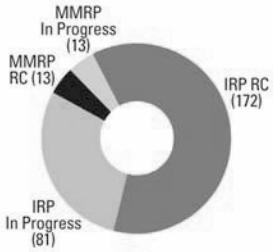
Aberdeen Proving Ground
Edgewood Area and Michaelsville Landfill

NPL/BRAC 2005 Realignment

FFID:	MD321382135500	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Edgewood and Aberdeen, Maryland (72,516 acres)	**Funding to Date:**	$ 592.9 million
Mission:	Develop and test equipment and provide troop training	**Est. CTC (Comp Year):**	$ 287.9 million (FY 2043)
HRS Score:	31.45 (Michaelsville Landfill); placed on NPL in October 1989 53.57 (Edgewood Area); placed on NPL in February 1990	**IRP Sites (Final RIP/RC):**	253 (FY2013)
		MMRP Sites (Final RIP/RC):	26 (FY2019)
IAG Status:	IAG signed in March 1990	**Five-Year Review Status:**	Completed
Contaminants:	VOCs, SVOCs, metals, PCBs, explosives, petroleum products, pesticides, radiation, CWM, UXO, potential biological warfare materiel, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-89



Progress To Date

EPA placed two areas of Aberdeen Proving Ground (APG) on the NPL: one in October 1989, and one in February 1990. EPA and the Army signed an interagency agreement (IAG) in 1990. In 2005, the BRAC Commission recommended APG for realignment. Studies have identified many areas of contamination at APG, including chemical munitions and manufacturing waste sites. RCRA facility assessments identified 319 solid waste management units, which were combined into 13 study areas. Remedial investigations (RIs) identified high levels of organic contaminants in most study areas. Completed removal actions include removal of soil contaminated with metals, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, trichloroethylene (TCE), and DDT; removal of underground storage tanks; removal of unexploded ordnance; closure of Nike missile silos, an adam site vault, and pilot plant sumps; and cleanup of open dump sites. During FY95, the installation converted its technical review committee to a Restoration Advisory Board. APG completed 5-year reviews in FY99 and FY04.

APG has signed 26 Records of Decision (RODs) to date. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at APG for FY04 through FY07 is detailed below.

In FY04, EPA approved the 5-year reviews for the Edgewood and Aberdeen Areas. The installation began defense non-aqueous phase liquid removal at J-Field and continued operations of the Canal Creek (CC), Old O-Field, and the Western Boundary Study Area (WBSA) Operable Unit (OU) 1 groundwater treatment facilities. The installation completed five draft feasibility studies (FSs) for Other Aberdeen Areas (OAA), one for the Westwood Area, and one for Cluster 13 groundwater in the Lauderick Creek Area. The installation conducted enhanced long-term monitoring at Watson Creek and revised the Michaelsville Landfill and WBSA monitoring plans. APG closed the Lauderick Creek chemical warfare materiel site. APG completed its range inventory report and preliminary assessment for the MMRP.

In FY05, the installation awarded performance-based contracts (PBCs) for Bush River Study Areas OUs 2 and 3, Edgewood Area Groundwater, and the Westwood Study Area; and completed a ROD for Cluster 3 Bush River lead-contaminated soil. Additionally, APG completed draft FSs for Bush River groundwater and land disposal units and draft RIs for Other Edgewood Areas. The installation completed the final Rad Risk Assessment, RI/FS, proposed plan (PP), and draft ROD for Westwood Study Area. APG completed a draft ecological risk assessment for Aberdeen Area, a human health risk assessment (HHRA) for OAA and Western Boundary, and a final Phase II RI for OAA.

In FY06, APG completed four RODs. The installation finalized no further action decision documents for 31 sites in the OAA and a PP for the known distance and pistol ranges in the OAA. APG completed construction of Carroll Island and Grace Quarters shoreline stabilization. APG completed a removal action at the Hog Point Area A. Additionally, the installation completed the final remedial action (RA) report for Carroll Island OU A Disposal Pits. APG issued the final FS for Lauderick Creek Area Cluster 9 Groundwater. The installation completed waste and contaminated soil removal at five RA sites in the Westwood Study Area. APG awarded a PBC for the former G Street Salvage Yard, an HHRA for WBSA OU 2, and a remedial design (RD) for five sediment sites in OAA. APG completed a historical record review and initiated installationwide site inspections (SIs) at MMRP sites.

In FY07, APG and EPA signed RODs for the J-Field Former White Phosphorus Pit and the CC G-Street Former Salvage Yard. The installation completed three RODs; one for the Edgewood Groundwater Clusters 9 and 19; one for the Known Distance Range, Pistol Range, and 23 OAA sites; and one for the Westwood Study Area remaining sites. APG completed a PP for Edgewood Groundwater Cluster 9 and 19. APG completed remedy in place (RIP) at six groundwater sites in the OAA Study Area, and RA for five sediment sites in the OAA Study Area. The Army completed RA completion reports for the Lauderick Creek Cluster 5 Concrete Slab Test Site and the Carroll Island/Graces Quarters OU B. The installation also completed the draft RD for Hog Point in the Westwood Study Area (part of the remaining sites ROD), and the draft FS for the New O-Field. In lieu of completing the RI/FS and PP for the CC and Kings Creek Sediments, the Army awarded a PBC for the CC Study Area, which encompasses these units. The installation issued the final SI MMRP Report and the final work plan for an expanded SI for the 5400 Block.

FY08 IRP Progress

APG completed a PP for two dump sites in the Aberdeen Area; the installation revised monitoring plans for Michaelsville Landfill and the WBSA, and completed a draft RI for WBSA OUs 2 and 3. APG signed a ROD for CC 10 sites and remediated contaminated soils at the G-Street Soil OU. APG completed an RA at CC 13 Soil sites and J-Field White Phosphorus Pits. APG awarded an O-Field OU 4 PBC and completed RD and RA for the Westwood WW90 Fill Area. APG initiated the RA and completed the excavation of contaminated soils at the Known Distance Range and Pistol Range.

Regulatory issues delayed RODs for WBSA OUs 2 and 3 and two dump sites. Administrative issues delayed the RI/FS for three Bush River land disposal units.

FY08 MMRP Progress

APG completed the expanded SI for the 5400 Block and issued the final report. The installation discovered two new MMRP sites in the Aberdeen Area.

Plan of Action

Plan of action items for Aberdeen Proving Ground are grouped below according to program category.

IRP

- Complete remaining Bush River Soil PPs and RODs in FY09.
- Complete ROD for Soil Sites at CC in FY09.
- Complete PP for Kings Creek Sediments in FY09.
- Initiate SI at newly discovered G-Street Rad site in FY09.
- Complete two Aberdeen Area RODs in FY09.

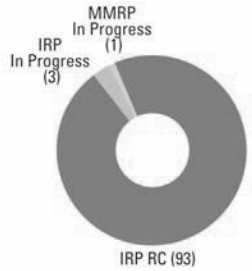
MMRP

- Award contract and initiate RI in FY09.
- Complete SI for two new MMRP sites in FY09.

Adak Naval Air Facility

NPL/BRAC 1995

FFID:	AK017002432300	**Funding to Date:**	$ 279.1 million
Location (Size):	Adak, Alaska (76,800 acres)	**Est. CTC (Comp Year):**	$ 93.2 million (FY 2025)
Mission:	Provided services and materials to support aviation activities and operating forces of the Navy	**IRP Sites (Final RIP/RC):**	96 (FY2013)
HRS Score:	51.37; placed on NPL in May 1994	**MMRP Sites (Final RIP/RC):**	1 (FY2014)
IAG Status:	FFA signed in November 1993	**Five-Year Review Status:**	Completed and planned
Contaminants:	Heavy metals, PCBs, VOCs, petroleum products, SVOCs, explosives, UXO, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-5
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Beginning in the early 1940s, Adak Naval Air Facility (NAF) served as a key operations and supply location for U.S. military forces. EPA placed the installation on the NPL in May 1994. In September 1995, the BRAC Commission recommended closure of Adak NAF. Operational Naval forces departed the island on April 1, 1997, and Engineering Field Activity Northwest assumed command functions. The installation closed in September 1997. A study identified 32 sites at the installation, including landfills, unexploded ordnance (UXO) areas, and polychlorinated biphenyl (PCB) spill sites, which have contaminated groundwater, surface water, sediments, and soil. Twenty sites were recommended for further investigation. In addition, a RCRA facility assessment identified 76 solid waste management units (SWMUs), 73 of which are managed as CERCLA sites under the federal facility agreement (FFA), which the installation signed in November 1993. The installation completed a community relations plan in FY90 and revised the plan in FY95, FY99, and FY03. In FY92, Adak NAF formed a technical review committee, which was converted to a Restoration Advisory Board in FY96. In FY01 and FY08, the installation completed 5-year reviews.

The installation has completed Records of Decision (RODs) for Operable Units (OUs) A and B1, and two No Further Action RODs for SWMUs 4 and 27 and several sites originally included in OU B. In addition, the installation transferred approximately 47,000 acres for private reuse in FY04. The installation completed the environmental cleanup on an additional 24,300 acres, which were transferred to the Department of the Interior (DOI) in FY04. In FY02, the Navy conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Adak NAF for FY04 through FY07 is detailed below.

In FY04, the installation completed a finding of suitability to transfer and transferred approximately 47,000 acres of property for private reuse. In addition, it relinquished approximately 24,300 previously withdrawn acres back to DOI. The Navy retained about 5,600 acres to complete UXO clearance. Fieldwork continued at Parcel 4 to cleanup OU B1 sites that are within the boundary of Parcel 4. Recovery resumed at 3 of the 14 interim free-product remedy petroleum sites. The Navy, EPA, and the Alaska Department of Environmental Conservation continued to negotiate cleanup requirements for OU B2 sites as part of the process of finalizing the OU B2 ROD. Remediation at OU B1 sites within Parcel 4 boundary continued.

In FY05, Adak NAF completed closure documentation for 19 petroleum release sites. The installation completed post-closure care restoration work (vegetative cap maintenance) at two landfills. The Navy initiated the second 5-year review. A decision document (DD) was executed memorializing remedies for 10 of the 14 free-product petroleum sites previously without a final remedy from the OU A ROD. The installation completed feasibility studies (FSs) for the four remaining sites. The Navy completed proposed plans (PPs) and began DDs for three of the remaining sites. The installation completed the focused FS, PP, and DD for the remaining petroleum sites.

In FY06, Adak NAF continued long-term management (LTM) at 29 CERCLA and petroleum release sites under the OU A ROD. The installation completed DDs and remedial actions (RAs) for three petroleum release sites and characterization was completed at another site. A non-time critical removal action was partially completed at the Munitions and Explosives of Concern Rifle-Grenade Range (MEC RG 01).

In FY07, Adak NAF continued LTM at 29 CERCLA and petroleum release sites under the OU A ROD. The Navy finalized the partial RA completions report for 55 CERCLA sites; regulatory concurrence remained pending. The installation completed a conditional site closure at a petroleum release site. Adak NAF conducted the second 5-year review. The Navy continued free-product removal at three petroleum release sites. Adak NAF finalized the partial RA completion report for 155 MMRP sites. The Navy resolved the OU B1 ROD disputes.

