (OU4), the Laundry at Area C, was also started in FY97. An IRA, at Site 5, to install an in-well stripping system will be constructed in FY98. Funding constraints has caused OU investigations originally scheduled for FY96 to be reprogrammed for FY97.

In order to conduct the cleanup in an orderly manner, the sites were divided into groups based on location and when the area of the base was closing. NTC is a three phase closure with the Recruit Training Command (RTC) and Naval Hospital closing in March 1995, the Service School Command (SSC) closing in November 1996 and the Navy Nuclear Power Training Command (NNPTC) closing in March 1999. Fifty-three PAOCs and 300 tank systems are on the various sites. The tank systems are being addressed as BRAC compliance sites. Only a few of the PAOCs, if any will move into the IR program as official sites.

Several successes in the cleanup program at NTC have taken place. Risk reduction has been accomplished by source and soil removal when tanks were removed. Innovative technologies and presumptive remedies are being used where appropriate to speed-up the OU and site screening investigations. Intrinsic bioremediation of groundwater for petroleum products, the organic solvents, PCE and methyl chloride is being considered for OU 4. Bioremediation of petroleum hydrocarbons in soils has been enhanced by using a Vacuum-Truck to remove free product and draw oxygen into the contaminated zone thus shortening the time to remediate the site.

ORLANDO NTC
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - There are three aquifers of concern at NTC Orlando: the surficial, the intermediate and the deepest, Floridan aquifers. The unconfined surficial aquifer occurs at or near the surface to approximately 40 feet below surface (bls) and is primarily recharged by local rainfall. Contaminants easily enter the surficial aquifer due to its close proximity to the surface and the permeability of the sandy soil common in the area. The intermediate aquifer underlies the surficial aquifer and consists of permeable units within the Hawthorn Group. This aquifer generally is found at depths ranging from 60 to 150 feet bls. The Floridan aquifer underlies the intermediate aquifer and consists of two water-producing zones: the upper zone, from 150 to 600 feet bls, and the lower zone, from 1,000 to 1,500 feet bls. Groundwater movement is primarily lateral through the surficial aquifer because vertical movement is impeded by the underlying clay sediments of the Hawthorn Group. Migration by surface water is a potential pathway since there are numerous ditches, Lakes and wetlands throughout the installation. The major receiving waters include Lake Baldwin and Lake Susannah at Main Base, Lake Druid at Area C, and Lake Barton at Herndon Annex. McCoy annex has no lakes in the immediate down gradient area but there are several wetland areas on the property.

Two OUs and several petroleum contaminated sites have plumes of contamination in the upper aquifer, but drinking water wells at the NTC do not tap the surficial aquifer, therefore direct impact to water sources is not anticipated. The presence of confining clay sediments and artesian conditions impedes downward migration from the surficial aquifer. NTC Orlando and the majority of the surrounding areas receive their potable water from a deep aquifer which is protected by an extensive confining layer.

NATURAL RESOURCES - Aquatic organisms, in the receiving waters of surface and groundwater migrating from NTC Orlando, and animals which rely on these areas for feeding and water are the primary, potential receptors. These receiving waters are classified by the Florida Department of Environmental Protection (FDEP) as Class III Water - Recreation, Propagation and Management of Fish and Wildlife. Base personnel who fish in the lakes are also potential receptors.

RISK - The Navy partially completed a Relative Risk Ranking for the installation in FY95. 2 Sites received a "High" risk ranking. Three OUs not previously ranked received "high" risk rankings when they were completed in FY97. Reuse and transfer are the primary priority factor for restoration.

RESTORATION PROJECTS - The restoration of OU 3 and OU 4 will be accomplished by source removal and ground water treatment.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NTC Orlando has not been placed on the National Priorities List (NPL). HRS scoring has been completed twice the latest in 1995.

LEGAL AGREEMENTS - Cleanups are conducted under the CERCLA Installation Restoration Program. NTC Orlando is part of the Florida Petroleum Agreement, which establishes the framework for petroleum storage tank cleanup.

NTC is a small quantity generator and is not required to have a RCRA Hazardous and Solid Waste Amendments (HSWA) permit.

PARTNERING - The installation has encouraged partnerships with federal and state regulatory agencies and promoted public involvement by coordinating with local regulatory agencies, natural resource trustees, and other interested agencies and organizations. Because of this partnering team approach to solving problems, the amount of time required for the installation's sites to proceed from the investigation phase to the remedial process has been reduced. An example is that work plans are being put in place more quickly because agreements are reached on what is to go into the plans before they are written so that they can be accepted and implemented without delay for reviews and rewrites.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - In an effort to keep the community informed of the cleanup progress at the installation a Restoration Advisory Board (RAB) was formed in September 1994. There are 15 community members on the RAB. Meetings are held on a bi-monthly basis. The public has a positive view of the NTC and shows little concern over potential contamination.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was developed in April 1995.

INFORMATION REPOSITORY - The Administrative Record and Information Repository were established in FY95. They are available to the public at the Orange County Library, Orlando, Florida.

BASE REALIGNMENT AND CLOSURE

BRAC - The Reuse Plan was finalized in January 1995. The Orlando Community Redevelopment Agency was established by the City of Orlando in September 1995 to implement the reuse plan. The ROD for the Environmental Impact Statement (EIS) was signed in November 1996 and the Economic Development Conveyance (EDC), submitted by the RDA in September 1996 is being reviewed and much of the vacant property is expected to transfer in FY97.

BRAC CLEANUP TEAM - The installation's BRAC Cleanup Team (BCT), formed in FY94, is made up of a Navy representative, an EPA Region IV member and a representative from FDEP. The BCT is now the Orlando Partnering Team (OPT) and has been expanded to become a facilitated partnering team which include the Navy CLEAN and RAC contractors.

DOCUMENTS - NTC Orlando completed it's draft EBS in January 1994 and BRAC Cleanup Plan in March 1994. The final EBS was issued in December 1994. Final Site Screening Reports have been completed for 32 of the 53 PAOCs and more the 200 Tank Closure Assessment Reports (TCARs) have been issued.

Environmental Conditions of Property Classification						
1	2	3	4	5	6	7
1,348 acres	145 acres	0 acres	21 acres	21 acres	104 acres	438 acres

REUSE - During FY95, the installation finalized the EBS and a BRAC Land Reuse Plan. The NTC is to be redeveloped into a commercial center, community parks, residential, educational and light industrial facilities. Potential lessors or buyers that fit the reuse plan are now being sought.

LEASE/TRANSFER - The Naval Hospital (44 acres) has been transferred to the Veterans Administration. Customs has taken over Bldg. 325 (4.1 acres), however, the paper work transferring the property has not been finalized. Capehart Housing (254 acres) was transferred to The City of Orlando in FY97 as the first phase of their EDC. Finding of Suitability to Transfer (FOSTs) and Finding of Suitability to Lease (FOSLs) will be completed for all remaining EDC and Parks parcels (about 1220) acres in FY98. Regulatory concurrence for the Community Environmental Response Facilitation Act (CERFA) clean acreage was obtained.

