Cecil Field Naval Air Station
Cecil Field, Florida

Engineering Field Division/Activity:	SOUTHDIV
Major Claimant:	CINCLANTFLT
Size:	31,366 Acres
Funding to Date:	$21,633,000
Estimated Funding to Complete:	$138,034,000
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:		**Relative Risk Ranking of Sites:**			
CERCLA:	18	**High:**	14	**Not Evaluated:**	2
RCRA Corrective Action:	1	**Medium:**	6	**Response Complete:**	2
RCRA UST:	6	**Low:**	1	**Total Sites:**	25
Total Sites:	25				

NPL

BRAC III

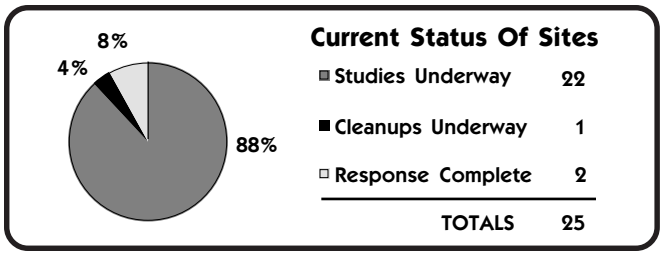
EXECUTIVE SUMMARY

Cecil Field Naval Air Station (NAS) is located 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 installation operations. Current operations include pollution prevention technologies to prevent further contamination. Cecil Field NAS was placed on the National Priorities List (NPL) primarily due to the discovery of an aquifer contaminated by the organic solvent TCE and the resulting plume. There was also concern about lead contamination at 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. The land is primarily used for forestry and some light agriculture with small communities and homes scattered in. Contaminants have migrated downward to the shallow aquifer. However, no contaminated groundwater has moved off base. Surface water contamination has occurred in numerous ditches and creeks that drain into several larger nearby water bodies, including Lake Fretwell, Rowell Creek, and Sal Taylor Creek.

A Technical Review Committee (TRC) was formed in FY91. For greater community involvement, the TRC was converted to a Restoration Advisory Board (RAB) in September 1994. A Community Relations Plan (CRP) was developed in FY91. The Administrative Record and Information Repository were established in FY91 and are available for public viewing.

Work for the Navy's Installation Restoration Program (IRP) got underway at Cecil Field NAS in 1984. The Initial Assessment Study (IAS) identified 18 CERCLA sites. Since that time, an additional five Underground Storage Tank (UST) sites have been added to the program and one RCRA Corrective Action site (SWMU 1) was added in FY88. A Site Inspection (SI) was completed for all 18 CERCLA sites in 1988. The Remedial Investigation and Feasibility Study (RI/FS) phase for the CERCLA sites started in FY93 for two sites and should be complete for all sites in FY96. The Remedial Design (RD) phase began in FY95 and will be complete for all 16 CERCLA sites in FY96. The Remedial Action (RA) phase will then begin and all 18 sites are scheduled for completion by the end of FY97. The single SWMU site completed its Corrective Measures Study (CMS) in FY93, completed the Corrective Measures Implementation (CMI) phase and was listed RC and had Site Closeout in February 1995. One UST site (UST 3) received RC and Site Closeout in March 1995. The other five UST sites are scheduled to complete their Corrective Action Plans (CAPs) in FY96 and complete the Implementation (IMP) phase by the end of 1997.



In order to conduct the cleanup in an orderly manner, the 12 potential sources of contamination (PSC) sites at Cecil Field NAS, identified during the RI/FS, have been divided into Operable Units (OUs) based on the types of wastes disposed or typical profile of suspected contaminants. OU 1 sites (Sites 1 and 2) are landfills. OU 2 sites (Sites 5 and 17) are oil/sludge disposal areas. OU 3 sites (Sites 7 and 8) are fire training areas. OU 4 site (Site 10) is a rubble disposal area. OU 5 sites (Sites 14 and 15) are ordnance disposal areas. OU 6 site (Site 11) is a pesticide disposal area. OU 7 site (Site 16) is an Aircraft Intermediate Maintenance Depot (AIMD) seepage pit. OU 8 site (Site 3) is an oil/sludge disposal area.

Several major successes in the cleanup program at Cecil Field have taken place. Risk reduction has been accomplished by source and soil removal at Sites 5, 11, 16 and 17. Risk reduction at Sites 1 and 2 was accomplished by installation of fencing around contaminated areas. Innovative technologies are being used where appropriate. Intrinsic bioremediation of groundwater for petroleum products, the organic solvents TCE and methyl chloride is being used at Site 17 (Oil/sludge disposal pit southwest). Bioremediation of soil for petroleum hydrocarbons and low-levels of the chemical additive PCB at Site 5 (Oil disposal area northwest) has been started. Two Records of Decision (RODs) were signed in FY95 which cover Sites 1, 2, 5 and 17.

In July 1993, the Base Realignment and Closure (BRAC) Commission recommended the closure of Cecil Field NAS and relocation of its aircraft, dedicated personnel, and equipment to Marine Corps Air Station (MCAS) Cherry Point, North Carolina; NAS Oceana, Virginia; and MCAS Beaufort, South Carolina. The 1995 Base Realignment and Closure (BRAC) Commission redirected the relocation to include NAS Jacksonville Florida and NAS Atlanta, Georgia.

CECIL FIELD NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - There are three aquifers of concern at Cecil Field NAS: the surficial, the shallow rock and the deepest, Floridan aquifers. The unconfined surficial aquifer occurs at or near the surface 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. Contamination can migrate downward into the shallow rock aquifer which supplies domestic water to outlying areas. Migration by surface water is also a potential pathway since there are numerous ditches and creeks throughout the installation. The major receiving waters include Lake Fretwell, Rowell Creek, and Sal Taylor Creek.

Eight sites have plumes of contamination into the upper aquifer, but drinking water wells at the NAS 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 to the shallow rock aquifer. Cecil Field NAS 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 Cecil Field NAS, 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 Regulation as Class III Water - Recreation, Propagation and Management of Fish and Wildlife. Base personnel who fish Lake Fretwell are also potential receptors.

RISK - In FY95, Baseline Human Health and Ecological Risk Assessments were completed, following EPA guidance, for CERCLA sites, at OUs 1 and 2; started at OUs 7 and 8 and are planned for OUs 3, 4, 5 and 6. The Baseline Human Health and Ecological Risk Assessments for OUs 1 and 2 determined that there is no human health risk, only micro-organisms are at risk.

The Navy completed a Relative Risk Ranking for the installation in FY95. Fourteen of the 25 sites at Cecil Field received a "High" risk ranking. Two sites had three media types ranked high and four other sites had high ranking for two types of media. Though the majority of the high ranked sites were landfills and disposal sites, there was also high ranked contamination found at a firing range and fire fighting training sites. Groundwater was the media of greatest concern, eight of the 14 high ranked sites were found to have current or the potential for contaminated groundwater. Two other media types received several high ranks; sediment had a high score at seven sites and surface water ranked high at six sites. Both these media had either evidence of or potential for a path to human receptors. As a media, soil received a high rank at only a single site, Site 4 (Grease pits). Grease, fuels, solvents and paints had seeped into the soil between the 1950's and 1983, when this site was used for disposal.