FY08 IRP Progress

Adak NAF completed a second 5-year review. The installation continued LTM at 29 CERCLA and petroleum release sites under the OU A ROD. The Navy continued free-product removal at three petroleum release sites and completed an FS for the remaining petroleum release site. The cost of completing environmental restoration has changed significantly due to technical issues. Regulatory issues delayed the delisting process for 55 CERCLA sites.

FY08 MMRP Progress

The installation initiated fieldwork on three OU B1 RA sites. The Navy completed fieldwork at Site LJ 01 and MEC RG 01, and completed fieldwork for the OU B2 remedial investigation (RI) and FS. The State of Alaska granted conditional closure for 17 OU B1 sites.

Regulatory issues delayed the partial deletion of 155 MMRP sites.

Plan of Action

Plan of action items for Adak Naval Air Facility are grouped below according to program category.

IRP

- Complete fieldwork for the main road pipeline decommissioning project in FY09.
- Complete partial delisting for 55 CERCLA sites in FY09.
- Continue free-product removal at three petroleum sites in FY09-FY10.
- Complete FS, PP, and DD for Area 303 petroleum release site in FY09-FY10.
- Continue LTM and institutional control inspections at CERCLA and petroleum release sites in FY09-FY10.

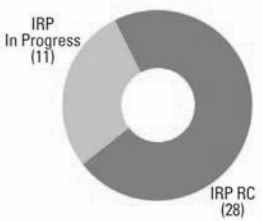
MMRP

- Complete partial delisting for 155 MMRP sites in FY09.
- Complete OU B2 RI, FS, and risk assessment in FY09.
- Complete RA at the three remaining OU B1 sites in FY09-FY10.
- Complete OU B2 PP and ROD in FY10.

Agana Naval Air Station

BRAC 1993

FFID:	GU917002755700	**Funding to Date:**	$ 64.1 million
Location (Size):	Agana, Guam (1,809 acres)	**Est. CTC (Comp Year):**	$ 6.0 million (FY 2019)
Mission:	Provided services and material support for transition of aircraft and tenant commands	**IRP Sites (Final RIP/RC):**	39 (FY2010)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Planned
Contaminants:	Asbestos, paints, solvents, liquids and sludges, heavy metals, VOCs, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-7-16
Media Affected:	Surface Water, Sediment, Groundwater, Soil		



Progress To Date

In July 1993, the BRAC Commission recommended closure of Agana Naval Air Station (NAS). The installation was closed on March 31, 1995. A community relations plan was published in FY92, and three information repositories were established. A BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) were established in FY93.

To date, the installation has identified Installation Restoration Program (IRP) sites. Findings of suitability to lease were completed for three parcels, along with an interim lease and a joint use agreement with the Guam International Airport Authority (GIAA). In addition, five parcels of the NAS, totaling 1,179 acres, have been transferred to the Government of Guam (GovGuam) and GIAA. In FY02, the installation conducted an inventory and identified no Military Munitions Response Program (MMRP) sites at Agana NAS. The cleanup progress at Agana NAS for FY04 through FY07 is detailed below.

In FY04, the installation completed storm damage repairs at Site 1. Agana NAS conducted a dye trace test to confirm effectiveness of long-term monitoring wells at Site 1, which was inconclusive. Regulators re-evaluated the relative risk evaluation for 12 Operable Unit (OU) 2 sites requiring restricted reuse. Nine sites were revised from industrial to unrestricted land use. Historical risk data for fish in Agana Swamp were re-evaluated to support an additional round of required fish sampling to determine if polychlorinated biphenyl (PCB) levels have decreased at Site 35. The installation completed planning documents for two additional monitoring wells at Site 37. At the former Agana NAS Navy Exchange Service Station, Buildings 15-46A, the Guam Economic Development Authority cleaned up a petroleum substance rising from the ground. The parcel was turned over in an early transfer agreement to GovGuam, but the contamination was suspected to be from the former Navy service station operation of a 100-gallon waste oil underground storage tank, oil-water separator, and associated piping not reported in the Environmental Baseline Survey (EBS). During investigative site visits for development of sampling plans, regulators determined that the source was the sewer system connected to the service station drains, oil-water separator drums, and piping. The draft site inspection (SI) work plans were completed under the basewide EBS. One RAB and two BCT meetings were held.

In FY05, Agana NAS completed the dye trace study for Site 1 and began an evaluation with regulators to determine landfill monitoring network design. The installation completed proposed plans (PPs) and draft decision documents (DDs) for Sites 1 and 38, and 28 OU 2 sites. Site 37 monitoring well installation and two rounds of sampling were completed. The installation completed the SI fieldwork sampling and analysis to determine further response actions required at Building 15-46A. Three public meetings and two BCT meetings were held. The BCT performed a review of the PPs, and EPA and Guam EPA attended Navy public meetings and provided cooperative regulator support.

In FY06, Agana NAS completed monitoring of the well network installation at Site 1. The Navy completed PCB remedial actions at Agana Power Plant Site 37 and included these actions in the remedial investigation (RI) report. The installation achieved resolution for fish monitoring at the Agana Swamp. The installation completed a draft of the Building 15-46A SI report and determination of further action requirement. The installation held one RAB and one BCT meeting.

In FY07, Agana NAS initiated tensiometer monitoring and completed maintenance and inspection activities at Site 1. The Navy completed one round of fish tissue sampling at the Agana Swamp in association with the Agana Power Plant, a focused feasibility study, the RI report, and a PP to present land use controls (LUCs) as the final remedy at Site 35. The installation began tensiometer monitoring and completed the long term monitoring plan for Site 1. The installation completed the final SI report and began the removal of the sewer pipeline and sludge at Site 39. Agana NAS held one public meeting for Site 35, three RAB meetings, and two BCT meetings.

FY08 IRP Progress

Agana NAS completed the post-removal action maintenance and monitoring plan, tensiometer monitoring, maintenance inspection activities, documentation, and abandonment work at Site 1. The installation also completed pipeline removal at Site 39. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the DDs and LUC work plans for Sites 1 and 38, and OU 2.

Agana NAS held one open house for Site 35, three RAB meetings, and three BCT meetings.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Agana Naval Air Station are grouped below according to program category.

IRP

- Complete DDs and LUC work plans for 14 sites in FY09.
- Complete DDs for no further action for 16 sites in FY09.
- Initiate LTM at Site 1 in FY09.

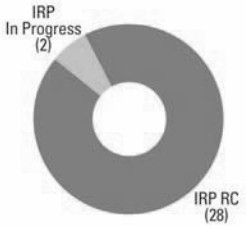
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Air Force Plant No. 4

NPL

FFID:	TX657172460500	**Funding to Date:**	$ 69.0 million
Location (Size):	Fort Worth, Texas (706 acres)	**Est. CTC (Comp Year):**	$ 17.0 million (FY 2018)
Mission:	Manufacture aircraft (F-16, partial F-22, and the F-35 Joint Strike Fighter) and associated equipment; testing electronics	**IRP Sites (Final RIP/RC):**	30 (FY2006)
HRS Score:	39.92; placed on NPL in August 1990	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in August 1990	**Five-Year Review Status:**	Planned
Contaminants:	Waste oils and fuels, heavy metals, VOCs, cyanide, DNAPL, TCE, PCBs, paint residues, spent process chemicals, solvents	**IRP/MMRP Status Table:**	Refer to page M-6-153
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Air Force Plant No. 4 (AFP 4) has been a primary manufacturing plant for military aircraft and related equipment since 1942. The installation is adjacent to and shares the airfield with Fort Worth Joint Reserve Base Naval Air Station (former Carswell Air Force Base [AFB]). In August 1990, EPA placed the installation on the NPL. The Air Force also signed a federal facility agreement (FFA) in August 1990. Studies have confirmed groundwater, surface water, and soil contamination. Specifically, trichloroethylene (TCE) was found in groundwater underneath six spill sites and four landfills (LFs). In FY95, AFP 4 converted its technical review committee to a Restoration Advisory Board (RAB). The installation completed the first 5-year review in FY04.

To date, Records of Decision (RODs) have been completed for all sites. The cleanup progress at AFP 4 for FY04 through FY07 is detailed below.

In FY04, EPA provided written concurrence on the first 5-year review. The installation turned off the soil vapor extraction system for Building 181 to measure rebound concentrations of TCE in the area treated the previous year by electrical resistance heating. The installation conducted two long-term monitoring rounds, including monitoring wells on Carswell AFB, and determined that all treatment systems were working properly. AFP 4 continued to partner with the Air Force Center for Environmental Excellence and Air Force Real Property Agency (AFRPA) on plume management and support for the BRAC-transfer of the Carswell Golf Course Parcel.

In FY05, the installation continued operation and maintenance (O&M) and long-term monitoring of treatment systems. The Air Force completed Phase III fieldwork on dense nonaqueous phase liquid (DNAPL)/polychlorinated biphenyls (PCBs) near the creek, LFs, and Lake Worth. The Air Force submitted the final focused feasibility study to regulators. The Air Force also continued partnering with the North Central Texas Council of Governments for Lake Worth restoration. The installation hosted a site tour with the Texas Commission on Environmental Quality (TCEQ) total maximum daily load (TMDL) officials. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, AFP 4 continued O&M and long-term monitoring of treatment systems. EPA inspected the treatment systems in January and approved the final interim action completion report in June. The installation worked to decrease treatment system costs and held discussions with a contractor concerning optional discharge of treated water. AFP 4 and TCEQ held a public meeting to discuss the TMDL implementation plan for Lake Worth. The installation completed the preliminary closeout report necessary for transfer of the Carswell Golf Course parcel by AFRPA.

In FY07, AFP 4 implemented the TMDL implementation plan, which included additional street sweepings to remove residual low-level PCBs. The installation also continued outfall sampling and testing of fish in Lake Worth for PCBs. The Air Force completed and signed the explanation of significant differences for the East Parking Lot Groundwater Plume ROD and received EPA Region VI concurrence. A preliminary close out report was issued by the EPA Region VI. The base received a Certificate of Completion for Air Force Superfund remedial action (RA). AFP 4 received funding for hot spot treatment for RA implementation at Building 181, Chrome Pit 3 Area (for TCE) and LF 3. Treatment system O&M continued. RAB meetings were held semiannually. The Air Force initiated an MMRP comprehensive site evaluation (CSE) Phase I at this installation.

FY08 IRP Progress

AFP 4 conducted long-term monitoring and continued treatment system O&M. The installation completed pilot hot spot treatment injections at Building 181 (dehalococoides culture), Chrome Pit 3 (permanganate), LF 3 (air sparge) and LF 3 Seep (edible oil substrate) to address high-level VOCs. The installation inspected land use controls (LUCs) on former Carswell AFB BRAC property affected by the East Parking Lot Groundwater Plume. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The Air Force initiated the second 5-year review. The RAB conducted a meeting.