FAST TRACK INITIATIVES - As a BRAC installation, NTC Orlando will make use of "Fast-Track Initiatives": (1) compress schedule; (2) improve communications; (3) eliminate redundant actions; (4) increase concurrent activities; (5) maximize direct-push technology; (6) partnering with regulatory agencies and contractors; (7) use presumptive remedies and innovative technologies.

ORLANDO NTC
HISTORICAL PROGRESS

FY85

Sites 1-9 - Initial Assessment Study of NTC Orlando, Florida was completed in September 1985. It performed Preliminary Assessments (PA) of 9 PAOCs and recommended 5 potentially contaminated sites for Confirmation Studies. Site 7 is RC.

FY86

Sites 1-10 - Verification Study by Geraghty and Miller, Inc. Recommended 4 sites for additional investigation. They were the Landfills at Main Base and McCoy Annex, the Pesticide site at Main Base and the old Waste Water Treatment facility at McCoy Annex. This brought the total CERCLA sites to 10.

FY87

Sites 6, 9 and 10 - PA/SI complete and all three sites are RC.

FY93

Basewide - Listed for BRAC closure.
USTs 1 and 4 - Corrective Action Plans (CAPs) are complete. Both sites are RC.

FY94

Basewide - Draft EBS report completed in March. BRAC Cleanup Plan (BCP) completed. Process Decontamination and Closure Procedures developed. RAB was formed.

FY95

Basewide - Naval Hospital was turned over to Veterans Administration, awaiting final paperwork. CRP developed. Administrative Record and Information Repository were established. Final Reuse plan completed. Final EBS report completed in December 1994. BCP updated. BRAC Cleanup Plan Abstract created. (BCP Abstract)
PAOCs - Site Screening started on 15 PAOCs
Site 1 - RI/FS began.
Site 3 - RI/FS began workplans.
Site 5 - IRA began. PA/SI began.
UST 2 - IRA for groundwater began
UST 3 - Corrective Action Plan (CAP) completed.

FY96

PAOCs - Site Screening started on 25 PAOCs (40 total so far). Site Screening completed on 12 PAOCs with none transferring to official IR program.
Site 5 - PA/SI was completed and RI/FS was initiated.
Site 1 - RI/FS and ROD completion was delayed until FY97 because recommendation for monitoring only in the ROD required more scrutiny. RD was initiated for monitoring only.
Sites 2 and 4 - PA/SIs were completed. Sites are RC. These won't need RI/FSs as planned.
Site 3 - RI/FS fieldwork was slipped to FY97 due to funding.
Site 8 - RI/FS start date was delayed until first quarter FY97 due to funding.
UST 3 - Design is complete. IMP beginning and completion delayed due other priority work.
UST 2 - CAP and RD start dates were delayed until FY97 although completion date of FY97 stayed the same. IRA completion delayed until FY97 due to delays in construction.

PROGRESS DURING FISCAL YEAR 1997

FY97

UST 2 - IRA completed.
Basewide - Phase 1 of EDC was completed. Transferred Capehart Housing (254 acres) to The City Of Orlando. Completed FOSLs for 525 acres and FOSTs for 330 vacant acres. Completed Final Screening Reports for 20 PAOCs previously started. (32 total completed).
PAOCs - Started site screening on final 13 PAOCs (53 total)
Site 1 - RI/FS, ROD and RD completed. Waiting for ROD concurrence for regulators.
Site 3 - RI field work Phase 1 was started.
Site 5 - IRA begun in FY95 is ready to start construction in November 97.
Site 8 - RI/FS fieldwork was initiated.
Site 1 - RA not needed because ROD was to monitor main base landfill.
UST 2 - CAP, Design and IRA was completed. IMP was completed except for final assessment.

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

PAOCs - Complete site screening assessments at 21 PAOCs.
Site 1 - Receive regulator concurrence and start monitoring program.
Site 3 - Start Phase 2 of RI fieldwork
Site 5 - IRA to be completed.
Site 5 - RI/FS to be completed and RD to begin.
Site 8 - RI/FS to be completed and RD to begin.
IRA - Complete small IRA to remove contaminated soils.
UST - Remove and assess 31 tanks; complete 9 CARs previously started; start 6 CARs; and complete 2 small IRAs to remove contaminated soils.

FY99

Site 1 - Continue monitoring program.
Site 3 - Complete RI/FS and start RD/RA.(IRA if needed)
Site 5 - Complete RI/FS, ROD and start RD/RA.
Site 8 - Complete RI/FS, ROD and start RD/RA.
UST - Remove and assess final 30 tanks; complete 6 CARs previously started; IRA, and CAP to clean-up sites; and start LTM if necessary.

ORLANDO NTC
PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	10							
RI / FS		3		1				
RD			2	1				
RAC			1	1	1			
RAO					1			
IRA		2(2)	2(2)					
RC	6	1	1		2			
Cumulative % RC	60%	70%	80%	80%	100%	100%	100%	100%
UST	**FY96 and before**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01**	**FY02**	**FY03 and after**
SA	3							
CAP	3	1						
DES	1	1						
IMP				1	1			
IMO								
IRA		1(1)	1(1)					1(1)
RC	2			1	1			
Cumulative % RC	50%	50%	50%	75%	100%	100%	100%	100%

PANAMA CITY COASTAL SYSTEMS STATION
PANAMA CITY, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: COMNAVSEASYSCOM
Size: 657 Acres
Funding to Date: $9,629,000
Estimated Funding to Complete: $3,960,000

Base Mission: Serve as a major research, development, testing and evaluation laboratory for Navy systems

Contaminants: POLs, solvents

Number of Sites:
CERCLA: 0
RCRA Corrective Action: 16
RCRA UST: 3
Total Sites: 19

Relative Risk Ranking of Sites:
High: 5
Medium: 0
Low: 0
Not Evaluated: 0
Not Required: 14

Sites Response Complete: 12

PROGRESS AND PLANS

RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA	16							
RFI / CMS	4	6						
DES		2	1					1
CMI			4					1
CMO								
IRA		3(3)	1(1)					
RC	9	2	4					1
Cumulative % RC	56%	69%	94%	94%	94%	94%	94%	100%

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	3							
CAP	3							
DES								
IMP	1	1						
IMO					2			
IRA		1(1)						
RC	1				2			
Cumulative % RC	33%	33%	33%	33%	100%	100%	100%	100%

PENSACOLA NAVAL AIR STATION
PENSACOLA, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CNET
Size: 5,874 Acres
Funding to Date: $47,322,000
Estimated Funding to Complete: $68,379,000

Base Mission: Provides flight training (fixed-wing and rotary), provides maintenance as a Naval Aviation Depot (NADEP), formerly a Naval Air Rework Facility (NARF)

Contaminants: Ammonia, asbestos, cyanide, heavy metals, paint, PCBs, pesticides, phenols, plating wastes, chlorinated and non-chlorinated solvents