The Agency for Toxic Substance and Disease Register (ATSDR) assesses National Priorities List (NPL) installations. Due to its NPL listing ATSDR will do a Public Health Assessment.

RESTORATION PROJECTS - The restoration of several sites (Sites 5 and 17) is being accomplished by clearing them and allowing them to naturally replant themselves.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - Cecil Field NAS 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 discovery of contamination of the aquifers; specifically the organic solvent TCE and the resulting plume that was found in 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 potential sources of contamination requiring 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 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. 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 Technical Review Committee (TRC) was formed in FY91. For greater community involvement, the TRC was converted to a Restoration Advisory Board (RAB) in September 1994. There are 26 community members in the RAB. Meetings are held on a monthly basis. The public has a positive view of the NAS and shows little concern over potential contamination.

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

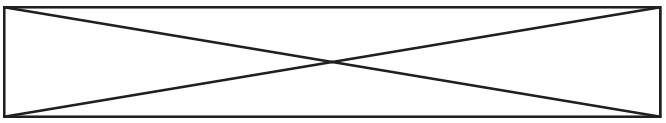
INFORMATION REPOSITORY - The Administrative Record and Information Repository were established in FY91. They are available to the public at the West Connett Library in Jacksonville, Florida.

BASE REALIGNMENT AND CLOSURE

BRAC - In July 1993, the Base Realignment and Closure (BRAC) Commission recommended the closure of Cecil Field NAS 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 NAS Jacksonville Florida and NAS Atlanta, Georgia.

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 secured the assistance of a Remedial Action Contractor for further investigation and cleanup activities. The installation also completed the draft Environmental Baseline Survey (EBS) in FY94.

DOCUMENTS - As a result of BRAC, NAS Cecil Field completed a draft EBS in January 1994 and completed a BRAC Cleanup Plan in March 1994. The final EBS was submitted in November 1994.



CECIL FIELD NAS

REUSE - During FY95, the installation finalized the EBS and a BRAC Land Reuse Plan. The NAS is to be converted to a small commercial airport, community use parks and an industrial facility. Potential lessors or buyers that fit the re-use plan are now being sought. No parcels have been transferred or leased at this time. Regulatory concurrence for the Community Environmental Response Facilitation Act (CERFA) clean acreage was obtained.

FAST-TRACK INITIATIVES - As a BRAC installation, Cecil Field NAS 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) database by facility or parcel.

HISTORICAL PROGRESS

FY85

Sites 1-12 and 14-19 - The Initial Assessment Study (IAS), equivalent to a Preliminary Assessment (PA), was completed in July 1985 and identified 18 potentially contaminated sites.
UST 5 - The Initial Site Characterization (ISC), equivalent to a PA for RCRA Underground Storage Tank (UST) sites, was completed.

FY88

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), equivalent to a PA for RCRA sites, was completed for SWMU 1.

FY91

Site 13/UST 5 - After initial testing at Site 13 indicated only petroleum contamination, the site was transferred to the UST program, as UST 5, for remediation.

FY92

USTs 1 and 6 - An ISC was completed for two RCRA 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 - Cecil Field NAS and the regulators agreed to initiate fast track Interim Remedial Actions (IRAs) at four sites, work to be completed within roughly a one year time frame. In order to meet the fast deadline, a focused Feasibility Study (FS) was completed and 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 Plan (CAP) was completed.

FY94

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 the IRA was completed in July 1994. The IRA called for the removal of a RCRA-permitted storage tank as well as the contaminated soil.
SWMU 1 - Implementation of the CMS was completed in May 1994 with the removal of the tank; No Further Action (NFA) is expected.
USTs 2 and 3 - Interim Corrective Measures were completed. Tank and soil removal completed at UST 2. CAP phase, including tank removals, and Implementation phase (IMP) completed at UST 3.
UST 6 - IMP phase was started. Approximately 25% of the installation's USTs were also removed.

PROGRESS DURING FISCAL YEAR 1995

FY95

All Sites - Baseline Ecological Risk Assessments were completed at Operable Units (OUs) 1 and 2; started at OUs 7 and 8 and are planned for OUs 3, 4, 5 and 6. Two-hundred fifty "gray sites" (potential sites) requiring further investigation were identified during the Environmental Baseline Survey (EBS).
Sites 1 and 2 - RI/FS activities were completed.
Sites 4, 6-10, 12, 18 and 19 - RI/FS activities were started at nine CERCLA sites.
Site 11 - In response to an IROD, an IRA was started; numerous five-gallon pesticide drums (containing the pesticide Nemagon) were removed and the soil surrounding the drums was removed.
Sites 5 and 17 - The IROD was completed and the final ROD was signed in September 1995. At Site 17, the IROD specified that soils contaminated with petroleum products and the organic solvent TCE be thermally treated and placed back in the excavation, eliminating need for removal and off-site disposal; the ROD specified intrinsic bio-remediation be used for the contaminated groundwater. At Site 5, the contaminated soil will be treated via ex-situ bio-remediation and the groundwater will be remediated via air sparging. This cleanup action involved an IRA for each site.
SWMU 1 - Corrective Measures Implementation (CMI) completed and site listed as Response Complete (RC).
UST 2 - ISC completed.
UST 1 - A CAP was completed.
UST 3 - Listed as RC and received Site Closeout in March 1995.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

All Sites - The relocation of aircraft, dedicated personnel, and equipment from Cecil Field to NAS Atlanta will begin. Final relocation to NAS Oceana, NAS Jacksonville and MCAS Beaufort will be completed by the end of FY98.
Sites 1-5, 7-8, 10 and 14-19 - RI/FS and RD activities will be complete at seven CERCLA sites, Sites 3, 4, 5, 7, 14, 17 and 18 and Remedial Action (RA) phase will start for 11 sites, Sites 1, 2, 4, 5, 7, 8, 10, 15,16 18 and 19.
Sites 1 and 2 - The RA phase will be completed for two CERCLA sites. Following the completion of RA phases, the two sites will be listed as RC.
UST 1 - The IMP phase will be completed.
USTs 2, 4 and 5 - The CAP phase will be completed and IMP phase will be started.

FY97

Sites 3, 10, 16 and 17 - The RA phase will be completed for four CERCLA sites. Following the completion of RA phases, the four sites will be listed as RC.