FY08 MMRP Progress

AFP 4 completed the CSE Phase I. The Air Force conducted a site visit.

Plan of Action

Plan of action items for Air Force Plant No. 4 are grouped below according to program category.

IRP

- Complete second 5-year review in FY09.
- Continue RA-operations and inspection of LUCs on former Carswell AFB BRAC property in FY09-FY10.
- Implement remedial process optimization of entire site to include long-term monitoring in FY09-FY10.
- Complete explanation of significant differences for entire site in FY09-FY10.

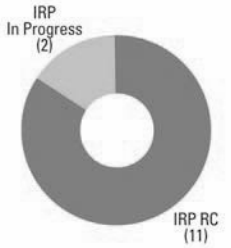
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Air Force Plant No. 44

NPL

FFID:	AZ957172462900	**Funding to Date:**	$ 83.4 million
Location (Size):	Tucson, Arizona (2,174 acres)	**Est. CTC (Comp Year):**	$ 43.6 million (FY 2030)
Mission:	Research, design, and manufacture of missiles	**IRP Sites (Final RIP/RC):**	13 (FY2010)
HRS Score:	57.86; placed on NPL in September 1983	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA negotiations underway	**Five-Year Review Status:**	Completed and planned
Contaminants:	Paint sludges, paint thinners, heavy metals, solvents, machine coolants, machine lubricants, TCE, VOCs	**IRP/MMRP Status Table:**	Refer to page M-6-13
Media Affected:	Groundwater, Sediment, Soil		



Progress To Date

Air Force Plant No. 44 (AFP 44), located adjacent to Tucson International Airport (IAP), was constructed in 1951 to manufacture Falcon air-to-air missiles. Over the years, industrial facilities were constructed to support several other missile systems. The installation is part of the Tucson International Airport Area (TIAA), which EPA placed on the NPL in September 1983. In addition to AFP 44, the TIAA (covering approximately 10 square miles) includes airport property owned by the City of Tucson, the Tucson IAP Air National Guard Base (ANGB), and adjacent Native American reservation property and several residential areas in the cities of Tucson and South Tucson. Only restoration activities for this installation and Tucson IAP ANGB are funded through the Environmental Restoration Account. Contaminants identified at AFP 44 sites include solvents, machine coolants and lubricants, paint sludges and thinners, and heavy metals. The installation formed a Restoration Advisory Board, which was later converted to a Unified Community Advisory Board. AFP 44 updated and finalized the community relations plan and conducted a 5-year review for six soil sites in FY04.

To date, the installation signed Records of Decision (RODs) for three soil vapor extraction (SVE) sites, three soil excavation sites, and one groundwater remediation site. A No Further Action ROD was signed for four sites. The cleanup progress at AFP 44 for FY04 through FY07 is detailed below.

In FY04, AFP 44 conducted an expanded in situ pilot project at Site 3 and submitted a work plan. The installation also completed the SVE at Sites 3 and 5 and monitored soil gas for one year. In addition, the installation completed the 1,4-dioxane risk assessment and determined necessary future actions. The Air Force submitted the findings to the regulators. AFP 44 continued operation and maintenance (O&M) of the groundwater remediation system, SVE systems, and dual phase extraction (DPE) systems. The installation continued the Site 2 in situ pilot project, resulting in most of the Site 2 wells being below drinking water standards. Regulators approved the Site 2 closure report. Sites 3 and 5 were shut off and soil gas will be monitored to verify that the act of removing contamination in the vadose zone posed no threat to the groundwater. AFP 44 completed a 5-year review for six soil sites. The installation updated and finalized the AFP 44 community relations plan.

In FY05, AFP 44 completed the Site 3 permanganate injection; future monitoring results will determine the effectiveness of the permanganate injections. The installation conducted soil gas monitoring for Sites 3 and 5. The results indicated most of the wells are non-detect. AFP 44 continued O&M of groundwater reclamation system and DPE was eliminated because the source areas have been addressed. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, AFP 44 submitted closure documents for Sites 3 and 5. The Air Force updated the documents based on comments from EPA Region 9 and the Arizona Department of Environmental Quality. Additionally, the Air Force reinjected more permanganate at Sites 2 and 3 because of the rebound of trichloroethylene (TCE) concentrations in the monitoring wells. The Air Force used soybean oil and lactic acid to clean up the chromium and TCE source areas that migrated from Solid Waste Management Unit D, the former chromium plating area in Building 801. The installation continued O&M of the groundwater reclamation system.

In FY07, AFP 44 revised closure reports for Sites 3 and 5 based on the new Arizona cleanup level. The installation reduced the mass of the source areas for Sites 2 and 3 and completed the soil cleanup under Building 801. The Air Force continued O&M of the groundwater remediation system.

FY08 IRP Progress

AFP 44 conducted a focused remedial investigation (FRI) and a remedial process optimization (RPO) to evaluate the extent of 1,4-dioxane contamination for both AFP 44 and other potential TIAA source areas, and to evaluate remediation systems for the shallow groundwater zone (SGZ). The installation found 1,4-dioxane concentrations are decreasing at Sites 2 and 3. The Air Force issued an explanation of significant differences to the 1985 ROD to install an advanced oxidation process (AOP) system that destroys both 1,4-dioxane and TCE, and update the cleanup levels to the maximum contaminant level. AFP 44 completed the final permanganate injections for Sites 2 and 3 source areas. The Air Force evaluated the site concentrations in the vadose zone and determined that they can close sites without land use controls.The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

AFP 44 completed an MMRP comprehensive site evaluation Phase I. The installation identified a small pistol range and the area is under evaluation.

Plan of Action

Plan of action items for Air Force Plant No. 44 are grouped below according to program category.

IRP

- Install and successfully test the AOP system in FY09.
- Complete FRI in FY09.
- Complete RPO project in FY09.
- Determine final remedy for the SGZ in FY09-FY10.
- Obtain closure of the six soil sites in FY10.
- Update groundwater ROD in FY10.

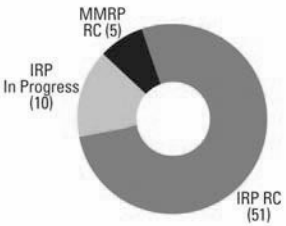
MMRP

- Conduct limited field investigation of recently discovered small pistol range in FY09.

Air Force Plant PJKS

NPL

FFID:	CO857172553700	**Funding to Date:**	$ 42.5 million
Location (Size):	Waterton, Colorado (464 acres)	**Est. CTC (Comp Year):**	$ 21.2 million (FY 2020)
Mission:	Research, develop, and assemble missiles and missile components; test engines	**IRP Sites (Final RIP/RC):**	61 (FY2011)
HRS Score:	42.93; placed on NPL in November 1989	**MMRP Sites (Final RIP/RC):**	5 (FY2005)
IAG Status:	None	**Five-Year Review Status:**	Planned
Contaminants:	PCBs, PAHs, BTEX, chlorinated organic solvents, VOCs, SVOCs, metals, n-nitrosodimethylamine, pesticides	**IRP/MMRP Status Table:**	Refer to page M-6-46
Media Affected:	Surface Water, Sediment, Soil, Groundwater		



Progress To Date

Former Air Force Plant (AFP) PJKS supported the military by researching, developing, and assembling missiles, missile components, and engines. EPA placed the installation on the NPL in November 1989. In FY01, AFP PJKS was sold to Lockheed Martin Corporation, the operator of the facility. Past operations have contaminated groundwater beneath the installation with trichloroethylene (TCE), TCE degradation products (dichloroethene and vinyl chloride), and n-nitrosodimethylamine (NDMA), and soil with polychlorinated biphenyls (PCBs) and polycyclic aromatic hydrocarbons (PAHs). The installation formed a Restoration Advisory Board (RAB) in FY96 and signed a RAB charter in FY97.

Studies have identified Installation Restoration Program (IRP) sites, which were grouped into six operable units. Twelve of 14 underground storage tanks have been removed from the installation and closures were completed at 2 sites. In FY03, regulators granted no further action (NFA) determinations for 12 sites. The cleanup progress at AFP PJKS from FY04 through FY07 is detailed below.

In FY04, the installation conducted bedrock pilot studies in three locations to evaluate bioremediation techniques to treat TCE; the treatment was successful in one location. The installation also prepared a work plan and negotiated an approach for an alluvial pilot study designed to evaluate bioremediation technologies to treat TCE and NDMA in an alluvial aquifer. The Air Force submitted the work plan for regulatory approval. The installation completed investigations at the remaining soil areas as part of the combined soils additional investigation. The installation also conducted two rounds of groundwater monitoring and submitted the 2003 Annual Groundwater Monitoring Report to regulators.

In FY05, the installation conducted two rounds of groundwater monitoring and submitted the 2004 Annual Groundwater Monitoring Report to regulators. The installation completed the alluvial groundwater bench scale study. AFP PJKS prepared an engineering evaluation and cost analysis to convert the successful bedrock pilot study into an interim corrective measure (ICM) and received regulatory approval. The combined soils additional investigation report was approved by regulators. As part of this report, the installation received regulatory approval of NFA requests for 13 sites, as did the combined soils ICM study and implementation work plan. The installation prepared a work plan detailing additional activities to be conducted as part of the bedrock pilot study. The D-1 Landfill Area interim measure work plan was approved by regulators. The Air Force conducted a study to evaluate NDMA distribution using an experimental analytical method with a lower detection limit than the currently accepted method. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. Quarterly RAB meetings were held.

In FY06, AFP PJKS conducted two rounds of groundwater monitoring and submitted the 2005 Annual Groundwater Monitoring Report to regulators and received approval. The installation completed the combined soils ICM study report following a public comment period. AFP PJKS completed implementation of the combined soils ICM, which resulted in the closure of seven sites. The installation conducted additional pilot study remediation activities to reduce TCE concentrations. Additionally, the Air Force implemented two ICMs to address groundwater source areas. The installation continued to hold RAB meetings quarterly.

In FY07, AFP PJKS conducted two rounds of groundwater monitoring and submitted the 2006 Annual Groundwater Monitoring Report, which included an updated conceptual site model. The installation collected quarterly performance monitoring data on the two groundwater ICMs, which continue to perform as designed. ICMs were installed in two of the remaining source areas. In addition, ICMs, instead of treatability tests, were selected for the remaining source areas based on the success of the initial two ICMs.

FY08 IRP Progress

AFP PJKS conducted two rounds of groundwater monitoring and submitted the 2007 Annual Groundwater Monitoring Report. The Air Force installed ICMs in the remaining five groundwater source areas. The installation submitted the feasibility study (FS) work plan, and the FS is ongoing. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria. Administrative issues delayed completion of the groundwater FS work plan. The Air Force continued to hold regular RAB meetings.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Air Force Plant PJKS are grouped below according to program category.

IRP

- Complete FS in FY09.
- Complete D-1 Landfill Area interim measure in FY09.
- Continue to operate groundwater ICMs and collect performance data in FY09-FY10.
- Continue sitewide groundwater monitoring in FY09-FY10.

MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Alabama Army Ammunition Plant

NPL/BRAC 1988

FFID:	AL421382000800	**Funding to Date:**	$ 62.7 million
Location (Size):	Childersburg, Alabama (2,235 acres)	**Est. CTC (Comp Year):**	$ 4.8 million (FY 2040)
Mission:	Manufactured explosives	**IRP Sites (Final RIP/RC):**	42 (FY2010)
HRS Score:	36.83; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in December 1989	**Five-Year Review Status:**	Planned
Contaminants:	Nitroaromatic compounds, heavy metals, munitions-related wastes, VOCs, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-7-1
Media Affected:	Groundwater		

Progress To Date

Studies conducted at Alabama Army Ammunition Plant (AAP) since FY83 identified various sites as potential sources of contaminants. Prominent site types include: a former ammunition production and burning ground for explosives; industrial wastewater conveyance systems, ditches, and a red water storage basin; landfills; underground storage tanks; polychlorinated biphenyl (PCB)-containing transformers; and a former coke oven. The groundwater, surface water, sediment, and soil are contaminated with nitroaromatic compounds, heavy metals, and explosives waste. EPA placed the installation on the NPL in July 1987, and the installation signed a federal facility agreement (FFA) in December 1989. In FY94, the Army formed a BRAC cleanup team. During FY95, the Army attempted to establish a Restoration Advisory Board (RAB), but received no applications for RAB membership. Alabama AAP signed 5-year reviews in FY02 and FY08.

The Army has signed three Records of Decision (RODs) to date. The installation closed 35 groundwater monitoring wells in FY99. The Army completed the early transfer of property to the City of Childersburg in FY03. In FY03, the Army also completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Alabama AAP for FY04 through FY07 is detailed below.

In FY04, the installation submitted the draft groundwater remedial investigation (RI) for regulatory review, along with further site sampling of the South Georgia Road site. The installation completed the soil feasibility study (FS).

In FY05, the installation completed the draft Soils Proposed Plan (PP).

In FY06, Alabama AAP submitted a Soils PP for regulatory review and completed a work plan addendum for additional groundwater sampling.

In FY07, the Army received final approval letters on the Area B Soils RI/FS from EPA. The Army distributed a revised draft PP for the Area B Soils. Due to Alabama Department of Environmental Management (ADEM) concerns relating to the possibility of semi-volatile organic compounds (SVOCs) and volatile organic compounds (VOC) contaminants, the Army provided additional information on the RI sampling data. ADEM approved the FS and the draft PP for the Area B Soils. The Army conducted groundwater sampling at Alabama AAP and in nearby off-site potable wells. The Army has also prepared a draft 5-year review for EPA approval. The Army conducted meetings to discuss the groundwater progress with the regulators.

FY08 IRP Progress

Alabama AAP prepared a 5-year review, which EPA signed. The Army conducted additional sampling to address ADEM concerns relating to SVOCs and VOCs at the South Georgia Road Dump. The Installation updated the FS and PP for Area B Soils, Sediment, and Surface Water to include the sampling results at the South Georgia Road Dump. The Army revised and issued a final FS and PP. The Army provided responses to ADEM on prior groundwater comments. Alabama AAP provided a detailed groundwater sampling plan for EPA and ADEM review. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues relating to concerns about potential undiscovered SVOC/VOC contamination delayed the Area B Soils ROD.

Alabama AAP held a public meeting to address the Area B Soils, Sediment, and Surface Water PP.

FY08 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Alabama Army Ammunition Plant are grouped below according to program category.

IRP

- Complete Area B Soils ROD in FY09.
- Complete groundwater RI/FS in FY09.
- Complete groundwater ROD in FY10.

MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Alameda Naval Air Station

NPL/BRAC 1993

FFID:	CA917002323600	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Alameda, California (2,675 acres)	**Funding to Date:**	$ 355.5 million
Mission:	Maintained and operated facilities and provided services for naval aviation activities and operating forces	**Est. CTC (Comp Year):**	$ 147.6 million (FY 2017)
HRS Score:	50.0; placed on NPL in July 1999	**IRP Sites (Final RIP/RC):**	45 (FY2014)
IAG Status:	FFA signed in FY01	**MMRP Sites (Final RIP/RC):**	None
Contaminants:	BTEX, chlorinated solvents, radium, heavy metals, herbicides, pesticides, petroleum hydrocarbons, PAHs, PCBs, VOCs, SVOCs, explosives, propellants	**Five-Year Review Status:**	A 5-year review is not required for this installation.
		IRP/MMRP Status Table:	Refer to page M-6-21

Progress To Date

In September 1993, the BRAC Commission recommended closure of Alameda Naval Air Station (NAS). The installation closed in 1997. EPA placed the installation on the NPL in July 1999, and the installation signed a federal facility agreement (FFA) in FY01. Prominent site types are landfills, offshore sediment areas, plating and cleaning shops, pesticide control areas, a radium dial paint shop, transformer storage areas, and a former oil refinery. A BRAC cleanup team (BCT) was formed in FY93. The installation formed a technical review committee in FY90 and converted it to a Restoration Advisory Board (RAB) in FY93. A BRAC cleanup plan was completed in FY94. In addition, a community land reuse plan was approved in FY96. In FY98, the first technical assistance for public participation (TAPP) grant in the United States was issued to the RAB to help with the Operable Unit (OU) 1 remedial investigation (RI) review. The Navy awarded the RAB additional TAPP grants in FY03 and FY04. The installation completed the initial community relations plan (CRP), and revised it in FY03.

Alameda NAS has identified Installation Restoration Program (IRP) sites and no Military Munitions Response Program (MMRP) sites. The installation has completed Records of Decision (RODs) for Marsh Crust; Sites 14, 15, 17, 20, 25, 26, 27, 28, 29, and 31; and OUs 1 and 5. To date, 45 IRP sites have achieved remedy in place (RIP) or response complete (RC). The cleanup progress at Alameda NAS for FY04 through FY07 is detailed below.

In FY04, the installation completed an action memo and time-critical removal action (TCRA) for Site 13 and completed a supplemental action memo for a TCRA for Site 9. The Navy initiated the RI for Site 30, the Miller school and child care facility. The installation began planning a TCRA for containment of polyaromatic hydrocarbons (PAHs)-contaminated soil at Site 30. The Navy completed RIs for OUs 4B (Site 17) and 6 (Site 26). The installation completed the RI for OU 4C (Site 29) and determined that the feasibility study (FS) was not needed for this no further action (NFA) site. The RAB held 12 meetings, reviewed environmental documents, and received a TAPP grant for the review of the draft groundwater RI/FS for OU 5. The BCT met once a month to discuss IRP documents and strategies for site closure.

In FY05, Alameda NAS signed a NFA ROD for Site 29 (Skeet Range). The Navy conducted a removal action at Site 30 to address a potential risk caused by PAHs in the soil. The installation initiated a removal action at Site 9 to remove floating hydrocarbon to safely initiate the planned removal action (chemical-oxidation) of chlorinated hydrocarbons in groundwater. Additionally, the Navy completed an innovative technology removal action on a portion of Site 5, which was the largest full scale deployment of true six-phase heating to date. Alameda NAS initiated the first 5-year review report. The Navy quickly removed a subsurface vault and tank containing petroleum hydrocarbons from the Least Tern Area. The installation also completed the RI/FS for OU 1 (Sites 6, 7, 8, and 16). In addition, the installation completed a removal action at Site 16 and one area at Site 5. It also completed FSs for OUs 4B (Site 17) and 6 (Site 28). The RAB held 12 meetings, reviewed environmental documents, and conducted a tour of the northwestern area. The BCT met once a month to discuss IRP documents and strategies for site closure.

In FY06, Alameda NAS signed RODs for Sites 15 and 26. The installation completed the proposed plan (PP) for OU 1 (Sites 6, 7, 8, and 16). The Navy also completed RIs for Sites 20 and 24. The RAB held 11 meetings, applied for a TAPP grant, reviewed environmental documents, and conducted a RAB tour of two sites with active remediation. The BCT met once a month to discuss IRP documents and strategies for site closure.

In FY07, Alameda NAS completed RODs for Sites 14, 17, 25, and 28 and OUs 1 (Sites 6, 7, 8, and 16) and 5. The Navy completed PPs for Sites 1 and 27. Alameda NAS continued the six-phase heating removal action at Site 5 to address chlorinated solvents in groundwater. The installation initiated a TCRA at Sites 1, 2, and 32 to address lead and radiologically-impacted soil. The Navy initiated a pilot test for vapor extraction at OU 5/IR 02 to address benzene and naphthalene in groundwater.

FY08 IRP Progress

Alameda NAS completed RODs for Sites 20, 27, and 31. The installation initiated a TCRA at Sites 5 and 10, and at waste piles at the margins of Site 17. The Navy initiated remedial actions (RAs) at Sites 14, 26, and OU 5/IR 02, and completed FSs for Sites 2, 24, and 32. The installation completed a finding of suitability to transfer for Public Benefit Conveyance 1. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed the ROD for Site 1, RA at Site 17, and the FS for OU 2A.

The RAB conducted two tours of the installation and held monthly meetings. The BCT also met monthly.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Alameda Naval Air Station are grouped below according to program category.

IRP

- Complete RODs for Sites 1, 30, and 35 in FY09.
- Complete RA at Site 17 and removal actions for Site 17, OU 2C, and drain lines at Sites 5 and 10 in FY09.
- Begin remedial design for Site 1 and RA at Site 28 and OU 1 in FY09-FY10.
- Update the CRP in FY09-FY10.

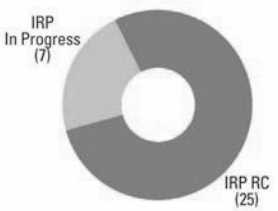
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Albany Marine Corps Logistics Base

NPL/BRAC 2005 Realignment

FFID:	GA417302369400	**Media Affected:**	Groundwater, Sediment, Soil
Location (Size):	Albany, Georgia (3,579 acres)	**Funding to Date:**	$ 43.1 million
Mission:	Acquire, supply, and dispose of materials needed to sustain combat readiness of Marine Corps forces worldwide; acquire, maintain, repair, rebuild, distribute, and store supplies and equipment; conduct training	**Est. CTC (Comp Year):**	$ 8.4 million (FY 2039)
		IRP Sites (Final RIP/RC):	32 (FY2008)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	44.65; placed on NPL in December 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in July 1991	**IRP/MMRP Status Table:**	Refer to page M-7-15
Contaminants:	VOCs, PCBs, heavy metals, pesticides, PAHs, SVOCs, TCE		



Progress To Date

The Albany Marine Corps Logistics Base (MCLB) is used to acquire, supply, and dispose of materials needed to sustain combat readiness of Marine forces worldwide. The sites at the installation are grouped into six operable units (OUs), including basewide groundwater (OU 6) and a site-screening group. Sites include disposal areas, storage areas, and landfills. Contaminants include trichloroethylene (TCE), polychlorinated biphenyls (PCBs), and heavy metals. EPA placed the installation on the NPL in December 1989, and the installation signed a federal facility agreement (FFA) in July 1991. In 2005, the BRAC Commission recommended Albany MCLB for realignment. The installation formed a technical review committee. In FY92, Albany MCLB completed a community relations plan. In FY01 and FY06, the installation completed 5-year reviews.