Number of Sites:	
CERCLA:	38
RCRA Corrective Action:	1
RCRA UST:	14
Total Sites:	53

Relative Risk Ranking of Sites:			
High:	16	Not Evaluated:	0
Medium:	8	Not Required:	16
Low:	13		

NPL

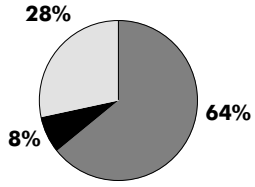
Sites Response Complete: 15

EXECUTIVE SUMMARY

Pensacola Naval Air Station (NAS) is on a peninsula about six miles southwest of Pensacola, Florida. The NAS has been a Naval industrial operations center since the early 1800's. It was a Navy shipyard from 1826 to 1911, and then converted to an air station. Typical air station operations that contributed to contaminated sites on the facility include: machine shops; foundry; coatings and paint shops; paint stripping; plating shops; mechanical maintenance shops; public work shops; automotive shops; printing and photographic shops; power plants; wastewater treatment plants; fire fighting; landfill disposal; and storage of supplies, materials, fuels and limited ordnance. Current operations involve pollution prevention technologies to prevent further contamination. The primary sites of concern on the NAS are two landfills into which all types of wastes were disposed. The sites ranked as high relative risk; they were so ranked primarily because of known contamination and identified migration pathways to both human and ecological receptors. The NAS is under a Federal Facilities Agreement (FFA) with the EPA, signed on 23 October 1990.

The NAS is surrounded by sensitive wetlands and marine ecosystems on the north (Bayou Grande), east and south (Pensacola Bay). West of the NAS are small towns and rural populations. Contaminant migration to the Bayou and Bay, which are used for recreation, fishing and wildlife habitat, is a major concern to the community. Contaminants have been detected in the NAS wells which draw from the upper groundwater aquifer (now only used for irrigation). There are drinking water wells within three miles of the sites drawing from the deeper drinking water aquifer, in which no contamination has been detected to date.

A Restoration Advisory Board (RAB) was started in June 1995 and has four active community members who provide public advice to the Navy. A Community Relations Plan (CRP) was first published in 1990 and three publicly available Information Repositories were established at local libraries. As of July 1997 the West Florida Regional Library stopped housing the Information Repository.



Current Status Of Sites

Studies Underway	34
Cleanups Underway	4
Response Complete	15
TOTALS	53

Forty-five CERCLA sites have been identified since 1983, with six sites (3, 19, 20, 21, 23 and 37) being named UST sites (18, 20, 21, 22, 23, 24 respectively) and one site (Site 31) being combined with Site 30. This currently leaves 38 sites in the CERCLA program, with 11 being Response Complete (RC). There are 14 RCRA UST sites currently, with four being RC. There is one RCRA SWMU site which is currently under a Corrective Measure Operation for groundwater cleanup. This SWMU will not be RC until FY02.

There are 38 sites still active. Twenty five CERCLA sites are in a Preliminary Assessment/Site Investigation or Remedial Investigation/Feasibility Study (RI/FS) phase and two sites are in the Remedial Action (RA) phase. Six RCRA Underground Storage Tank (UST) site are in the Corrective Action Plan (CAP) study phase, and four USTs are awaiting funding for the CAP phase. One RCRA Solid Waste Management Unit (SWMU) site is currently in the long term cleanup phase, after installing a pump and treat groundwater system. A removal action for contaminated soil and an Interim Remedial Action (IRA) to install a cap on the site accelerated the cleanup. Ten additional removal actions have been completed. Contaminated soil was removed from six CERCLA sites (Sites 9, 29, 32, 34, 36 and 39) and from two UST sites (USTs 2 and 23). Soils from around the industrial sewer lines (Site 36) went through a low temperature thermal desorption process. Tanks were removed from Site 30 and a fence was installed around Site 43 to limit access. The response is complete at eleven CERCLA sites. A removal action at two sites to remove contaminated soil completed the cleanup, eight sites required no further study or action at the end of the RI/FS phase, and one site was determined to be ineligible for study.

A major success in the cleanup program at NAS Pensacola involves preparations for Naval activities moving on the base as a result of closures or realignments. The Base Realignment and Closure (BRAC) III realignment of NADEP from NAS Pensacola and the Naval Aviation Technical Training Center to NAS Pensacola required a $227 million BRAC construction project on the NAS. Sites 9, 29, 34 and 36 were under investigation and in order to accommodate the BRAC construction schedule, these sites required expedited investigation to determine the nature and extent of contamination and the remediation required. This expedited schedule impacted the prioritization of Installation Restoration (IR) work plans under the FFA. Regulatory agency agreement to the expedited schedule was solicited and achieved. A partnering Team comprised of NAS Pensacola, EPA Region IV, Florida Department of Environmental Protection, and the Naval Facilities Engineering Command (NAVFAC) Southern Division (SOUTHDIV) and its contractors resolved RCRA/CERCLA issues in a timely manner, to prevent any delays in the BRAC construction contract award

PENSACOLA NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - NAS Pensacola is surrounded by water on three sides: the Pensacola Bay on the south and east and the Bayou Grande on the north. Surface runoff that is not retained in the small lakes or swampy areas runs off into the Bay or the Bayou. Man-made drainage channels, storm drains, and wastewater outfalls feed into intermittent streams and numerous drainage outfalls which in turn empty out into the Bay. Due to the porosity of the soil, rain will infiltrate rapidly until it reaches the water table. The shallow groundwater aquifer is only used for irrigation water on base and the groundwater flow is toward the Bay. The drinking water aquifer is deeper and is separated by a clay layer. There are three wells on NAS that tap into this deeper aquifer. Migration pathways for contaminants exist through overland flow of surface water runoff and through lateral drainage in the surficial sand or vertical drainage downward toward the shallow groundwater aquifer, which eventually connects with the Bay. Monitoring wells, both shallow and deep, have been installed around the base at strategic locations.

NATURAL RESOURCES - Pensacola Bay (Site 42) and Bayou Grande (Site 40), which surround NAS Pensacola, and eighty-one wetlands (Site 41), which have been delineated on the base, are ecologically sensitive areas. The Bay and Bayou are major recreational and shellfishing and fishing areas. The estuarine areas around the NAS are ecologically sensitive coastal marshes, dunes and beaches with seagrass plant communities and marine and coastal habitats. There are at least seven federally listed endangered species in the area of NAS Pensacola including the American alligator, several sea turtles and birds. Located within the boundaries of NAS Pensacola are several historical areas and buildings such as the Lighthouse Reservation, Fort Barrancas, Fort Redoubt, Fort San Carlos and the Barrancas National Cemetery. Fort San Carlos was dedicated as a national landmark in 1963 and entered on the National Register of Historic Places. Native American archeological sites have also been discovered. Coordination with the NAS Cultural Resources Manager is required for Installation Restoration (IR) site inspection and remediation.