CECIL FIELD NAS
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	18							
SI	18							
RI/FS		2	16					
RD			16					
RA			12	6				
IRA	1(2)		8(10)	2(3)				
RC			8	3				7
Cumulative Response Complete			44%	61%				100%
RCRA CA	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
RFA	1							
RFI								
CMS	1							
DES								
CMI		1						
IRA								
RC		1						
Cumulative Response Complete		100%						
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	4	1	1					
INV	1							
CAP	2	1	3					
DES								
IMP	1		1	1	3			
IRA	2(3)		1(2)					
RC		1		1	2			2
Cumulative Response Complete		17%		33%	67%			100%

Jacksonville Fleet and Industrial Supply Center
Jacksonville, Florida

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: COMNAVSUPSYSCOM

Size: 50 Acres

Funding to Date: $392,000

Estimated Funding to Complete: $9,258,000

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:	1	Response Complete:	0
Low:	1	Total Sites:	2

PROGRESS AND PLANS

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

JACKSONVILLE NAVAL AIR STATION
JACKSONVILLE, FLORIDA

Engineering Field Division/Activity:	SOUTHDIV
Major Claimant:	CINCLANTFLT
Size:	3,820 Acres
Funding to Date:	$49,078,000
Estimated Funding to Complete:	$231,498,000
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:		**Relative Risk Ranking of Sites:**			
CERCLA:	46	**High:**	18	**Not Evaluated:**	1
RCRA Corrective Action:	3	**Medium:**	7	**Response Complete:**	12
RCRA UST:	11	**Low:**	22	**Total Sites:**	60
Total Sites:	60				

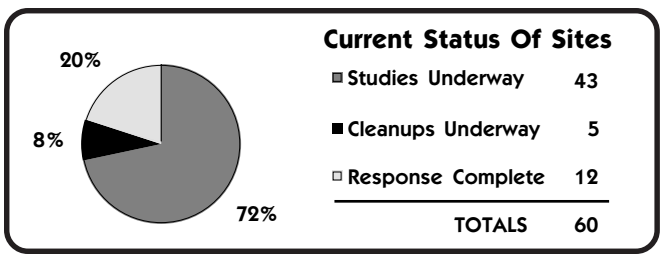
NPL

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 lead 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 1989, which governs the cleanup schedule.

The groundwater of northeast Florida is made up of two aquifer systems; the deep Floridian aquifer and the shallow aquifer. The deep Floridian 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 it is protected by a 200 foot thick confining layer, and the upward flow of water under 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 eight members in the RAB, made up of both 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/FSs). An Information Repository was established in FY91 at the Wesconnet 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 two disposal pits, 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 ten Underground Storage Tank (UST) sites. 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 performed in September 1994 at the nine sites of concern. It is anticipated that soil removals will be required to reduce the radiological contamination at the sites. The survey and removal actions are expected to be completed in FY96.

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), berms were placed surrounding the drainage ditches to direct surface runoff away from the ditches, to retain the solvents on the site and to block their migration path. At Site 18 (Radioactive Waste Fill Area), fences were erected to minimize the chance of human and animal contact with the contaminated soil. 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 will be stabilized (chemical and physical treatment of soils and metals) and consolidated on Site 42 in FY96. The treated soil will then be used as filler for a settling pond, which reduces the cost for clean fill and no water treatment will be required. Site 2 and the adjoining UST will be treated at the same time. Petroleum products from both sites will be brought to a thermal desorption plant. At Site 26, a passive recovery system for Liquid Non-Aqueous Phase Liquid (LNAPL) will be operated by base personnel instead of contractors.

JACKSONVILLE NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - The groundwater of northeast Florida is made up of two aquifer systems; the deep Floridian aquifer and the shallow aquifer. The shallow aquifer is composed of surficial sand, silts and clays and a porous, cavernous limestone unit. It sits on the complex aquiclude, which separates the shallow aquifer from the deep, Floridian aquifer. Due to the sandy surface found at the NAS, much of the 53 inches of average annual precipitation that falls on the surface infiltrates into the ground to recharge the shallow aquifer (water table). For the same reasons, contaminants spilled or disposed of at or near the surface can readily percolate downward to the water table and then migrate laterally under the prevailing groundwater flow rate and direction. The Floridian aquifer produces water under artesian pressure and is recharged naturally by rainfall where the limestone of the aquifer is exposed at the surface. The deep Floridian 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 it is protected by a 200 foot thick confining layer, the aquiclude, and the upward flow of the artesian component of the aquifer precludes the downward migration of contaminants. The shallow 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. The relatively light infiltration capacity of the sandy soils, along with the flat topography of most of the station, tend to reduce the amounts and rates of direct surface water runoff. This reduced amount of surface runoff means a decreased potential for pollution migration via natural surface water drainage systems.

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 FY96, a risk assessment, in conjunction with an RI/FS, will be done at OU 2 (Sites 2-4 and 41-43).

The Navy completed a Department of Defense (DOD) Relative Risk Ranking for the installation in FY95. Of the 60 sites at Jacksonville NAS, 18 sites received a high relative risk ranking. Fifteen of the 18 were ranked high for groundwater contamination; eight with evidence of a pathway to the receptors, the other seven had only a potential for a migration pathway. 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) will perform a public health assessment for the installation in March 1996.

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 - An FFA, signed in October 1989, 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.

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 eight members in the RAB, made up of both Navy employees, state and federal regulators and local citizens. Members are elected to a two year term. Membership includes a base employee, DOD police officer, a local bank employee, an insurance company employee, a Jacksonville Nature Center representative, and a retired civil engineer. 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 nine Fact Sheets including two that were completed in September 1994.

INFORMATION REPOSITORY - An Administrative Record and Information Repository were established in FY91. The Administrative Record is maintained by NAVFAC SOUTHDIV, The Information Repository is located at the Wesconnet 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, 6 and 8 - ISC completed for five RCRA UST sites.
USTs 3, 5, 6 and 8 - Four 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.

PROGRESS DURING FISCAL YEAR 1995

FY95

All Sites - A radiological survey of all sites, scheduled for completion in FY95, was not accomplished due to funding constraints.
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 and 13, and groundwater treatment at Site 26.
Sites 18 and 26 - To reduce risk to human exposure: Site 18 (Radioactive Waste Fill Area), fences were erected to minimize the chance of human and animal contact with the contaminated soil. 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.
Sites 26 and 27 - A Baseline Risk Assessment for Human Health and Ecological Risk Assessment was performed during an RI/FS for Sites 26 and 27.
Site 42 - 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. In addition to saving time, use of the stabilized waste for filler reduces the cost for the cleanup project.
Sites 2- 4 and 41-43 - Began an RI/FS activities at six sites.
Sites 2, 41 and 43 Soil removal and soil stabilization at Sites 41 and 43 and thermal desorption for Site 2 completed. The ROD for these actions was signed in FY94.
USTs 7 and 10 - CAP begun.
UST 7 - ISC completed.
UST 9 - CAP completed.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Sites 2- 4, 26, 27 and 41-43 - RI/FS activities to be completed at eight sites.
Site 26 - Groundwater treatment was completed.
Site 42 - An IRA for in-situ soil treatment started.
Sites 11-15 and 48 - Engineering Evaluation/Cost Analysis (EE/CA) planned for six sites to determine what steps to take for final cleanup.
USTs 1 and 7 - Four IRAs will start at two UST sites. UST 1 will have tank and soil removal, and groundwater treatment. UST 7 will be removed.
UST 2 - An FRA and IMP will be completed.
UST 7 - IMP will begin.
USTs 7 and 10 - CAP will be completed.

FY97

Sites 11-15, 30 and 48 - RI/FS activities to be completed at seven sites.
Site 26 - Remedial Design (RD) to be completed.
UST 1 - CAP will be completed and IMP will begin.
USTs 7 and 10 - CAP will be completed.