To date, a No Further Action Record of Decision (ROD) at OU 2 has been signed, and final RODs for OUs 1, 3, 4, 5, and 6 have been completed. In addition, the installation has signed an interim ROD at Solid Waste Management Unit (SWMU) 3. In FY02, the Navy conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Albany MCLB for FY04 through FY07 is detailed below.

In FY04, the installation began delineation sampling and investigation of SWMUs 31 and 32.

In FY05, Albany MCLB implemented the groundwater remedy. The installation completed remediation of the two SWMUs and completed an explanation of significant differences to the OU 6 ROD. Additionally, the installation completed the remedial design for source areas and awarded the contract for the construction of the cap.

In FY06, Albany MCLB completed injections of permanganate and zero-valent iron into the groundwater and performed two rounds of monitoring to determine the effectiveness of the treatments. The installation completed a 5-year review that determined all remedies remained in place and were protective. The installation started construction of an evapotranspiration (ET) cap.

In FY07, Albany MCLB monitored the effectiveness of the groundwater treatments and continued natural attenuation monitoring.

FY08 IRP Progress

Albany MLCB performed an optimization review of the groundwater monitoring program. The installation continued natural attenuation monitoring.

Administrative issues delayed construction of the ET cap. Regulatory issues delayed the optimization review.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Albany Marine Corps Logistics Base are grouped below according to program category.

IRP

- Continue monitoring natural attenuation in FY09.
- Complete construction of the ET cap in FY09.
- Complete optimization review and implement recommendations in FY09.

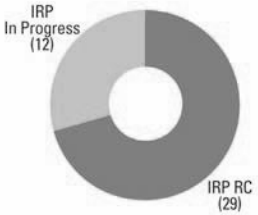
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Allegany Ballistics Laboratory

NPL

FFID:	WV317002369100	**Funding to Date:**	$ 35.2 million
Location (Size):	Mineral County, West Virginia (1,628 acres)	**Est. CTC (Comp Year):**	$ 34.1 million (FY 2038)
Mission:	Research, develop, and produce solid propellant rocket motors for DoD and NASA	**IRP Sites (Final RIP/RC):**	41 (FY2014)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	50.00; placed on NPL in May 1994	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in January 1998	**IRP/MMRP Status Table:**	Refer to page M-6-176
Contaminants:	VOCs, RDX, HMX, perchlorate, silver, SVOCs, explosives, propellants, metals		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The Allegany Ballistics Laboratory (ABL) was used for research, development, and production of solid propellant rocket motors for DoD and NASA. Contaminants found at the installation included volatile organic chemicals (VOCs), RDX, HMX, perchlorate, and silver. EPA placed the installation on the NPL in May 1994, and the installation signed a federal facility agreement (FFA) in January 1998. The Navy established a technical review committee in FY89 and converted it to a Restoration Advisory Board in FY95. In FY94, the installation established an administrative record and two information repositories. In FY99, the installation issued a draft community relations plan. In FY08, the installation completed a 5-year review for Sites 1, 5, and 10.

Previous studies identified environmental restoration sites at this government-owned, contractor-operated installation. A confirmation study recommended further investigation at eight sites. A later study identified 119 solid waste management units (SWMUs) and 12 areas of concern (AOCs), with 61 recommended for further action. The installation has completed Records of Decision (RODs) for Sites 1, 2, 3, 4B, 5, and 10. In addition, a No Further Action (NFA) ROD was signed for Site 7. In FY02, the installation conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Allegany Ballistics Laboratory for FY04 through FY07 is detailed below.

In FY04, Allegany Ballistics Laboratory initiated work to fill in data gaps for Site 1 Soils, and the human health risk assessment (HHRA) and ecological risk assessments (ERA) for Site 1. The installation completed the review of the remedial investigation (RI) and feasibility study (FS) for Site 5. The installation presented the finalized ROD for Site 10 to the Navy and EPA, and finalized work plan changes for further investigations at SWMUs 27A and 37V. The installation completed an engineering evaluation and cost analysis for removal action at Site 12. The installation completed the RI/FS for Sites 3, 10, and 12, and the RI for AOC N (Site 12).

In FY05, Allegany Ballistics Laboratory completed sampling work for Site 1 Soils, and began work on the RI and the associated HHRA and ERA. The RI/FSs were completed for Sites 2 and 5. The installation documented that NFA is needed at Site 3 as the proposed remedial action plan is final. The installation completed a soil removal action for Site 12. In addition, the installation signed the ROD for Site 10.

In FY06, Allegany Ballistics Laboratory completed an optimization study of the pump-and-treat system serving Sites 1 and 5 groundwater. The installation also finalized the RI for Site 1 Soils, and sub-divided the site into four separate areas. The Navy signed a ROD and constructed a permeable reactive barrier wall to treat groundwater at the Site 5 landfill.

In FY07, Allegany Ballistics Laboratory completed the RODs for Site 3 and for the Site 10 Soils.

FY08 IRP Progress

Allegany Ballistics Laboratory completed a debris characterization and removal investigation for Site 1. The installation also completed the ERA for surface water and sediment at Site 1. Allegany completed RODs for Sites 2 and 4B. The Navy completed an RI for Site 11. The installation completed 5-year reviews for Sites 1, 5, and 10.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Allegany Ballistics Laboratory are grouped below according to program category.

IRP

- Complete FS for Site 1 Soils in FY09.
- Complete FS and ROD for Sites 11 and 12 in FY09.
- Complete RI for Site 12 in FY09.
- Initiate pilot study for SWMU 27A in FY09-FY10.

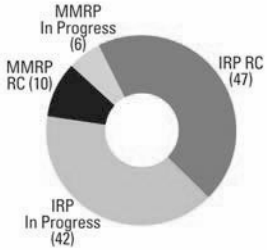
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Andersen Air Force Base

NPL/BRAC 2005 Realignment

FFID:	GU957309951900	**Funding to Date:**	$ 121.3 million
Location (Size):	Yigo, Guam (15,000 acres)	**Est. CTC (Comp Year):**	$ 40.8 million (FY 2014)
Mission:	Provide troops, equipment, and facilities in the Pacific	**IRP Sites (Final RIP/RC):**	89 (FY2012)
HRS Score:	50.00; placed on NPL in October 1992	**MMRP Sites (Final RIP/RC):**	16 (FY2013)
IAG Status:	FFA signed in March 1993	**Five-Year Review Status:**	Completed and planned
Contaminants:	Metals, pesticides, PAHs, PCBs, VOCs, SVOCs, radioactive materials, phenols, BTEX	**IRP/MMRP Status Table:**	Refer to page M-6-63
Media Affected:	Groundwater and Soil		



Progress To Date

The mission of Andersen Air Force Base (AFB) is to provide troops, equipment, and facilities in the Pacific. EPA placed the installation on the NPL in October 1992, and the Air Force signed a federal facility agreement (FFA) in March 1993. In 2005, the BRAC Commission recommended Andersen AFB for realignment. Preliminary assessments (PAs) have identified landfills (LFs), waste piles, fire training areas (FTAs), hazardous waste storage areas (HWSAs), and spill sites. In 1995, the technical review committee was converted to a Restoration Advisory Board. The base community relations plan was updated in FY98. A 5-year review was completed in FY04.

The sites identified at Andersen AFB were grouped into six operable units (OUs). To date, Guam EPA and EPA Region 9 have signed Records of Decision (RODs) for the Marianas Bonins (MARBO) OU, the Harmon OU, the Urunao OU, and LFs 8 and 13. The cleanup progress at Andersen AFB for FY04 through FY07 is detailed below.

In FY04, Andersen AFB initiated the preliminary design of the Urunao Dump Site (DS) remediation. The installation completed the remedial action (RA) for Site WP 6 and obtained regulatory inspection and approval. The interim RA (IRA) involving the fence installation land use control for LF 10 was completed. The installation finalized remediation verification reports (RVRs) for Site WP 6 and LF 10, and completed the MARBO 5-year review. Groundwater sampling was conducted as scheduled for MARBO and the Main Base.

In FY05, Andersen AFB began engineering evaluation and cost analysis investigations for former area of concern (AOC) Sites DA 52, 53, and 54, completed fieldwork for 13 of 23 former AOCs (Northeast [NE] sites), and began drafting PA and site inspection (SI) reports. The installation converted 33 AOCs (NE sites) to Installation Restoration Program (IRP) sites. All three parties signed the Urunao OU ROD. Andersen AFB completed the remedial design for the Urunao DS. In addition, the Air Force signed a No Action ROD for the Harmon OU. The installation continued Main Base and MARBO groundwater monitoring and completed two new borings in MARBO and one new boring at FTA 2. The Air Force began the PAs for all newly identified sites (former AOCs or NE sites). The Air Force also began the PAs for Military Munitions Response Program (MMRP) sites.

In FY06, Andersen AFB completed the IRA and RVR for the Ritidian DS. The installation also completed the IRA for LF 14 and started the IRA for LFs 19 and 20. Additionally, the installation completed a remedial investigation (RI) and feasibility study (FS) for former AOC Sites DA 52, 53, and 54, and FTA 2. The Air Force finalized the PA/SI for 33 former AOCs, and two additional solid waste management unit sites were added to the IRP site list. The installation awarded funding for RA-construction (RA-C) Part I for the Urunao DSs, and signed a 30-month right-of-entry between the landowner and the Air Force to enter the site for cleanup. The Air Force developed Munitions Response Site Prioritization Protocol ratings for each MMRP site.

In FY07, Andersen AFB initiated cleanup of Urunao DS 1. The Air Force signed four RODs and submitted two other RODs for signature. The installation developed an exit strategy for the FTA 2 soil vapor extraction cleanup system. The Air Force completed the MMRP comprehensive site evaluation (CSE) Phase I.

FY08 IRP Progress

Andersen AFB submitted the RI/FS for Sites WP 1 and 2 to the regulators. The Air Force signed RODs for LFs 8 and 13. Andersen AFB initiated RI/FSs and proposed plans (PPs) for Main Base LFs 14 and 18; WP 3; FTA 2; HWSA 1; operations support buildings at Sites 1, 2, and 3; and Building 18006. The installation executed the Urunao DS Phase II cleanup action and initiated the second MARBO 5-year review. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed the ROD for LF 2 and technical issues delayed completion of an RI/FS for LF 19. Administrative issues delayed RODs for LFs 14 and 18; WP 3; FTA 2; HWSA 1; operations support buildings at Sites 1, 2, and 3; and Building 18006. Administrative issues also delayed RAs for LFs 8, 13, and 17.

FY08 MMRP Progress

Andersen AFB initiated a CSE Phase II for all identified MMRP sites.