RISK - A Baseline Risk Assessment, both ecological and human health, has been completed for Sites 1, 17, 32, 33, 35 and 39 following the EPA guidance. For the Department of Defense (DOD) Relative Risk Ranking System, 17 sites were ranked as "high." The high-ranked sites were so ranked primarily due to known soil and groundwater contamination and identified migration pathways to nearby wetlands and ecological resources and migration pathways and exposure routes for personnel working near the sites.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NAS Pensacola was proposed for the National Priorities List (NPL) on 14 July 1989 and was subsequently listed on 31 December 1989 with a Hazard Ranking System (HRS) score of 42.4. Two large landfills at Sites 1 and 11 into which all types of wastes were disposed, the industrial wastes outfalls into the sediments at Site 2, and the proximity of recreational surface waters were the primary drivers of the HRS score.

LEGAL AGREEMENTS - A Federal Facilities Agreement (FFA) was signed on 23 October 1990 with the EPA and State of Florida's Department of Environmental Protection. A Site Management Plan, which is updated annually, contains the investigation and cleanup schedules for the sites and is included by reference as part of the FFA. During negotiations on the FFA, eight recently discovered sites were added to the program, Sites 35-42. The FFA covers Sites 1-18, 22, 24-36 and 38-45.

PARTNERING - A partnering initiative between the Navy, EPA Region IV and the Florida Department of Environmental Protection began in December 1993. The partnering arrangement has helped by assuring that the right people are at the appropriate meetings and allow decisions to be made at the lowest possible level in the management chain. For example, the state's RCRA regulators were brought in to resolve RCRA issues on BRAC III construction sites. The partnering team is instrumental in achieving expedited study of IR sites (Sites 9, 29, 34 and 36) affected by new construction for activities moved to the installation as a result of BRAC III and resolving associated RCRA/CERCLA overlap issues.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - A Technical Review Committee (TRC) was formed in January 1989. Meetings were held on a regular basis until 1995. The TRC was converted to a Restoration Advisory Board (RAB). The first RAB meeting was held in June 1995 and regular meetings are held monthly. The RAB currently has eight members of which four are from the community.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was first published in March 1990 and was revised in April 1996. Seven fact sheets, thirteen press releases and nine public notices have been distributed and two public meetings have been held.

INFORMATION REPOSITORY - An Administrative Record (the official file) was established in 1991 and is maintained by the Navy. It is currently located at the NAS Pensacola Station Library and the John C. Pace Library in Pensacola, Florida. The Information Repositories are updated regularly by the Navy.

HISTORICAL PROGRESS

FY83

Sites 1-29 - The Initial Assessment Study (IAS), similar to a Preliminary Assessment (PA), was completed which identified 29 potential CERCLA sites (Sites 1-29). The IAS recommended seven sites for further study: Sites 1, 11, 17, 21, 22, 27 and 29. During a meeting with the state of Florida in November 1983, five more sites were added: Sites 30-34. The state recommended further study at 17 sites: Sites 1, 2, 3, 9, 11, 15, 17, 19, 21-23, 26, 27 and 30-33.
USTs 20-23 - The Initial Site Characterization (ISC) was completed (previously Sites 19, 20, 21 and 23 in the IAS) at these Underground Storage Tank (UST) sites.

FY84

Sites 1-3, 9, 11, 15, 17, 19, 22, 23, 26, 27 and 30-34 - A Verification Step study, similar to a Site Inspection (SI), was completed in July 1984. This study recommended a Characterization Study be done for Sites 1, 11, 15, 26, 27 and 30-34.
Sites 30-34 - IAS (PA) was completed.

FY85

SWMU 1 - A groundwater pump and treat system was installed.

PENSACOLA NAS
HISTORICAL PROGRESS

FY89

Sites 1, 11, 15, 19, 26, 27 and 30-34 - A Characterization Study, similar to an SI, was completed. Site 31 was combined with Site 30 and the Site 30 name was retained.
Sites 1-18, 22, 24, 25-30 and 32-34 - Started Remedial Investigation/ Feasibility Study (RI/FS) phase.

FY90

Sites 35-42 - The Federal Facilities Agreement (FFA), signed in 1990, added these eight additional CERCLA sites which went directly into the RI/FS phase.

FY91

Sites 1-42 - The sites were grouped into 17 Operable Units (OUs).
Site 35 - Started RI/FS phase.
UST 17 - ISC was completed and Long Term Monitoring (LTM) was initiated after the ISC and No Further Action (NFA) is expected at the site. UST is RC.

FY92

USTs 20, 21, 22, 23 and 24 - Five CERCLA Installation Restoration (IR) sites (Sites 19, 20, 21, 23 and 37 renamed USTs 20, 21, 22, 23 and 24 respectively) were moved into the RCRA UST program because petroleum products were the only contaminants at the sites.

FY93

Sites 38 and 39 - RI/FS phase started.
Sites 1-4 and 6-38 - RI Phase II work plans were approved by the regulatory agencies.
Sites 40-42 - Phase I work plans were submitted to the regulatory agencies for review.
Sites 1, 2, 11, 25, 27, 30 and 38 - RI phase field work started on 7 CERCLA sites.
USTs 4, 5, 8, 10, 11 and 16 - PA was completed for six UST sites which were moved to the CERCLA IR program for investigation.
USTs 2, 6, 7, 9, 12, 13 and 15 - ISC was completed.
UST 15 - SA was completed

FY94

Sites 30, 32 and 39 - Interim Remedial Actions (IRA) were completed. A waste tank was removed from Site 30 and industrial sludge containing heavy metals was removed from the sludge drying beds at Site 32. Stained soil was removed from Site 39 which eliminated the need for an FS phase.
Site 43 - A removal action was completed to install fencing which blocks access to an area with drums protruding from the ground.
Sites 9, 29 and 34 - RI phase field work was expedited and completed to allow award of a $227 million contract for construction to house Base Realignment and Closure (BRAC) III activities realigned to Pensacola.
Sites 5, 9, 10, 13, 14, 32, 33, 35 and 39 - RI phase field work was completed.
Sites 3, 9, 10, 14, 29 and 34 - Two RI phase Sampling and Analysis Plans were completed for six CERCLA sites: one for Site 3, and one for Sites 9, 10, 14, 29 and 34.
Site 3 - Site 3 renamed UST 18 because only petroleum issues were discovered.
Sites 36, 40, 41 and 42 - RI/FS phase started.
Site 43 - SI phase started and a geophysical survey was completed.
UST 13 - An interim corrective measure was performed to remove petroleum contaminated soil.