JACKSONVILLE NAS
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	40							
SI	42							
RI/FS			10	7	3	2		16
RD				1			1	24
RA		1	1					26
IRA	2(3)		14(14)				1(1)	
RC	7	1	4					34
Cumulative Response Complete	15%	17%	26%					100%
RCRA CA	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
RFA								
RFI								
CMS	1							
DES								
CMI			2					1
IRA			1(1)					1(1)
RC			2					1
Cumulative Response Complete			67%					100%
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	9	1						
INV	1							
CAP	1	1	2	1		1		1
DES								
IMP			1		2			3
IRA			1(1)	1(3)				
RC	4		1		2			4
Cumulative Response Complete	36%		45%		64%			100%

KEY WEST NAVAL AIR STATION
KEY WEST, FLORIDA

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: CINCLANTFLT

Size: 18,615 Acres

Funding to Date: $13,928,000

Estimated Funding to Complete: $37,154,000

Base Mission: Maintains and operates facilities and provides services and materials to support operations of aviation activities

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:	11	Not Evaluated:	0
Medium:	6	Response Complete:	2
Low:	1	Total Sites:	20

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	8							
SI	5		2					
RI/FS					6			
RD								1
RA						2		4
IRA			5(5)	1(1)				
RC	2					2		4
Cumulative Response Complete	25%					50%		100%

RCRA CA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
RFA	7							
RFI	5							
CMS					7			
DES					1	1		1
CMI					1			3
IRA			3(3)					2(2)
RC					4			3
Cumulative Response Complete					57%			100%

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	5							
INV	2							
CAP	3			2				
DES								
IMP				1		1		3
IRA			1(1)	1(1)	1(1)		1(1)	
RC				1				4
Cumulative Response Complete				20%				100%

Mayport Naval Station
Mayport, Florida

Engineering Field Division/Activity:	SOUTHDIV
Major Claimant:	CINCLANTFLT
Size:	3,286 Acres
Funding to Date:	$13,013,000
Estimated Funding to Complete:	$238,409,000
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:		**Relative Risk Ranking of Sites:**			
CERCLA:	0	**High:**	20	**Not Evaluated:**	0
RCRA Corrective Action:	18	**Medium:**	4	**Response Complete:**	0
RCRA UST:	11	**Low:**	5	**Total Sites:**	29
Total Sites:	29				

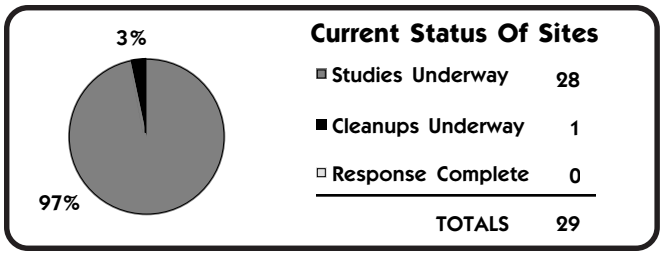
EXECUTIVE SUMMARY

Mayport Naval Station (NS) lies on the southern bank at the mouth of the St. John's 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 a fire fighting training site. The 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.

Contaminants at NS Mayport can migrate both by surface water and groundwater. Surface water runoff drains into Sherman Creek, Chicopit Bay, the St. John's River and the Atlantic Ocean. Neither the shallow groundwater nor the surface water downgradient from NS Mayport is used as a public source of potable water and no potential exists for contaminants to enter the deeper aquifer, which is used as a source of potable water. There is a potential for contaminants reaching human receptors through surface runoff, but the primary receptors at NS Mayport are plants and animals utilizing surface waters rather than humans utilizing groundwater.

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

NS Mayport operate 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 these sites listed in the 1988 permit entered the IR Program and are the SWMU sites discussed here. All SWMUs are still in a study phase. There are currently 11 Underground Storage Tank (UST) sites on NS Mayport. Ten UST sites are in a study phase and one UST site has entered the cleanup phase.



A major success in the cleanup program at NS Mayport involves the Oily Wastewater Treatment Plant (OWTP), which contains a waste oil pit and sludge drying beds. The OWTP is located 200 feet from St. John's River and there is an Light Non-Aqueous Phase Liquid (LNAPL) plume moving toward the river from Sites 6 and 7. An Interim Measure (IM), funded in FY94, included the construction of five sumps which was completed in FY95. The five sumps remove LNAPL from the groundwater. The fluids will then be processed through the OWTP and a Wastewater Treatment Plant (WWTP). Another successful IM, performed in FY95 for risk reduction, was to remove surface soil contaminated with the chemical additive PCB from land adjacent to SWMU 2 (Landfill B). The removal continued until the contamination was reduced to below residential levels for PCBs.

NS Mayport is one of two Navy activities selected for the Navy Environmental Leadership Program (NELP). The other NELP activity is North Island NAS in San Diego, California. The NELP activities will serve as test beds for new and innovative technologies and management practices. Successes will be implemented throughout the Navy and Marine Corps. A NELP contract, awarded in FY94, was designed to demonstrate treating petroleum contaminated soil with a low temperature thermal desorption unit. Small scale treatment with this method will be performed first. As soon as funding becomes available, full scale cleanup of the remaining petroleum contaminated soil at these sites (SWMUs 6 and 7) will be contracted. The NELP contracts have enabled Interim Remedial Actions (IRAs) to be planned and implemented under the same contract, which allows the remediation work to proceed at a faster pace.

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. John's 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 materials 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. John's River and the Atlantic Ocean. There are three aquifers under Mayport NS; 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. In the area of the NS, 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 swamps 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, beachfront and dredge materials holding areas. Because a large percentage of the base has been filled in using dredged material from the St. John's River and the turning basin, there have been some 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. There is one, 20 acre man-made, fresh-water lake on the installation 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 29 sites (both Solid Waste Management Unit (SWMU) and Underground Storage Tank (UST) sites) on the installation, 20 of them received a "high" risk ranking; nine ranked high in multiple media categories. The most common high ranked media category was groundwater. It was listed for 15 of the 20 high ranking sites. 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. Each of the 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 - There are two dredge materials holding areas that were filled to capacity during the last dredging cycle, in FY94. The next dredging cycle is scheduled for the summer of FY96 and approval has been received for ocean disposal. Funding is needed in FY96 for additional toxicity testing during a non-dredge cycle. Previous toxicity testing, performed during a dredging cycle, indicated potential ecological problems. Without resolution of the ecological toxicity, the Navy may be forced to use expensive ocean disposal, purchase additional land for holding dredge material or postpone the dredging cycle.

For the area adjacent to SWMU 2, where soils contaminated with the chemical additive PCB were removed, a restoration project is planned for FY97. 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 Mayport NS 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. The meetings are held at the Atlantic Beach City Hall. The RAB, made up of five community members, EPA, FDEP and Navy personnel, have 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) program. Currently, members are reviewing several reports on the investigation and the recommendations and conclusions regarding remediation.

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

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 Unit (SWMU) sites.
SWMUs 7-9 - A RCRA Facility Assessment (RFA) was started for three sites.