Plan of Action

Plan of action items for Andersen Air Force Base are grouped below according to program category.

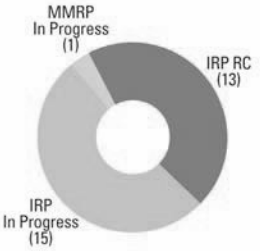
IRP

- Sign RODs for LFs 14 and 18; WP 3; FTA 2; HWSA 1; operations support buildings at Sites 1, 2, and 3; and Building 18006 in FY09.
- Complete RI/FS for FTA 3 and LF 19 in FY09.
- Complete RA-C for Urunao DSs 1 and 2 in FY09.
- Complete the second 5-year review of the MARBO ROD in FY09.

MMRP

- Complete CSE Phase II in FY09.

FFID:	MD357182400000	**Funding to Date:**	$ 74.5 million
Location (Size):	Camp Springs, Maryland (4,300 acres)	**Est. CTC (Comp Year):**	$ 35.7 million (FY 2016)
Mission:	Provide Presidential airlift support	**IRP Sites (Final RIP/RC):**	28 (FY2011)
HRS Score:	50.00; placed on NPL in June 1999	**MMRP Sites (Final RIP/RC):**	1 (FY2016)
IAG Status:	FFA under negotiation	**Five-Year Review Status:**	Planned
Contaminants:	SVOCs, VOCs, PAHs, PCBs, pesticides, metals, explosives, propellants, BTEX	**IRP/MMRP Status Table:**	Refer to page M-6-90
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The mission at Andrews Air Force Base (AFB) is to provide Presidential airlift support. Environmental studies at Andrews AFB began in 1985. Historic fuel supply activities, landfills (LFs), and other support and training operations contaminated ground and surface water with metals, volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), polyaromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and pesticides. EPA placed the installation on the NPL in June 1999. In 2005, the BRAC Commission recommended Andrews AFB for realignment. The EPA identified five source areas at the installation. Sources 1 (Site FT 02) and 2 (Site FT 03) are former fire training areas where fuel and waste oil were burned. Source 3 (Site SD 23) involved waste treatment plant sludge placement on the airfield. Source 4 (LF 05) is a former landfill used for disposal of general refuse, construction rubble, and fly ash. Source 5 consists of two landfills (LFs 06 and 07) at Piscataway Creek used primarily for disposal of construction wastes, as well as small quantities of household waste and shop wastes (oils, paint thinner, and cleaning solvents).

To date, eight sites have been closed under the petroleum program and three Records of Decision (RODs) have been signed. The cleanup progress at Andrews AFB for FY04 through FY07 is detailed below.

In FY04, the installation submitted draft remedial investigations (RIs) for LF 05, Sites ST 14 and 10, and FT 04 to the partnering group, which consisted of representatives from EPA, Maryland Department of the Environment, and Prince George's County Health Department. In addition, the installation initiated feasibility studies (FSs) at both LF 05 and Site ST 14. The installation also completed RI work plans and began field work for Sources 1, 2, and 3, and spill site (SS) 22. The installation conducted interim actions at the SS 11 fuel spill site and a removal action at the area of concern (AOC) 24 former gas station, which included the removal of seven underground storage tanks. The installation also conducted a groundwater treatability study (TS) at Site FT 04 and a soil removal and groundwater treatment at Site ST 17 using a performance-based contract (PBC).

In FY05, Andrews AFB completed RIs for Sites FT 04 and ST 10, and submitted draft FSs to the regulatory partnering team for LF 05 and Site ST 14. The installation completed RODs for Site FT 04 and SS 12/13, and signed a ROD for Site ST 10. A no further response action planned (NFRAP) document for SS 13 was completed. NFRAP documents for SS 12 and Site ST 20 were sent for review and signature. The installation submitted a draft proposed plan for Site FT 04 for legal review. The TS at Site FT 04 continued to address the groundwater plume. The installation completed a soil management plan to support the Air Sovereignty Alert beddown at this site. The Air Force successfully completed a PBC with the regulatory closure of Site ST 17 and also awarded a PBC to obtain remedy in place (RIP) plus three years of operation at Site ST 14 and SS 22. The Air Force submitted draft RIs to the regulatory team for LFs 05, 06, and 07, and Site ST 14. The installation began a risk assessment at Site FT 03. The Air Force began the preliminary assessments (PAs) for Military Munitions Response Program (MMRP) sites.

In FY06, Andrews AFB completed RIs at LF 05 and Site ST 14, and submitted a draft RI to the regulatory team for Site SD 23. The installation initiated FSs for LFs 06 and 07 and Site SD 23. The installation signed a ROD for Site FT 04 and finalized decision documents for four sites: STs 17, 18, and 20, and SS 21. Andrews AFB initiated and completed Triad field investigation for Site WP 16. Additionally, the installation completed Triad field investigation for Site FT 02 and initiated Triad field investigation for SS 27. The Air Force awarded a PBC for Triad investigations of SS 11 and 26, and AOC 32. The Air Force continued the PA for the Skeet and Trap Club (TS 345).

In FY07, Andrews AFB finalized RIs at Sites FT 03, WP 16, SD 23, and LFs 06 and 07. The installation submitted draft RIs for Site FT 02 and SS 27. In addition, completion of Triad site inspections at SS 27 and Site WP 16 led to similar approaches being employed to investigate SSs 11, 26, and 28 (AOC 32). The FS for LFs 06 and 07 was started, and the FSs for LF 05 (Source 4) and Site ST 14 were completed. RODs were signed for six sites, including AOC 26, Sites SD 23, STs 14 and 15, SS 22, and WP 16. With the exception of Site ST 14 and SS 22, these were NFRAP RODs. Andrews AFB implemented remedial action construction (RA-C) at Site ST 14 and SS 22 according to the plan selected in the ROD.

In addition, the preliminary remedial design for LF 05 was completed. Two PBCs were awarded to implement remedies with three years of monitoring for Sites FT 02, LF 05, ST 08, and SS 27. All RODs included public comment periods that were announced in local newspapers. The installation finalized a comprehensive site evaluation (CSE) Phase I at all identified MMRP sites. In addition, the installation completed a PA and site inspection for the Skeet and Trap Club (TS 345).

FY08 IRP Progress

Andrews AFB completed an FS for Site FT 03. The installation initiated RODs for Sites FT 02 and 03, LF 05, ST 08 and 19, and SS 27. RODs were completed and signed for sites FT 03 and ST 19. The Air Force completed RA-C at Sites FT 03, and ST 14 and 19. Andrews AFB finished RIs for SS 11, 26, 28, and 27. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

Andrews AFB initiated a CSE Phase II at all identified MMRP sites.

Plan of Action

Plan of action items for Andrews Air Force Base are grouped below according to program category.

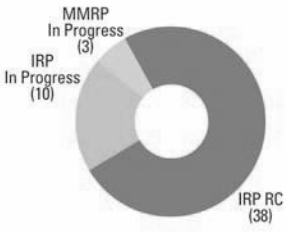
IRP

- Complete FSs for LFs 06 and 07, and SS 27 in FY09.
- Complete RODs for Sites FT 02, LF 05, ST 08, and SS 27 in FY09.
- Complete RA-C at Sites FT 02 and ST 08 in FY09.
- Complete final RI for SS 11, 26, 27, and 28 in FY09.

MMRP

- Conduct teleconference between Andrews AFB and U.S. Army Corps of Engineers on preliminary agenda outline for conducting the CSE Phase II in FY09.

FFID:	AL421382002700	**Funding to Date:**	$ 66.3 million
Location (Size):	Anniston, Alabama (600 acres)	**Est. CTC (Comp Year):**	$ 35.2 million (FY 2038)
Mission:	Maintain combat vehicles	**IRP Sites (Final RIP/RC):**	48 (FY2011)
HRS Score:	51.91; placed on NPL in March 1989	**MMRP Sites (Final RIP/RC):**	3 (FY2014)
IAG Status:	IAG signed in June 1990	**Five-Year Review Status:**	Completed and planned
Contaminants:	phenols, petroleum products, acids, VOCs, caustics, SVOCs, Heavy metals	**IRP/MMRP Status Table:**	Refer to page M-6-1
Media Affected:	Groundwater, Surface Water, Soil		



Progress To Date

Since 1948, the Army has repaired, rebuilt, and modified combat vehicles and artillery equipment at the Anniston Army Depot (AD) Southeast Industrial Area (SIA). Anniston AD also repairs small arms. Painting, degreasing, and plating operations at the installation generated wastes containing volatile organic compounds (VOCs), phenols, heavy metals, and petroleum distillates. EPA placed the SIA of the installation on the NPL in March 1989, and the Army and EPA signed an interagency agreement (IAG) in 1990. In 2005, the BRAC Commission recommended Anniston AD for realignment. During FY98, the installation formed a Restoration Advisory Board (RAB) and updated the community relations plan. The installation completed 5-year reviews in FY99 and FY04.

Environmental investigations revealed Installation Restoration Program (IRP) sites. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. To date, three interim Records of Decision (RODs) have been completed by the installation. The cleanup progress at Anniston AD for FY04 through FY07 is detailed below.

In FY04, the installation submitted the draft final SIA Soil Operable Unit (OU) ROD and the draft final Ammunition Storage Area (ASA) OU ROD. The Army submitted the draft final 5-year review to the regulators and awarded the technical impracticability (TI) evaluation contract. The installation completed the site inspection (SI) for the sites identified in the MMRP inventory.

In FY05, the installation completed Phase III comprehensive groundwater remedial investigation (RI) and submitted it to regulatory agencies for comment. The installation initiated the feasibility study (FS) for OU 1. The installation initiated the remedial designs (RDs) and remedial actions (RAs) for SIA Soil OU and ASA OU, including excavation of contaminated soil and installation of land use controls (LUCs) that provide gravel caps to reduce exposure. The installation developed a partnership with Jacksonville State University to compile and analyze data relevant to trichloroethlyene (TCE) concentrations in Coldwater Spring. The installation identified an additional MMRP site (former buffer zone for open burning operation). The installation submitted an SI report for three MMRP sites. The Army, in partnership with Anniston Waterworks and Sewer Board, constructed an additional treatment facility at the Coldwater Spring water treatment plant.

In FY06, the installation completed the final SIA Soils OU RD/RA work plan. The Army completed the RDs and RAs for the ASA OU 3, and signed the ASA OU 3 ROD with the stakeholders, Alabama Department of Environmental Management (ADEM), and EPA. The installation completed the draft comprehensive groundwater FS for OU 1. Anniston AD submitted the draft TI waiver report for OU 1 with the final report to serve as the formal TI waiver application. Anniston AD collected monthly samples from three locations at Coldwater Spring. Anniston AD completed the MMRP SIs, with three sites being evaluated as low priority. The three sites were recommended for RI. The installation held quarterly RAB meetings. The RAB discussed the availability of technical assistance for public participation.