FY95

Sites 43 and 44 - Added in the FFA.
Site 39 - RI/FS and Proposed Plan (PP) completed and no further remedial action. ROD signed on 31 July 1995. Site is RC.
Sites 9, 29, 34 and 36 - IRA for soil removal was begun.
Sites 1, 2, 9, 13, 29, 32, 33, 34, 35 and 38 - RI Reports submitted for regulatory review.
Sites 40-42 - RI Work Plans and Sampling and Analysis Plans were approved. Phase I RI Final Work Plans were approved.
Sites 12, 15, 17, 18, 24, 26 and 28 - RI Sampling and Analysis Plans were completed.
Sites 4, 6, 7, 8, 16, 22 and 36 - RI Sampling and Analysis Plans were submitted for regulatory review
Sites 12 and 26 - RI field work was completed.
Sites 15, 17, 18, 24, 28 and 36 - RI field work was started.
USTs 9 and 12 - SA complete and sites are RC.
UST 14 - SA is complete.
USTs 2 and 9 - An interim corrective measure was performed to remove petroleum contaminated soil.

FY96

CRP - The Community Relations Plan (CRP) was revised.
Site 5 - RI/FS complete with NFA. Site is RC.
Sites 29, 34 and 36 - Four IRAs for contaminated soil were completed with two at Site 36.
Sites 10 and 14 - The Site Characterization Reports were completed. RI/FS phase complete and NFA was recommended for Site 14. Site 14 is RC. Site 10 requires RA to eliminate need for institutional controls.
Sites 18, 28 and 36 - The RI phase field work was completed.
Sites 4, 7, 8, 16, 22, 24, 40, 41 and 42 - RI phase field work began. Could not be completed due to additional sampling being needed (8, 22 and 24), regulatory agencies needed more review time (4, 7, and 16) and the National Resource Trustee needed more review time (40, 41 and 42).
Sites 32, 33 and 35 - RI, FS, and PP were submitted, but final regulatory review not until FY97. ROD not completed due to pending resolution of institutional controls issue.
Site 13 - RI/FS complete and NFA letter was received. ROD not needed. Site is RC.
Site 1 - RI was completed. RD not begun because of new priorities.
Sites 11, 12, 25, 26, 27, 30 and 38 - RI was submitted for regulatory review.
Sites 32, 33 and 35 - RD was started.
Site 13 - Not needed.
Site 43 - PA/SI completed.
Sites 18, 24 and 28 - RD was delayed due to non-completion of RI/FS.
Site 1 - FS, PP, ROD not completed due to pending resolution of institutional controls issue.
Sites 9, 29 and 34 - RI/FS and ROD not completed due to unanticipated discoveries of other contaminants.
Site 45 - New CERCLA site added and included in the FFA.
SWMU 1 - A groundwater pump and treat system is already in place and will continue to operate at this Solid Waste Management Unit (SWMU).
UST 13 - SA is complete and site is RC.
UST 15 - An interim corrective measure was performed to remove petroleum contaminated soil.

Pensacola NAS
PROGRESS DURING FISCAL YEAR 1997

FY97

Sites 32, 33 and 35 - RI/FS, PP and ROD were completed.
Site 1 - FS, PP, ROD not completed pending resolution of institutional controls issue.
Sites 2, 9, 29 and 34 - RI/FS, PP continued.
Sites 4, 14, 16, 28 and 36 - RI/FS were completed.
Sites 7 and 18 - RI/FS were not completed due to additional sampling requirements.
Sites 11, 12, 16, 17, 25, 26, 27, 30 and 38 - RI not completed due to data gaps.
Site 17 - RI was completed.
Sites 11, 12, 25, 26, 27, 30 and 38 - RD delayed due to non-completion of RI/FS.
Site 38 - RD began.
Site 32 - RD completed and RA began.
Sites 33 and 35 - IRAs were completed.
Site 44 - PA/SI was completed.
Site 6 - No further investigation due to site ineligibility. RI/FS is completed.
Sites 4, 6, 14, 16, 28, 33, 35 and 36 - Sites went RC.
SWMU 1 - Long Term Operation (LTO) continued.
UST 2 - SA was completed.
USTs 15, 21, 22 and 23 - CAPs were not completed due to additional field work.
USTs 17 and 20 - CAPs were completed and UST 17 is RC.

PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

Sites 8, 11, 12,15, 24, 25, 26, 27, 30, 40 and 41 - RI/FS will continue.
Sites 1, 2, 7, 9, 17, 18, 29, 34, 38 and 42 - RI/FS to be completed.
Sites 2, 11, 12, 25, 26, 27, and 30 - RD will begin.
Sites 1, 9, 17, 18, 25 and 27 - IRAs will be completed.
Site 38 - RD will continue.
Sites 10 and 32 - RA will be completed.
Site 1 - RD will be completed and RA will begin.
Sites 9, 10, 17, 18, 29, 32, 34 and 42 - Will become RC.
SWMU 1 - LTO will continue.
USTs 2, 15, 21, 22 and 23 - CAPs will be completed. UST 2 will be RC.
UST 17 - LTM is complete.
USTs 15 and 21 - Design and RA will commence.
UST 24 - SA will be completed and the CAP will commence.
UST 22 - Complete the IMP project. Site will be RC.

FY99

Sites 8, 11, 12, 15, 22, 24, 25, 26, 27 and 30 - RI/FS will be completed.
Site 1 - RA will continue.
Sites 2, 11, 12, 25, 26, 27, 30 and 38 - RD will be completed.
Site 38 - RA will begin.
Sites 43 and 45 - RI/FS will begin.
SWMU 1 - LTO will continue.
UST 24 - CAP will be completed.
USTs 15 and 21 - IMP will be completed.

PENSACOLA NAS
PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	30	1						
RI / FS	4	9	10	10	2	1		2
RD		1	1	8	1			9
RAC			2		3	2	3	11
RAO							1	10
IRA	8(10)	2(2)	6(6)		1(1)			
RC	3	8	8			1	3	15
Cumulative % RC	8%	29%	50%	50%	50%	53%	61%	100%
RCRA CA	**FY96 and before**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01**	**FY02**	**FY03 and after**
RFA								
RFI / CMS	1							
DES	1							
CMI	1							
CMO							1	
IRA	1(1)							
RC							1	
Cumulative % RC	0%	0%	0%	0%	0%	0%	100%	100%
UST	**FY96 and before**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01**	**FY02**	**FY03 and after**
SA	12		1			1		
CAP		2	5	1	2		1	
DES								
IMP			1	2			3	3
IMO								3
IRA	4(4)							
RC	3	1	2				3	5
Cumulative % RC	21%	29%	43%	43%	43%	43%	64%	100%

PENSACOLA NAVAL TECHNICAL TRAINING CENTER, CORRY STATION
PENSACOLA, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CNET
Size: 604 Acres
Funding to Date: $166,000
Estimated Funding to Complete: $947,000

Base Mission: Trains Navy pilots
Contaminants: Metals, pesticides/herbicides, POLs

Number of Sites:

CERCLA:	4
RCRA Corrective Action:	0
RCRA UST:	0
Total Sites:	4

Relative Risk Ranking of Sites:

High:	1	Not Evaluated:	1
Medium:	0	Not Required:	0
Low:	2		

Sites Response Complete: 0

PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	4							
RI / FS			1					3
RD								
RAC								
RAO								
IRA								
RC			1					3
Cumulative % RC	0%	0%	25%	25%	25%	25%	25%	100%

PENSACOLA PUBLIC WORKS CENTER
PENSACOLA, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CNET
Size: 10 Acres
Funding to Date: $0
Estimated Funding to Complete: $0

Base Mission: Provides Facilities maintenance and repair , maintains equiptment and provides special support services as needed.