FY88

SWMUs 1-6, 11, 13, 14 and 16 - Completed Extended Site Inspection (ESI) for ten sites.

FY89

SWMUs 1-17 and 22 - An RFA was started for SWMU 10 and RFAs for all 18 SWMU sites were completed.
SWMUs 8-11, 13, 16 and 22 - A RCRA Facility Investigation (RFI), equivalent to a Site Inspection (SI), was started for seven SWMU sites, it is scheduled for completion in FY98.
SWMUs 1-7, 12, 14, 15 and 17 - Instead of an RFI, a Corrective Measures Study (CMS) was started for the other 11 SWMU sites. SWMU 1 has a scheduled completion date of FY03, all others are scheduled for completion in FY98.

FY91

USTs 1, 3-5, 8, 9 and 12 - Initial Site Characterization (ISC) phase, equivalent to a PA, was completed for seven RCRA Underground Storage Tank (UST) sites.
USTs 1, 3, 4 and 9 - Corrective Action Plans (CAPs) were started for four RCRA UST sites.

FY92

SWMUs 1-17 and 22 - An RFI and RCRA Facility Assessment and Sampling Visit (RFA/SV) work plan was approved by EPA.

FY93

UST 5 - A CAP phase was started.
UST 6 - An Interim Remedial Action (IRA), and an ISC were completed and the Investigation (INV) phase was started.

FY94

SWMUs 6 and 7 - Awarded a Navy Environmental Leadership Program (NELP) contract for cleanup of hydrocarbon contaminated concrete surfaces and soils by low temperature thermal desorption.
SWMU 14 - Awarded a NELP contract for cleanup of hydrocarbon contaminated concrete surfaces and soils by bioremediation.
SWMU 15 - Awarded a NELP contract for biodegrading pesticides in contaminated soil.
UST 1 - A CAP was completed.
UST 7 - An ISC was completed.
UST 12 - A CAP phase was started.
USTs 3, 5 and 12 - A CAP phase was completed.

PROGRESS DURING FISCAL YEAR 1995

FY95

SWMUs 2, 6 and 7 - Two projects for reducing risk to human health and the environment were performed; one involved installing pumps for removal of Light Non-Aqueous Phase Liquid (LNAPL) from groundwater at two RCRA sites (SWMUs 6 and 7) which will be completed in FY97; the other was a project for removal of the chemical additive PCB contaminated surface soil at SWMU 2 (Landfill B) which will be completed in FY96.
UST 8 - An INV phase was completed.
USTs 13 and 14 - Two IRAs for soil removal were completed.
USTs 3, 5, 6 and 12 - Five Final Remedial Actions (FRAs) were started. At USTs 3 and 6 FRAs for soil vapor treatment started. USTs 3 and 5 started groundwater treatment and UST 12 started soil removal.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

SWMUs 2 and 14 - An IRA will be completed for SWMU 2 and an FRA for soil removal will be starting at SWMU 14.
SWMU 7 - Corrective Measures Implementation (CMI) phase, equivalent to a Remedial Action (RA) phase, was started, there is a planned completion date of FY99. CMIs for all other RCRA SWMU sites are scheduled, the first one will begin in FY99 and the final one will be complete in FY05.
SWMU 15 - Further investigation of groundwater will be required to determine extent of contamination. The town of Mayport's water wells may also have to be tested if the investigation indicates the contamination is moving in that direction.
UST 6 - An INV phase will be completed.
USTs 6 and 8 - A CAP phase will start for two UST sites.
USTs 1, 4, 8 and 9 - A CAP phase for four sites will be completed.
USTs 1, 3, 5, 6 and 12 - Implementation (IMP) phase will be completed for three sites (USTs 3, 5 and 12) and will start at two additional sites (USTs 1 and 6).
USTs 5, 6, 8 and 12 - FRAs will be completed at four sites.

FY97

SWMUs 4, 6, 7 and 15 - Long Term Operation (LTO) and Long Term Monitoring (LTM) will start. Groundwater treatment for SWMU 4 will run through FY03, with site closure in FY06. For SWMUs 6, 7 and 15 groundwater treatment will run through FY06, and site closure in FY10.
USTs 13 and 14 - An INV phase and CAP phase will be completed.
USTs 1 and 3 - Two FRAs per site will be completed.

MAYPORT NS
PROGRESS AND PLANS

RCRA CA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
RFA	18							
RFI					7			
CMS					10			1
DES					1			
CMI						1		12
IRA			1(1)	2(2)				2(2)
RC							1	17
Cumulative Response Complete							6%	100%
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	9		2					
INV		1	1	2		1		
CAP	1	1	5	3		1		
DES								
IMP			3	2	2	1		2
IRA	1(1)	3(3)	1(1)					
RC			2	2	2	3		2
Cumulative Response Complete			18%	36%	55%	82%		100%

ORLANDO NAVAL RESEARCH LABORATORY UNDERWATER SOUND REFERENCE DETACHMENT
ORLANDO, FLORIDA

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: CNR

Size: 17 Acres owned; 60 Acres in grant

Funding to Date: $10,000

Estimated Funding to Complete: $920,000

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	Response Complete:	0
Low:	0	Total Sites:	1

BRAC IV

PROGRESS AND PLANS

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

ORLANDO NAVAL TRAINING CENTER
ORLANDO, FLORIDA

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: COMSPAWARSYSCOM

Size: 2,075 Acres

Funding to Date: $9,226,000

Estimated Funding to Complete: $54,082,000

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:	11
RCRA Corrective Action:	0
RCRA UST:	4
Total Sites:	15

Relative Risk Ranking of Sites:

High:	3	Not Evaluated:	8
Medium:	2	Response Complete:	2
Low:	0	Total Sites:	15

BRAC III

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	10							
SI	6		3					
RI/FS	1		1	6				
RD					6		1	
RA			1				7	
IRA			1(1)					
RC	1		3				6	1
Cumulative Response Complete	9%		36%				91%	100%

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	2	1	1					
INV			1					
CAP	1	1	2					
DES			1	1				
IMP				2				1
IRA				1(1)				1(1)
RC	1			1				2
Cumulative Response Complete	25%			50%				100%

Panama City Coastal Systems Station
Panama City, Florida

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: COMNAVSEASYSCOM

Size: 657 Acres

Funding to Date: $4,602,000

Estimated Funding to Complete: $17,240,000

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:	15
RCRA UST:	3
Total Sites:	18

Relative Risk Ranking of Sites:

High:	8	Not Evaluated:	0
Medium:	2	Response Complete:	6
Low:	2	Total Sites:	18

PROGRESS AND PLANS

RCRA CA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
RFA	15							
RFI								
CMS	1		9					
DES			1		2			4
CMI			1	1				6
IRA					1(1)			
RC	6		2	1				6
Cumulative Response Complete	40%		53%	60%				100%

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	3							
INV								
CAP			3					
DES								
IMP					2	1		
IRA		1(1)			1(1)	1(1)		
RC					1		1	1
Cumulative Response Complete					33%		67%	100%

Pensacola Naval Air Station
Pensacola, Florida

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: CNET

Size: 5,874 Acres

Funding to Date: $49,049,000

Estimated Funding to Complete: $137,127,000

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:	37
RCRA Corrective Action:	1
RCRA UST:	12
Total Sites:	50

Relative Risk Ranking of Sites:

High:	15	Not Evaluated:	0
Medium:	9	Response Complete:	2
Low:	24	Total Sites:	50

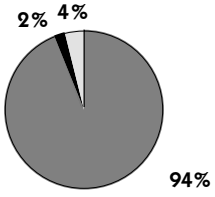
NPL

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, the chemical additive PCB and the pesticide DDT were disposed, and the discovery of benzene and ethyl benzene in the NAS wells. 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 3 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 five 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.