In FY07, Anniston AD completed the comprehensive groundwater Phase III RI for OU 1. Anniston AD collected monthly samples from three locations at Coldwater Spring and annual samples from nearby private drinking water wells. The installation completed and submitted the Annual LUC Report for OU 2 to stakeholders. The installation completed the SI for OU 5. The Installation completed the purchase of the adjacent property pursuant to CERCLA. The installation held quarterly RAB meetings.

FY08 IRP Progress

Anniston AD completed the comprehensive groundwater Phase III FS and contracted a focused FS (FFS) for OU 1. The installation collected monthly samples from three locations at Coldwater Spring and annual samples from nearby private drinking water wells. The Army signed the SIA Soils OU 2 ROD with the stakeholders, ADEM, and EPA. The installation initiated the expanded SI for OU 5. The Army completed groundwater monitoring under RA-operation (RA-O) for OU 3.

Contractual issues delayed the completion of the expanded SI (ESI) for OU 5. The OU 5 ESI was awarded at the end of FY08, and work is scheduled to start in FY09.

Anniston AD completed and submitted the Annual LUC Report for OU 2 to stakeholders. The installation held quarterly RAB meetings.

FY08 MMRP Progress

Contractual issues delayed the initiation of RIs for three sites.

Plan of Action

Plan of action items for Anniston Army Depot are grouped below according to program category.

IRP

- Complete expanded SI for OU 5 in FY09.
- Continue to monitor Coldwater Spring and private wells in FY09-FY10.
- Continue to monitor LUCs for OU 2 in FY09-FY10.
- Continue to monitor natural attenuation under RA-O for OU 3 in FY09-FY10.
- Complete FFS for OU 1 in FY10.

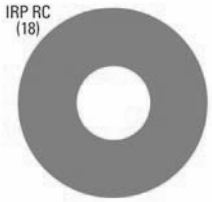
MMRP

- Initiate RI for three eligible sites in FY09-FY10.

Army Research Laboratory-Watertown

NPL/BRAC 1988

FFID:	MA121382093900	**Funding to Date:**	$ 100.9 million
Location (Size):	Watertown, Massachusetts (48 acres)	**Est. CTC (Comp Year):**	$ 0.3 million (FY 2005)
Mission:	Conducted materials research and development	**IRP Sites (Final RIP/RC):**	18 (FY2005)
HRS Score:	48.60; placed on NPL in May 1994	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	IAG signed in May 1995	**Five-Year Review Status:**	Completed
Contaminants:	Radionuclides, heavy metals, petroleum products, solvents, pesticides, PCBs	**IRP/MMRP Status Table:**	Refer to page M-8-29
Media Affected:	Surface Water and Soil		



Progress To Date

In December 1988, the BRAC Commission recommended closure of the Army Materials Technology Laboratory (Army Research Laboratory [ARL]), Watertown. EPA placed the installation on the NPL in 1994. The Army and EPA signed an interagency agreement (IAG) in July 1995. The installation closed on September 30, 1995. EPA delisted a 37-acre and an 11-acre parcel from the NPL in FY00 and FY07, respectively. The Army has moved the installation's mission activity to a combined laboratory at Aberdeen Proving Ground, Maryland. Studies at the installation revealed soil contaminated with petroleum products, pesticides, and polychlorinated biphenyls (PCBs). Similar chemical and metal contaminants were present in several laboratories and machine shops. The installation divided its remedial investigation and feasibility study activities into three areas (Indoor, Outdoor, and Charles River). Interim actions have included asbestos abatement, removal of all known aboveground and underground storage tanks, remediation of petroleum-contaminated soil, decommissioning of the central heavy-oil-fired power plant, retrofitting and disposal of PCB-containing transformers, closing of cooling water discharge systems, and decommissioning the inactive reactor. The installation formed a BRAC cleanup team and a Restoration Advisory Board in FY94. The Army completed 5-year reviews in FY02 and FY06.

To date, the installation has completed two Records of Decision (RODs), and the Army transferred the aforementioned 37-acre parcel to the town of Watertown. The Army transferred 11 acres to the Masachusetts Department of Conservation and Recreation (MDCR). In FY02, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at ARL Watertown for FY04 through FY07 is detailed below.

In FY04, the installation completed the baseline ecological risk assessment (BERA) and awaited final regulatory concurrence. The Army transferred 11 acres to the MDCR. These 11 acres are located along the Charles River. The installation completed the sixth annual review of land use controls (LUCs) and concluded that controls remained successfully in place.

In FY05, the installation completed the BERA for Charles River Operational Unit (OU). EPA concurred with the BERA and signed a No Further Action ROD for the Charles River OU 2. The installation began the 5-year review process and found that it should stabilize the banks along the Charles River to prevent contaminants from migrating into the river. ARL Watertown completed a seventh annual review of LUCs and concluded that controls remained successfully in place.

In FY06, the installation completed a second 5-year review and continued annual inspections of all integrated controls recommended and endorsed by EPA. The installation completed a bank stabilization project along the Charles River. ARL Watertown completed the eighth annual inspection of the LUCs and concluded that controls remained successfully in place. The installation also began the delisting process with EPA for the remaining 11 acres that were previously transferred to MDCR in FY04.

In FY07, the installation delisted the 11 acres transferred to MDCR in FY04. ARL Watertown completed the ninth annual inspection of the LUCs and concluded that controls remained successfully in place. The operation and maintenance (O&M) of the bank stabilization project continued and became the model for all state bank rehabilitation projects. The installation has been transferred out of DoD control; restoration decisions have been assumed by the transferee.

FY08 IRP Progress

ARL Watertown completed the tenth annual LUC inspection and concluded that controls remained successfully in place. The installation completed the second of three annual inspections of the bank stabilization O&M. This is the last narrative for this installation, as all sites have achieved response complete (RC).

FY08 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Army Research Laboratory-Watertown are grouped below according to program category.

IRP

- Complete the eleventh annual LUC inspection in FY09.
- Conduct final inspection of the bank stabilization O&M in FY09.

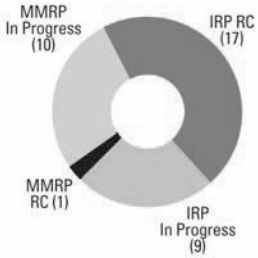
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Arnold Engineering Development Center

Proposed NPL

FFID:	TN457172404400	**Funding to Date:**	$ 106.4 million
Location (Size):	Coffee and Franklin Counties, Tennessee (40,000 acres)	**Est. CTC (Comp Year):**	$ 59.1 million (FY 2035)
Mission:	Conduct aerospace ground tests, engineering analysis, technical evaluations, and simulate operational conditions	**IRP Sites (Final RIP/RC):**	26 (FY2010)
HRS Score:	50.00; proposed for NPL in August 1994	**MMRP Sites (Final RIP/RC):**	11 (FY2015)
IAG Status:	N/A	**Five-Year Review Status:**	Planned
Contaminants:	VOCs, PCBs, BTEX, PAHs, solvents, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-6-148
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Arnold Engineering Development Center (AEDC) is an advanced aerospace ground test, evaluation, and simulation facility. EPA proposed the installation for the NPL in August 1994. AEDC conducts tests, engineering analysis, and technical evaluations for research, system development, and operational programs that simulate operational conditions. Sites at the installation include a landfill (LF), a chemical treatment plant, AEDC's main testing area, a leaching pit, a leachate burn area, and a fire training area. Chlorinated solvents are the primary contaminants. The installation converted its technical review committee to a Restoration Advisory Board (RAB) in FY95.

The cleanup progress at AEDC for FY04 through FY07 is detailed below.

In FY04, AEDC completed RCRA facility investigations (RFIs) for LF 01 and Spill Site (SS) 19. The installation completed corrective measure studies (CMSs) for LF 01 and Sites WP 02, 06, 11, and 12. Sites SD 04 and 09 achieved remedy in place (RIP) and response complete (RC). The installation also designed and initiated construction of an interim measure (IM) for contaminated mass removal associated with SS 22 chlorinated solvent plume.

In FY05, AEDC completed draft statements of basis describing RIP and RC for Sites FT 10, WP 02 and 11, as well as completed an RFI for SS 26. The Air Force completed a CMS for LF 03 and bench-scale treatability studies of in situ treatment using zero-valent iron (ZVI), chemical oxidation, and enhanced bioremediation for Site WP 06. The Air Force began preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites. The installation hosted two site tours, one for RAB members and one for local university students.

In FY06, AEDC completed the IM construction effort at SS 22, reducing risk from high to low. The installation also completed in situ reductive dechlorination IM utilizing ZVI at Site WP 12. The installation continued to investigate the extent of contamination for the RFI for SS 25 and continued CMSs at LF 01 and Sites WP 02, 06, 08, and 11. Additionally, the Air Force awarded a contract for IM expansion at LF 01. The Air Force continued PAs at all identified sites. The RAB conducted a tour for local university students.

In FY07, the installation completed IM expansion at LF 01 and met the DoD DERP risk reduction goal. The IM design of a thermal treatment remediation study to address the dense nonaqueous phase liquid (DNAPL) source area was completed at Site WP 08. AEDC initiated IM efforts at SS 19, which will reduce the risk from medium to low. The base completed the final phase RFI for SS 25. The installation completed CMSs for Sites WP 06, 08, and 12, and SS 19. The installation completed an MMRP comprehensive site evaluation (CSE) Phase I. AEDC completed a Wide Area Assessment for orthophotography, light detection and ranging terrain data collection to help identify military munitions features.

FY08 IRP Progress

AEDC continued IM efforts at SS 19. The Air Force partnered with the Tennessee Department of Environment and Conservation (TDEC) and Tennessee Army National Guard to prioritize the cleanup of contaminated areas at SS 19. AEDC completed RFI reports for SS 25 and 26. Additionally, the installation completed CMS reports for LF 01, SS 25 and 26, and Site WP 08. The installation prepared draft statements of basis (SOBs) for LF 03, Site SD 05, SS 19, and Site WP 02. AEDC was awarded a project to thermally treat DNAPL contamination at Site WP 08. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed drafting SOBs at Site SD 05 and SS 19.

The Air Force conducted two Facility Action Plan meetings with TDEC and the RAB, and conducted a RAB tour of LF 01, SS 19 and 22, and Sites WP 06, 08, and 12.

FY08 MMRP Progress

AEDC conducted a CSE Phase II on the historical ranges.

The RAB toured the MMRP Munitions Response Site (MRS) TG 28 and received a CSE Phase II briefing from the installation.

Plan of Action

Plan of action items for Arnold Engineering Development Center are grouped below according to program category.

IRP

- Initiate thermal treatment remediation at Site WP 08 in FY09.
- Implement dig and haul corrective measures project for dioxin soils and remove polyaromatic hydrocarbon soils at the Old Camp Forrest Incinerator Area S Foundations in FY09.
- Install larger diameter lines in existing gas leachate line collection system at LF 03 in FY09.
- Implement alternative corrective measures at LF 01, SS 25 and SS 26 in FY09.
- Draft SOBs for LF 01; Site SD 05; SS 19, 22, 25 and 26; and Sites WP 06, 08, and 12 in FY09-FY10.
- Treat DNAPL contamination at Site WP 08 in FY09-FY10.
- Monitor Site WP 12 for another year before drafting a SOB in FY10.