Contaminants: Heavy metals (cadium, lead, mercury, nickel)

Number of Sites:

CERCLA:	0
RCRA Corrective Action:	1
RCRA UST:	0
Total Sites:	1

Relative Risk Ranking of Sites:

High:	0	Not Evaluated:	1
Medium:	0	Not Required:	0
Low:	0		

Sites Response Complete: 0

PROGRESS AND PLANS

RCRA CA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
RFA								
RFI / CMS					1			
DES								
CMI								
CMO								
IRA								
RC					1			
Cumulative % RC	0%	0%	0%	0%	100%	100%	100%	100%

SAUFLEY FIELD NAVAL AIR STATION
PENSACOLA, FLORIDA

Engineering Field Division/Activity: SOUTHDIV
Major Claimant: CNET
Size: 866 Acres
Funding to Date: $0
Estimated Funding to Complete: $6,656,000

Base Mission: Basic training for Naval aviators
Contaminants: POLs

Number of Sites:
CERCLA: 5
RCRA Corrective Action: 0
RCRA UST: 1
Total Sites: 6

Relative Risk Ranking of Sites:
High: 0
Medium: 2
Low: 4
Not Evaluated: 0
Not Required: 0

Sites Response Complete: 0

PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	5							
RI / FS								5
RD								5
RAC								5
RAO								1
IRA								
RC								5
Cumulative % RC	0%	0%	0%	0%	0%	0%	0%	100%

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA								1
CAP								1
DES								1
IMP								1
IMO								
IRA								
RC								1
Cumulative % RC	0%	0%	0%	0%	0%	0%	0%	100%

WHITING FIELD NAVAL AIR STATION
MILTON, FLORIDA

Engineering Field Division/Activity:	SOUTHDIV
Major Claimant:	CNET
Size:	2,560 Acres
Funding to Date:	$18,972,000
Estimated Funding to Complete:	$56,904,000

Base Mission: Provides naval aviators training in basic instruments, formation and tactic phases of fixed-wing and propeller-driven aircraft; basic and advanced helicopter training

Contaminants: Pesticides, PCBs, volatile organic compounds, heavy metals, chlorinated hydrocarbons

Number of Sites:	
CERCLA:	39
RCRA Corrective Action:	0
RCRA UST:	6
Total Sites:	45

Relative Risk Ranking of Sites:

High:	14	Not Evaluated:	1
Medium:	6	Not Required:	15
Low:	9		

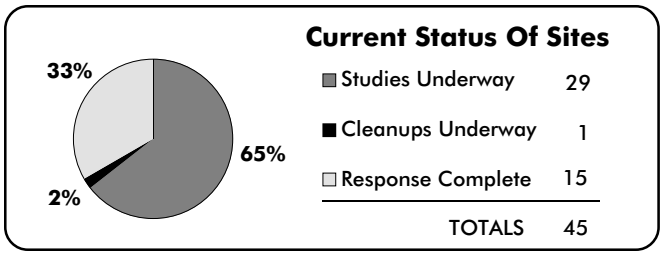
NPL

Sites Response Complete: 15

EXECUTIVE SUMMARY

Whiting Field Naval Air Station (NAS) includes both NAS Whiting Field and Outlying Landing Field (OLF) Barin. NAS Whiting Field is located in Florida's northwest coastal area, approximately seven miles north of Milton and 20 miles northeast of Pensacola, Florida. Land bordering NAS Whiting Field consists primarily of agricultural lands to the northwest; residential and forested to the south and southwest; and the remaining borders are forested land. NAS Whiting Field is on a 2,560 acre tract of land divided into North Field and South Field. The North Field is used as a fixed-wing training base and South Field is used for helicopter training. Typical air station operations contributing to contaminated sites on the facility include paint stripping, aircraft and aircraft parts cleaning, operation and maintenance of the aircraft and fire fighting training. Site types include disposal areas and pits, storage areas, spill areas, landfills, a disposal and burning area, maintenance area, Underground Storage Tanks (USTs), fuel pits, fire training areas and drainage ditches. Current operations include pollution prevention technologies to prevent further contamination. The driving force for placing NAS Whiting Field on the National Priorities List (NPL) was the discovery of a plume of volatile organic compounds (VOCs) affecting two base drinking water wells. The Federal Facility Agreement (FFA) is being negotiated and is expected to be signed in FY99.

OLF Barin, not on the NPL, is located in Baldwin County, Alabama, 40 miles southeast of Mobile, Alabama, approximately ten miles northeast of Gulf Shores, Alabama and 35 miles west of Pensacola, Florida. OLF Barin (originally 965 acres now approximately 600 acres) was commissioned in 1942 as a flight training and indoctrination center and closed in 1959. Typical air field operations contributing to contamination was the use of numerous types of solvents, oils and fuels for cleaning and maintaining airplanes and vehicles; and fire fighting. Sites types were underground storage and fuel pit area, landfill, maintenance hangar areas, fire fighting area, machine gun butt area, abandoned wastewater treatment plant, and drainage ditches. The field remained unused until 1985, when NAS Whiting Field began using the field as a practice landing strip. Little, if any, hazardous materials are now used, generated or disposed by the airfield. The airfield no longer conducts airplane and vehicle maintenance or has the capability to supply fuel to them. In 1988, the Preliminary Assessment (PA) of OLF Barin was begun in response to the discovery of contamination in two drinking water wells.



The most significant issue at the NAS Whiting Field is groundwater contamination. Releases of VOCs have primarily occurred from hangar areas and contamination has migrated from the soil into the groundwater. There are two organic solvent TCE plumes with a benzene, toluene, exobenzene, xylene (BTEX) plume above each. Two of the three supply wells on the base are contaminated with the organic solvent TCE. For risk reduction, after the discovery of the groundwater contamination at NAS Whiting Field, granular activated carbon (GAC) filters were installed to remove the organic contaminants from the water supply. Although not a permanent remedial measure, following the installation of the filters and a monitoring system, the State of Florida allowed the use of the well water by NAS Whiting personnel. Also, potential human receptors include base personnel who come into direct contact with contaminants in surface soils and both on and off base users who make contact with contaminants in well water

A Technical Review Committee (TRC) for NAS Whiting Field was established in 1989. The TRC for OLF Barin was established in 1992. For greater community involvement at NAS Whiting Field, the TRC was converted to a Restoration Advisory Board (RAB) in July 1995. The Administrative Record and Information Repository were established for both NAS Whiting Field and OLF Barin in August 1992 and are maintained at the Naval Facilities Engineering Command's Southern Division (SOUTHDIV), Charleston, South Carolina and West Florida Regional, Milton Branch Library, Milton, FL for NAS Whiting Field, FL and Foley Public Library, Foley AL for OLF BARIN.