Current Status Of Sites

Studies Underway	47
Cleanups Underway	1
Response Complete	2
TOTALS	50

Currently, 47 sites are in a study phase, 34 of which are CERCLA sites. One CERCLA site is in a Site Inspection (SI) phase study, and 33 are in a Remedial Investigation/Feasibility Study (RI/FS) phase. One RCRA Underground Storage Tank (UST) site is in the Corrective Action Plan (CAP) study phase. The remaining 12 sites under study (one CERCLA site and 11 RCRA UST sites) are awaiting funding to complete the study phase. The one RCRA Solid Waste Management Unit (SWMU) site is currently in the cleanup phase. A removal action to remove contaminated soil and an Interim Remedial Action to install a CAP accelerated the cleanup. Currently, a groundwater treatment process is underway. Seven additional removal actions have been completed. Contaminated soil was removed from three CERCLA sites (Sites 32, 36 and 39) and from two UST sites (USTs 2 and 23). Wastes from 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 two CERCLA sites. A removal action to remove contaminate soil completed the cleanup at one site and the second site required no further study or action at the end of the RI/FS phase.

In the future, at the CERCLA sites, removal actions are planned for four sites in FY96 to remove contaminated soil. Work will continue at the sites that have studies underway. Nine sites expect to have the RI/FS phase completed in FY96. For the RCRA UST sites, one is expected to complete the Initial Site Characterization (ISC) phase and five will complete the Investigation phase in FY96.

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. To accommodate the BRAC construction schedule, Installation Restoration (IR) sites: (Sites 9, 29, 34 and 36) impacted by the construction required expedited investigation to determine the nature and extent of contamination and the remediation required. This expedited schedule impacted the prioritization of IR work plans. 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. Most NAS property is within a mile of the water. 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 potable water 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 Cemetary. 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 Site 39 following the EPA guidance. For the Department of Defense (DOD) Relative Risk Ranking System, 15 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. This score was based primarily on three sites, Sites 17, 18 and 24. The presence of benzene and ethyl benzene in monitoring wells, disposal sites for the chemical additive PCBs (Sites 17 and 18) and disposal sites for the pesticide DDT (Site 24), the location of drinking water wells within three miles of hazardous substances, and the proximity of recreational surface waters were the primary drivers of the HRS score. Two large landfills at Sites 1 and 11 into which all types of wastes were disposed and the industrial wastes outfalls into the sediments at Site 2 were also factors.

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 38-42.

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 composed of personnel from the installation, SOUTHDIV, EPA Region IV, the Florida Department of Environmental Protection and other appropriate parties. 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 nine members of which five are from the community. Community members were sought through newspaper advertisements, public meetings, local television advertisements, fairs and mass mailings. All applicants were accepted as members and the members come from the local professional and business arenas as well as local government. The purpose and functions of the RAB have been the main topics of the meetings to date. The RAB has selected a community co-chair and has completed its charter.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) was first published in March 1990 and is currently under revision. Six fact sheets, ten press releases and five 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. The information in the Administrative Record was placed in three Information Repositories, established in 1991, for public access. They are located at the NAS Pensacola Station Library, the West Florida Regional Library, and the John C. Pace Library in Pensacola, Florida. The Information Repositories are updated regularly by the Navy.

PENSACOLA NAS 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.

FY89

Sites 1, 11, 15, 19, 26, 27 and 30-34 - A Characterization Study, similar to an SI, was completed.
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.

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.

FY 93

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 USTsites which were moved to the CERCLA IR program for investigation.
USTs 2, 6, 7, 9, 12, 13, 15 and 17 - ISC was completed. At UST 17, Long Term Monitoring (LTM) was initiated after the ISC and No Further Action (NFA) is expected at the site.

FY 94

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.
Sites 36, 40, 41 and 42 - RI/FS phase started.
Site 43 - SI phase started and a geophysical survey was completed.
UST 14 - An interim corrective measure was performed to remove petroleum contaminated soil.

PROGRESS DURING FISCAL YEAR 1995

FY95

Sites 43 and 44 - Two new CERCLA sites were added by the EPA and included in the FFA.
Site 39 - The RI/FS phase and the Proposed Plan (PP) were completed. The Record Of Decision (ROD) for Site 39 was signed on 31 July 1995 which specified that no further Remedial Action (RA) was required for the site.
Sites 9, 29, 34 and 36 and USTs 2 and 23 - Removal actions began at these IR sites which are located on construction sites for activities relocated to Pensacola by BRAC III. Soils contaminated with pesticides will be removed from Sites 9 and 29, and soils containing solvents will be removed from Site 34. At Site 36, two removal actions are occurring, one to incinerate wastes using a low temperature thermal desorption process and one to remove soils contaminated with heavy metals. Removal actions on soil contaminated with petroleum products were done at USTs 2 and 23. Expedited removals actions allowed BRAC construction contracts to be awarded on schedule.

Sites 1, 2, 9, 13, 29, 32, 33, 34, 35 and 38 - Five RI Reports were submitted for regulatory review for these ten CERCLA sites: one for Site 1, one for Site 2, one for Sites 9, 29 and 34, one for Sites 13, 32, 33 and 35, and one for Site 38.
Sites 40, 41 and 42 - RI Work Plans and Sampling and Analysis Plans were approved.
Sites 12, 15, 17, 18, 24, 26 and 28 - Three RI phase Sampling and Analysis Plans were completed for seven CERCLA sites: one for Sites 12 and 26, one for Site 15, and one for Sites 17, 18, 24 and 28.
Sites 4, 6, 7, 8, 16, 22 and 36 - Two RI phase Sampling and Analysis Plans were submitted for regulatory review for seven CERCLA sites: one for Sites 4, 6, 7, 8, 16 and 22, and one for Site 36.
Sites 12 and 26 - RI field work was completed.
Sites 15, 17, 18, 24, 28 and 36 - RI field work was started.
Sites 40-42 - Phase I RI Final Work Plans were approved.
USTs 14 and 19 - ISC was completed.
USTs 2, and 9, - Corrective Action Plan (CAP) was completed.
UST 2 and 23 - An Interim Corrective Measure was completed to remove petroleum contaminated soil.