There are 39 CERCLA sites (29 at NAS Whiting Field and 10 at OLF Barin). At the end of FY97, there were 11 sites with Response Complete (RC), 2 at NAS Whiting Field and 9 at OLF Barin. Of the six UST sites, three have received a No Further Action approval from FDEP (USTs 3, 4 and 6). UST 02 was investigated in mid-1997. Funding has been approved for the investigative phase only. UST 05 had a state approved remediation system installed in December 1996.

WHITING FIELD NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - At NAS Whiting Field the three major groundwater aquifers within the region are the surficial sand and gravel aquifer, from which virtually all local groundwater is drawn; the Upper Floridan limestone aquifer and the lower Floridan limestone aquifer. The Floridan aquifer is separated from the overlying surficial aquifer by relatively impermeable Pensacola clay tending to keep pollutants from migrating to the lower aquifers. The groundwater contamination is more complex due to the depth to groundwater (90 to 120 ft) as well as no known confining layers and numerous clay lenses creating perched water tables. Because the organic solvent TCE is a Dense Non-Aqueous Phase Liquid (DNAPL), a "sinker", the existing geology creates a true challenge to the Navy for remediation.

The major pathways for contamination from Whiting Field NAS include surface runoff and groundwater movement through the surficial sand and gravel aquifer to the receiving waters of Clear Creek, which runs next to the perimeter of the base and Big Coldwater Creek. Both Clearwater Creek and Big Coldwater Creek drain south to the Black Water River. On average, over half the flow in the rivers and creeks in the area is from groundwater seepage. Erosion is also a concern exposing buried material and allowing direct contact with surface runoff.

At OLF Barin the two geologic units, the alluvial, low terrace and coastal deposits and the Citronelle Formation crop out at surface. The principal aquifer, a water-table aquifer (20 to 60 ft), the Beach Sand Aquifer is the source for numerous wells in the area. A persistent layering of sand, silt, and clay is locally fossiliferous, normally marks the lower limit of the aquifer zone, and separates it from the underlying Citronelle Formation.

The pathway for contamination migration from OLF Barin is through surface drainage to the creeks on either side of the base, particularly toward Sandy Creek to the east and southeast of the airfield. Contaminants reaching the creek can travel downstream in surface flow toward Wolf Bay and the Gulf of Mexico. Subsurface contaminants could infiltrate to the local drinking water aquifer in recharge areas.

NATURAL RESOURCES - The area surrounding NAS Whiting Field has a wide spread, rural population with private wells. Aquatic organisms in Clear Creek and Big Coldwater Creek are potential receptors. Bioaccumulation in the tissues of these organisms could be conveyed to predators inhabiting this drainage system. The Florida Department of Environmental Regulations classify both creeks as Class II Water-Recreation, Propagation and Management of Fish and Wildlife. There are many species of plants and animals listed as endangered, threatened or rare potentially inhabiting the area of NAS Whiting Field. Since the base provides little natural habitat for these animals, few are expected to actually inhabit the base. The animals include Wood Stork, Eastern Indigo Snake, Alligators, Gopher Tortoises, Red-Cockade Woodpeckers and Peregrine Falcons.

Although OLF Barin provides a natural habitat for endangered, threatened or rare plants and animals only a few were found to inhabit the base and only on the east side. The plants include Atlantic whit cedar, spring sneezeweed, rush-feathering, dwarf live-oak, and white-top pitcher-plants. The animals include Gopher tortoise and the common ground dove.

RISK - A Baseline Risk Assessment Workplan for NAS Whiting Field was done in FY95. Individual Baseline Risk Assessments for several CERCLA sites (Sites 1, 2, 9-18 and 31) are currently being conducted. A Baseline Risk Assessment for Ecological Assessment at OLF Barin, using EPA guidelines for CERCLA sites, was completed in FY94

The Navy completed a Relative Risk Ranking for the installation. Of the 45 sites at the installation (NAS Whiting Field and OLF Barin combined) 14 sites currently have a "high" Risk Ranking. At NAS Whiting Field the overwhelming majority of sites received a high ranking due to contaminated groundwater and its use as drinking water. Landfills, disposal sites and maintenance hangar areas are the greatest offenders. Solvents, waste oil and fuel, waste paint and thinner and general construction debris were deposited or spilled on these sites. The groundwater in the area was contaminated with VOCs, Semi-volatile Organic Compounds (SVOCs), metals, petroleum products and inorganics above Federal and State acceptable levels. The groundwater near the transformer disposal site contained an unacceptable level of PCBs. At OLF Barin all of the sites were ranked either med. or low.

The Agency for Toxic Substances and Disease Registry (ATSDR) completed a preliminary visit to NAS Whiting Field in FY95. Whiting Field received a rating of "E", denoting no immediate health hazards or any current human exposures. Because of the "E" ranking, NAS Whiting is a low priority for receiving a full public health assessment.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - NAS Whiting Field (only) was proposed for the NPL on 18 January 1994 and placed on the list on 31 May 1994, with a HRS score of 50.00. Because NAS Whiting Field had determined the VOC groundwater plumes affected two of the three base drinking water supply wells, groundwater was the driving factor for placing the installation on the NPL.

LEGAL AGREEMENTS - The Federal Facility Agreement (FFA) is being negotiated and is expected to be signed in FY99. A Site Management Plan will be put in place when the FFA is signed.

PARTNERING - At NAS Whiting Field a partnering agreement between USEPA Reg 4, State of Florida regulators, CLEAN and RAC contractors for station projects, the base Remedial Project Manager (RPM) and NAVFAC SOUTHDIV RPM has been implemented. The partnering arrangement has already proved beneficial. In order to speed up the phases, Site Inspections (SIs) are being approached with an intended remediation method in mind. SI methods are discussed and the partnering team members agree on one method before the SI begins saving time not investigating various remedies known not to fit the current situation.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - The TRC for NAS Whiting Field was established in 1989 and held annual meetings through FY95. Needing greater community involvement in the base cleanups, the NAS Whiting Field TRC was converted to a Restoration Advisory Board (RAB) in July 1995. The RAB meets quarterly and conducts site tours as needed for its members. The membership, solicited from the communities of Milton and Pensacola, Florida, is made up of local government officials, professionals and retirees, school system and installation employees. With the formation of the RAB, the community has become involved in the base with a high interest in groundwater contamination and the possibility of off-base migration and impact on a large wetland, Clear Creek Floodplain and Clear Creek west of the base. A TRC for OLF Barin was established in August 1992 and is presently being used.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) for NAS Whiting Field was completed in October 1990, updated in 1995 and a planned update in 1998. A CRP for OLF Barin was completed in 1993.

INFORMATION REPOSITORY - The Administrative Record and Information Repository were established for both NAS Whiting Field and OLF Barin in August 1992 and are maintained at the Naval Facilities Engineering Command's Southern Division (SOUTHDIV), Charleston, South Carolina, West Florida Regional, Milton Branch Library, Milton, FL for NAS Whiting Field, FL and Foley Public Library, Foley AL for OLF BARIN as well as NAS Whiting and OLF Barin.

Whiting Field NAS
HISTORICAL PROGRESS

FY85

Sites 1-18 and 29-33 - Initial Assessment Study (IAS) (equivalent to Preliminary Assessment (PA)) for 23 CERCLA sites at NAS Whiting Field completed.

FY87

Sites 1-18 and 29-33 - An SI at 23 sites detected groundwater contamination at some sites and concluded many of the monitoring wells were not located downgradient of the intended study site. Additional investigation was required to accurately assess hydrogeologic and chemical contamination conditions.

FY88

Sites 19-28 - A PA at OLF Barin was begun in response to the discovery of two drinking water wells contaminated with trans-1, 2-dichloroethylene, tetrachlroethylene and trichlorethane. GAC filters were installed to remove the organic contaminants from the water supply.

FY89

NAS Whiting Field
To reduce accidental human exposure to contamination, warning signs were posted at hazardous sites.
Sites 1-18 - RI/FS activities began.

FY90

Site 24 - SI at OLF Barin was completed. The completed SIs detected soil contaminated with mercury, lead and methylene chloride.

FY91

Sites 19-23 and 25-28 - SI was completed for nine CERCLA sites at OLF Barin.

FY92

NAS Whiting Field
Sites 29-33 - RI/FS begun at six sites.
Site 39 - IAS for one CERCLA site started.
USTs 1-6 - Removal actions of tanks and soil at all the USTs were completed. During the removal action, the installation determined six sites had subsurface petroleum contamination and would require further assessment. During the assessment of the UST sites, chlorinated hydrocarbon contaminants and 19 tanks were identified to be present on the sites.
OLF Barin
Site 27 - RI/FS began.

FY94

NAS Whiting Field
Completed several RI/FS Technical Memorandums: NO 1, Geologic Assessment; NO 3, Soils Assessment; and NO 4, Hydrogeologic Assessment.
Sites 34-38 - IAS for five CERCLA sites started.
Site 8 - Completed RI/FS when Florida Department of Environmental Protection issued a No Further Remedial Action Planned (NFRAP).
OLF Barin
A Baseline Risk Assessment, Residential Well Sampling report, RI/FS Technical Memorandum: NO 1, Water and Sediment; NO 2, Geology and HYDROGEOLOGY; NO 3, Soils, NO 4, Groundwater and NO 5, Data Summary were completed.
USTs 4 and 6 - Site Assessments (SAs) completed and site is RC.

FY95

NAS Whiting Field
Three projects scheduled for accelerating cleanup, two Interim Remedial Actions (IRAs) and a baseline groundwater model project to be used for RD of groundwater cleanup, were canceled due to rescinding of funds. Completed RI/FS Technical Memorandums: NO 5, Groundwater Assessment, NO 7, Phase 111B Workplan, and a Baseline Risk Assessment Workplan. Also numerous interim documents were produced.
Site 8 - Listed as RC.
An ATSDR preliminary visit was performed and a "E" rating was received.
UST 3 - Corrective Action Plan (CAP) was completed.
UST Site 5 - CAP is complete and began RD.
OLF Barin
Completed Investigative Derived Waste (IDW) Management Plan and Technical Memorandum Addendum.
Sites 19 and 24 - Completed Performance Criteria Plans.
Site 19 - Began an Interim Removal Action (IRA) for tank removal.
Site 24 -. Completed the RI/FS. Began a RA for soil removal.
Sites 21, 23, 27 and 28 - Completed RI/FS, received No Further Action (NFA) Decision and RC.

FY96

NAS Whiting Field
FFA undergoing regulatory review and negotiation. Not expected to be signed until FY99. Delayed from FY96 signing due to a desire to coordinate multiple FFA negotiations.
Site 30 - Groundwater investigation began with the objective to delineate the vertical and lateral extent of the TCE plume.
Sites 1, 2, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18 and 31 - Baseline Risk Assessment started. The 13 RI reports for these sites were delayed until FY97 due to funding.
Site 17 - An IRA for soil removal was completed.
OLF Barin
Site 24 - RI/FS completed RA started. The Removal Action at Site 24 includes removal of the fire training pit, liner and contaminated soil.
Sites 19 and 20 - Interim Removal Action (IRAs) began. The IRA at Site 19 includes removal of six abandoned wash rack underground storage tanks and contaminated soil. The IRA at Site 20 includes emptying, cleaning, and backfilling the underground lube oil storage tanks and the bowser pits and emptying, cleaning and capping the fast fuel lines.
Site 25 and 26 - RI/FS is complete with a NFA required and RC.
UST 5 - RD is complete. IMP was begun, with completion scheduled for FY99.

PROGRESS DURING FISCAL YEAR 1997

FY97

NAS Whiting Field
FFA and SMP undergoing regulatory review and negotiation.
Groundwater broken out as a separate site to allow possible NFAs on 10 sites after RA is completed.
UST 1 - CAP is completed and site is RC.
UST 2 - SA is completed.
OLF Barin
Site 124 - RA and RC was completed.
Sites 119 and 120 - RI/FS and IRAs were completed. Sites are RC.
Sites 19-21 and 23-29 - Completed Site Closed (SC).

WHITING FIELD NAS
PLANS FOR FISCAL YEARS 1998 AND 1999

FY98

NAS Whiting Field
FFA and SMP undergoing regulatory review and negotiation.
Sites 1, 2, 9-18 and 31 - Baseline Risk Assessment will be completed.
Sites 1 and 2 - RI/FS will be completed.
Sites 30 - IRA will be completed.
Sites 3, 4, 30, 32 and 33 - Sites will begin field investigation.
One new site, Machine Fun Butt Area, will be added.
UST 2 - CAP will be completed.
OLF Barin
Site 122 - RI/FS will be completed.

FY99

NAS Whiting Field
FFA will be signed and SMP implemented.
Sites 17 - IRA will be completed.
Sites 3, 4, 30, 32, and 33 - RI/FS report to be completed.
Sites 9-18 and 31 - RI/FS will be completed.
Sites 12 and 13 - Will have an NFA, RC and SC.
Site 39 - PA/SI will be completed.
Groundwater investigation will continue for the base.
UST 5 - IMP project will be completed.

PROGRESS AND PLANS

CERCLA	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
PA / SI	35			1			2	
RI / FS	9	2	3	11	3	3		8
RD	1			1		3		19
RAC		1			1		1	21
RAO								10
IRA	1(1)	2(2)	1(1)	1(1)		1(1)		
RC	8	3		2	3			23
Cumulative % RC	21%	28%	28%	33%	41%	41%	41%	100%

UST	FY96 and before	FY97	FY98	FY99	FY00	FY01	FY02	FY03 and after
SA	3	1						
CAP	2	1	1					
DES	1							1
IMP				1				1
IMO								2
IRA								
RC	3	1						2
Cumulative % RC	50%	67%	67%	67%	67%	67%	67%	100%