PENSACOLA NAS
PLANS FOR FISCAL YEARS 1996 AND 1997

FY 96

Sites 9, 29, 34 and 36 - Removal actions are planned to remove contaminated soil.
Sites 10 and 14 - The Site Characterization Report will be completed.
Sites 4, 6-8, 16, 18, 22, 24, 28, 36 and 40-42 - The RI phase field work is planned for completion.
Sites 2 and 38 - The RI portion is expected to be completed.
Sites 13, 32, 33 and 35 - The FS portion and Proposed Plan (PP) will be completed. One ROD is expected to be signed for these sites ending the RI/FS phase.
Sites 9, 29 and 34 - The RI/FS report and PP will be completed.
Sites 32, 33 and 35 - The Remedial Design (RD) phase should be started.
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 25 - The ISC is expected to be completed.
USTs 15, 20, 21, 22 and 23 - The Investigation phase will be completed.
UST 17 - The CAP is expected to be completed.

FY 97

Sites 18, 24, 28 and 36 - Two Site Characterization Reports will be completed, one for CERCLA Sites 18, 24, and 28 and another one for CERCLA Site 36.
Sites 4, 6, 7, 8, 16 and 22 - The RI portion is expected to be completed.
Sites 2 and 38 - The FS portion and PP will be completed.
Sites 15 and 17 - The RI/ FS report and PP will be completed.
Sites 1, 2, 9, 29, 34 and 38 - Four RODs are expected to be signed for six CERCLA sites: one for Site 1, one for Site 2, one for Sites 9, 29 and 34, and one for Site 38.
Sites 32, 33 and 35 - The RA phase is planned to start.
UST 25 - Complete the Investigation phase.
USTs 15, 20, 22, 23 and 25 - Complete the CAP.

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	29			1				
SI	13			1				
RI/FS		2	9	7	14	3		1
RD				3		1	6	24
RA								34
IRA	3(3)	2(2)	5(5)					
RC		2		1				34
Cumulative Response Complete		5%		8%				100%

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

UST	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
ISC	8	2	1			1		
INV			5	1		2		1
CAP		2	1	5				4
DES								
IMP					3			8
IRA		2(2)						
RC			1		2	1		8
Cumulative Response Complete			8%		25%	33%		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: $900,000

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:	0
Medium:	0	Response Complete:	0
Low:	3	Total Sites:	4

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	4							
SI								
RI/FS			4					
RD								4
RA								4
IRA								
RC								4
Cumulative Response Complete								100%

Saufley Field Naval Air Station
Pensacola, Florida

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: CINCLANTFLT

Size: 866 Acres

Funding to Date: $50,000

Estimated Funding to Complete: $1,000,000

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	Not Evaluated:	6
Medium:	0	Response Complete:	0
Low:	0	Total Sites:	6

PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	5							
SI								
RI/FS								2
RD							1	1
RA							2	2
IRA								
RC							2	3
Cumulative Response Complete							40%	100%

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

WHITING FIELD NAVAL AIR STATION
MILTON, FLORIDA

Engineering Field Division/Activity: SOUTHDIV

Major Claimant: CNET

Size: 2,560 Acres

Funding to Date: $14,739,000

Estimated Funding to Complete: $104,007,000

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

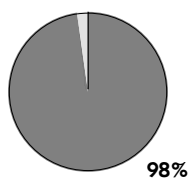
Relative Risk Ranking of Sites:			
High:	19	Not Evaluated:	2
Medium:	12	Response Complete:	1
Low:	11	Total Sites:	45

NPL

EXECUTIVE SUMMARY

Whiting Field Naval Air Station (NAS) includes the NAS and Outlying Landing Field (OLF) Barin. Whiting Field NAS is located in Florida's northwest coastal area, approximately seven miles north of Milton and 20 miles northeast of Pensacola, Florida. Land bordering Whiting Field NAS consists primarily of agricultural lands to the northwest, residential and forested to the south and southwest; the borders are forested land. Whiting Field NAS is on a 2,560 acre tract of land that is 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 that contributed 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 the installation on the National Priorities List (NPL) was the discovery of a plume of volatile organic compounds (VOCs) affecting three base drinking water wells. The Federal Facility Agreement (FFA) is being negotiated and is expected to be signed in FY96.

OLF Barin 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 was commissioned in 1942 as a flight training and indoctrination center and closed in 1959. While the air field was in use, numerous types of solvents, oils and fuels were used for cleaning and maintaining airplanes and vehicles; the quantities of contaminants used are unknown. The field remained unused until 1985, when Whiting Field NAS began using the field as a practice landing strip. Little, if any, hazardous materials are now used, generated or disposed by the airfield. The air field no longer conducts airplane and vehicle maintenance or has the capability to supply fuel to them. In 1988, the investigation of OLF Barin was begun in response to the discovery of contamination in two drinking water wells.



Current Status Of Sites

Studies Underway	44
Cleanups Underway	0
Response Complete	1
TOTALS	45

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 and Big Coldwater Creek. The most significant issue at the NAS is the groundwater contamination. Releases of VOCs have primarily occurred from installation hangar areas and contamination has migrated from the soil into the groundwater. At both Whiting Field NAS and OLF Barin, 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. Area wildlife who drink the contaminated surface water are also potential receptors.

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

All the CERCLA sites (33 at NAS and 10 at OLF are now in the Remedial Investigation/Feasibility (RI/FS) phase of the Installation Restoration Program (IRP) and will complete the RI/FS by FY99. At the majority of sites, the Remedial Design (RD) phase has a delayed start date and will not begin until the late FY90s or early FY00s. RD for all sites will be complete by FY05. There will be concurrent Remedial Action (RA) phases occurring. RAs will start for five sites in FY97, all remaining sites will start by FY03 and RAs for all will be complete in FY05. RA is the final phase of the IRP, Response Complete (RC) will follow the RAs.

The six RCRA UST sites will be completed much sooner. One site (UST 3) was complete this year after the RI/FS phase. Four other sites (USTs 2 and 4-6) have a planned completion of FY97 after the RA phase. The RA phase for UST 1 will not be complete until FY92.

For risk reduction, after the discovery of the groundwater contamination at Whiting Field NAS, granular activated carbon (GAC) filters were installed to remove the organic contaminants from the water supply. Although this is 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 OLF Barin personnel.

WHITING FIELD NAS
RELEVANT ISSUES

ENVIRONMENTAL RISK

HYDROGEOLOGY - 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 Floridian limestone aquifer and the lower Floridian limestone aquifer. The Floridian aquifer is separated from the overlying surficial aquifer by a relatively impermeable Pensacola clay, which tends to keep pollutants from migrating to the lower aquifers.

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 because it may expose buried material and allow direct contact with surface runoff.

At OLF Barin the pathway for contamination migration 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 that reach 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 most significant issue at Whiting Field NAS is the groundwater contamination. Releases of VOCs have primarily occurred from installation landfills 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, but activated carbon filters have been installed on both contaminated wells. The groundwater contamination is made more complex by 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.

There is a widely spread, rural population in the area surrounding Whiting Field NAS. The private residences in the area have private wells. Aquatic organisms in Clear Creek and Big Coldwater Creek are potential receptors. Bio-accumulation in the tissues of these organisms could be conveyed to predators that inhabit this drainage system. Both creeks are classified by the Florida Department of Environmental Regulations 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 that could potentially be present or inhabit the area of Whiting Field NAS but the base area provides little natural habitat for these animals, so few are expected to actually inhabit the base. The animals include: Wood Stork, Eastern Indigo Snake, Alligators, Gopher Tortoises, Red-cockaded Woodpeckers and Peregrine Falcons.

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

The Navy completed a Relative Risk Ranking for the installation. Of the 44 sites at the installation (NAS and OLF combined) 19 sites received a "high" Risk Ranking. The overwhelming majority of the sites (18 of the 19 sites) received the high ranking due to contamination of the groundwater and its use as drinking water. Landfills and disposal sites are the greatest offenders. Solvents, waste oil and fuel, waste paint and thinner and general construction debris were deposited on these sites. The groundwater in the areas were 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 the chemical additive PCBs.

The Agency for Toxic Substances and Disease Registry (ATSDR) completed a preliminary visit at Whiting Field NAS in FY95. ASTDR will return in FY96 to do full public health assessment.

REGULATORY ISSUES

NATIONAL PRIORITIES LIST - Whiting Field NAS and OLF Barin were proposed for the NPL on January 18, 1994 and were placed on the list on May 31, 1994, with an HRS score of 50.00. The installation has determined that the VOC groundwater plume is affecting two of the three installation drinking water supply wells. The contaminated 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 FY96. A Site Management Plan is in the draft form and will be put in place when the FFA is signed.

PARTNERING - A partnering agreement between EPA, State of Florida regulators, the contractors for the station projects, the installation Remedial Project Manager (RPM) and NAVFAC SOUTHDIV RPM has been initiated and is underway but is not formally 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 then one method is agreed upon by the partnering team members before SI begins. Time is not wasted investigating various remedies that are known to not fit the current situation.

COMMUNITY INVOLVEMENT

RESTORATION ADVISORY BOARD - The TRC for Whiting Field NAS was established in 1989 and held annual meetings through FY95. A TRC for OLF Barin was established in August 1992. With a need for greater community involvement in the base cleanups, the Whiting Field NAS TRC was converted to a Restoration Advisory Board (RAB) in July 1995. The RAB has monthly meetings and has conducted site tours 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 recent formation of the RAB, the community has become involved at the base with a high interest in the groundwater contamination and the possibility of off-site migration and the impact it may have on a large wetland, Clear Creek Floodplain, to the southwest of the base.

COMMUNITY RELATIONS PLAN - A Community Relations Plan (CRP) for Whiting Field NAS was completed in October 1990 and is currently being updated. A CRP for OLF Barin was completed in FY93.

INFORMATION REPOSITORY - The Administrative Record and Information Repository were established in August 1992 and are maintained at the NAVFAC's SOUTHDIV, Charleston, South Carolina.

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 Whiting Field NAS completed.
Site 119-128 -.IAS for 10 CERCLA sites at OLF Barin completed.

FY87

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

FY88

OLF - Investigation of 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

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

FY90

Site 124 - An SI was completed for one OLF Barin site.

FY91

Sites 119-123 and 125-128 - An SI was completed for nine CERCLA sites at OLF Barin.

FY92

OLF - An SI at OLF Barin detected soil contaminated with mercury, lead and methylene chloride. RI/FS activities at the OLF Barin began.
Sites 29-33 and 39 - RI/FS begun at six Whiting Field NAS sites.
Site 39 -.IAS for one CERCLA site at Whiting Field NAS started.
Site 127 - RI/FS started at one OLF Barin site.
USTs 1- 6 - Removal actions of tanks and soil at all the USTs were completed. During the removal action, the installation determined that seven 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.

FY94

NAS - Completed several RI/FS Technical Memorandums: NO 1, Geologic Assessment; NO 3, Soils Assessment; and NO 4, Hydrogeologic Assessment.
OLF - A Baseline Risk Assessment and Residential Well Sampling report for OLF Barin were completed. Completed additional 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.
Sites 34-38 -.IAS for five CERCLA sites at Whiting Field NAS started.
Site 8 - Completed RI/FS for Site 8; Florida Department of Environmental Protection issued a No Further Remedial Action Planned (NFRAP) for the site in January 1994.

PROGRESS DURING FISCAL YEAR 1995

FY95

NAS - Three projects scheduled for accelerating cleanup of Whiting Field NAS sites were canceled due to rescinding of funds; two Interim Remedial Actions (IRAs) and a baseline groundwater model project to be used for RD of groundwater cleanup.
NAS - Completed final RI/FS Technical Memorandums; NO 5, Groundwater Assessment and NO 7, Phase 111B Workplan. Numerous interim documents were produced for both Whiting Field NAS and OLF Barin.
NAS - ATSDR preliminary visit was performed at Whiting Field NAS. ASTDR will return in FY96 to do full public health assessment. A Baseline Risk Assessment Workplan for Whiting Field NAS was complete.
OLF - Completed Investigative Derived Waste (IDW) Management Plan and Technical Memorandum Addendum for OLF Barin.
Sites 119 and 124 - Completed Performance Criteria Plans for two OLF Barin sites.
Sites 121, 123, 127 and 128 - Completed No Further Action (NFA) Decision Documents for four OLF Barin sites.
UST 3 - Corrective Action Plan (CAP) for one UST site was completed.
USTs 4-6 - Started Corrective Measures (CM) for three UST sites.

PLANS FOR FISCAL YEARS 1996 AND 1997

FY96

Sites 17, 18, 119 and 124 - IRAs scheduled for completion at CERCLA Sites 17 and 18 for removal of soil contaminated with petroleum. IRAs at Sites 119 and 124 also scheduled for completion.
Site 30 - Groundwater investigation at Site 30 will begin.
Sites 119-128 - RI/FS scheduled for completion at ten OLF Barin sites.
USTs 4-6 - Completion of CM and RC scheduled for three UST sites.
USTs 1, 4-6 - CAP for four UST sites completed.

FY97

Sites 1, 2, 9-18 and 31 - RI reports, RI/FS and Baseline Risk Assessment for 13 CERCLA sites will be complete. Sites 2 and 12 expected to be listed as NFA at that time.
Sites 2 and 31 - RD will begin at two sites.
Site 32 - Groundwater investigation for Site 32 will begin.
Sites 123, 124, 126-128 - RD scheduled for completion and RA phase scheduled to begin at five OLF Barin sites.

WHITING FIELD NAS
PROGRESS AND PLANS

CERCLA	FY94 and before	FY95	FY96	FY97	FY98	FY99	FY00	FY01 and after
PA	33		5			1		
SI	33							
RI/FS			10	13	15	1		
RD				5	2	2		29
RA					5			33
IRA			4(4)					
RC					5	1		33
Cumulative Response Complete					13%	15%		100%
UST	**FY94 and before**	**FY95**	**FY96**	**FY97**	**FY98**	**FY99**	**FY00**	**FY01 and after**
ISC	1							
INV								
CAP		1	4					1
DES								
IMP			3	1				1
IRA								
RC		1	3	1				1
Cumulative Response Complete		17%	67%	83%				100%