MMRP

- Brief the RAB and TDEC on CSE Phase II final report recommendations in FY09.
- Continue the next phase for 5 of the 11 MRSs in FY09-FY10.

Atlantic City Air National Guard Base
Atlantic City International Airport

NPL/BRAC 2005 Realignment

FFID:	NJ257282844900	**Est. CTC (Comp Year):**	$ 1.8 million (FY 2017)
Location (Size):	Pleasantville, New Jersey (280 acres)	**IRP Sites (Final RIP/RC):**	4 (FY2011)
Mission:	Provide Air National Guard training	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	39.65; placed on NPL in August 1990	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	FFA signed in May 1993	**IRP/MMRP Status Table:**	Refer to page M-7-28
Contaminants:	VOCs, SVOCs, lead, copper, pesticides, metals, PCBs		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 2.1 million		

Progress To Date

Atlantic City Air National Guard (ANG) Base is home to the 177th Fighter Squadron whose mission is to maintain fighter aircraft on continuous peacetime air defense alert to preserve U.S. air sovereignty. The installation is part of the Federal Aviation Administration (FAA) Technical Center, which EPA placed on the NPL in August 1990. The FAA Technical Center property, covering approximately 5,100 acres, includes the FAA Williams J. Hughes Technical Center, Atlantic City ANG Base, Atlantic City International Airport, and U.S. Coast Guard Air Station Atlantic City. Except for 84 acres owned by the South Jersey Transportation Authority (airport terminal and support facility areas), all the property is federally owned. The FAA facilty was placed on the NPL because of its proximity to the South Branch of Doughty's Mill Stream, which flows into the Upper Atlantic City Reservoir, a source of drinking water for local residents. In addition, a sole-source aquifer underlying the FAA facility contributes 85 to 90 percent of the watershed for the Upper Atlantic City Reservoir. Various sites (salvage yard, fire training facility, jet fuel farm, fuel mist test facility, and a landfill) on the FAA portion of the property were primarily responsible for the placement of the facility on the NPL. Volatile organic compounds (VOCs), metals, and pesticides were detected in groundwater. The FAA signed a federal facility agreement (FFA) in May 1993. The FAA and the ANG signed a memorandum of agreement in FY95 outlining the coordination for completion of investigations and remedial activities at sites identified on the 280-acre Atlantic City ANG Base property. Site inspections (SIs) conducted between FY96 and FY02 were managed by the FAA, but funded by the ANG. In FY03, the ANG took over management of the SIs from the FAA. Only restoration activities on the Atlantic City ANG Base property are funded under the Environmental Restoration Account. In 2005, the BRAC Commission recommended Atlantic City ANG Base for realignment.

Environmental studies have identified Installation Restoration Program (IRP) sites on the Atlantic City ANG Base property (280 acres under permit from the FAA). The cleanup progress at the Atlantic City ANG Base for FY04 through FY07 is detailed below.

In FY04, the installation initiated a remedial investigation (RI) for four sites (SS 02, 03, 05, and 06).

In FY05, Atlantic City ANG Base continued the RI. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, the installation continued the RI.

In FY07, Atlantic City ANG Base continued the RI.

FY08 IRP Progress

Atlantic City ANG Base completed the RI and started a feasibility study (FS). The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Atlantic City Air National Guard Base are grouped below according to program category.

IRP

- Finalize FS in FY09.
- Finalize Record of Decision in FY10.

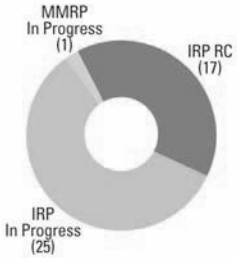
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Bangor Naval Submarine Base

NPL/BRAC 2005 Realignment

FFID:	WA017002729100	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Silverdale, Washington (7,201 acres)	**Funding to Date:**	$ 89.6 million
Mission:	Provide support base for Trident submarines	**Est. CTC (Comp Year):**	$ 32.6 million (FY 2040)
HRS Score:	30.42 (Bangor Ordnance Disposal), placed on NPL in July 1987; 55.91 (Bangor Naval Submarine Base), placed on NPL in August 1990	**IRP Sites (Final RIP/RC):**	42 (FY2001)
		MMRP Sites (Final RIP/RC):	1 (FY2009)
IAG Status:	FFA signed in January 1990	**Five-Year Review Status:**	Completed and planned
Contaminants:	Residual TNT, RDX, Otto fuel, VOCs, SVOCs, metals, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-173



Progress To Date

From the early 1940s until it was commissioned as a submarine base in 1977, Bangor Naval Submarine Base (NSB) was used to store, process, and ship munitions. Past chemical releases at the installation are primarily related to the detonation, demilitarization, and disposal of explosive ordnance and associated activities. The Navy conducted an initial assessment study in FY83 to identify sites requiring further investigation because of suspected soil and groundwater contamination. EPA placed the Bangor Ordnance Disposal area on the NPL in July 1987 and the Bangor NSB in August 1990. In January 1990, the Navy, EPA, and the State of Washington signed a federal facility agreement (FFA) for the installation. In 2005, the BRAC Commission recommended Bangor NSB for realignment. The installation completed 5-year reviews in FY00 and FY05, and updated the community relations plan (CRP) in FY08.

This installation grouped sites into operable units (OUs). The installation completed eight Records of Decision and performed five expedited response actions. Construction completion documents for OUs 1, 2, and 7 were submitted to EPA and the Washington Department of Ecology. In FY02, the Navy conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress for Bangor NSB for FY04 through FY07 is detailed below.

In FY04, the installation collected more data to demonstrate that the pump-and-treat system at OU 1 (Site 200) could be shut down. The Navy began the second basewide 5-year review. The installation continued long-term management (LTM) and long-term operation (LTO) at OUs 1, 2, and 8, and began optimization studies at Sites 200 and 204. The installation initiated a cleanup level study for Pogy Road. The installation implemented and maintained land use controls and institutional controls (ICs).

In FY05, Bangor NSB completed an optimization study at OUs 1, 2, and 8, and presented an alternate remedy and systems shutdown to regulators. The Navy completed a second 5-year review. The installation completed the Pogy Road cleanup and discontinued product recovery at OU 8. The Navy initiated a preliminary study at MMRP Site EO 300.

In FY06, the installation completed repairs to Site 201 and negotiated with regulators to implement recommendations from the optimization study. The Navy also discontinued sampling at Site 26. The installation finished sampling at OUs 1, 2, and 7, and did not detect perchlorate. The Navy completed a preliminary investigation and report at MMRP Site EO 300.

In FY07, Bangor NSB implemented an internal optimization study at Sites 200 and 204 (OU 1) to close treatment plants. The installation initiated an optimization study at OU 8, and a soil delisting study at OUs 1, 2, 3, 7, and 8, and partially dismantled the vapor extraction system. The Navy repaired wells at OUs 1 and 2. The installation started the assessment of damaged engineering controls at OUs 1, 2, and 8. The Navy continued LTO and LTM at OUs 1, 2, and 8. The installation initiated assessment and repair to ICs at all OUs. The Navy initiated a remedial investigation (RI) at Site EO 300.

FY08 IRP Progress

Bangor NSB continued LTO and LTM at OUs 1, 2, and 8, and completed repairs on control systems. The Navy initiated planning and operations for a removal action at a landfill at Site 10.

The installation updated the CRP.

FY08 MMRP Progress

Bangor NSB continued the RI at Site 300.

Plan of Action

Plan of action items for Bangor Naval Submarine Base are grouped below according to program category.

IRP

- Complete removal action at Site 10 in FY09.
- Reduce sampling frequency and repair or close wells and dismantle the soil vapor extraction system at OU 8 in FY09.
- Install new wells, update site model, and conduct study to close treatment plant at OU 1 in FY09.

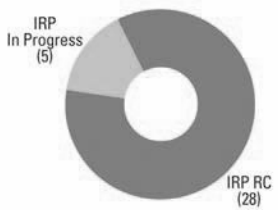
MMRP

- Complete RI and removal action at Site EO 300 in FY09.
- Conduct munitions constituent investigations at Site EO 300 in FY09.

Barbers Point Naval Air Station

BRAC 1993

FFID:	HI917002432600	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Barbers Point, Hawaii (3,816 acres)	**Funding to Date:**	$ 62.3 million
Mission:	Maintain and operate facilities and provide services and material support to aviation activities and units of the operating forces	**Est. CTC (Comp Year):**	$ 2.8 million (FY 2020)
		IRP Sites (Final RIP/RC):	33 (FY2011)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	Heavy metals, petroleum hydrocarbons, pesticides, solvents, asbestos, PCBs, VOCs, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-7-16



Progress To Date

In July 1993, the BRAC Commission recommended closure of Barbers Point Naval Air Station (NAS). The installation closed on July 2, 1999. In FY94, the installation completed an Environmental Baseline Survey, and formed a Restoration Advisory Board and a BRAC cleanup team (BCT). In FY97, the latest version of the BRAC cleanup plan was completed, along with a land reuse plan. The installation completed the first 5-year review in FY06.

To date, the installation has signed Records of Decision for Sites 1, 8, 13, 15, 19, and 20. The installation closed Sites 5, 8 through 13, and 19 in FY99, and Sites 2 and 18 in FY07. Site 1 was transferred in FY02. Additional BRAC parcels were transferred to the Department of Hawaiian Home Lands in FY08. In FY02, the Navy conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress for Barbers Point NAS for FY04 through FY07 is detailed below.

In FY04, the Hawaii Department of Health and U.S. Fish and Wildlife Service identified an additional larger wetland area at Ordy Pond (Site 2), which required additional sampling to determine if further action was necessary. The results were included in the ecological risk assessment (ERA) for Ordy Pond (Site 2). The installation completed the additional removal actions required on the Site 18 firing ranges and the Site 20 transformers.

In FY05, Barbers Point NAS completed the ERA for non-BRAC Sites 6, 7, 17, and 26 through 31. The installation also completed the removal action for non-BRAC Sites 6, 7, and 29. Decision documents for non-BRAC Sites 6, 7, and 27 were completed. The installation completed additional sampling and the ERA of Ordy Pond. Barbers Point NAS completed the cap for the consolidation unit.

In FY06, Barbers Point NAS completed the first 5-year review for various sites.

In FY07, Barbers Point NAS achieved site closeout for Ordy Pond (Site 2), and the Northern and Southern Trap and Skeet Range (Site 18). The BCT attended the public meetings for the proposed plans for the closed sites.

FY08 IRP Progress

Barbers Point NAS completed a finding of suitability to transfer (FOST) and addendums for various parcels. The installation completed the monitoring well abandonment work plan. The Navy transferred BRAC parcels to the Department of Hawaiian Home Lands.

Regulatory issues delayed site closeout at the Consolidation Unit.

BCT participated in the completion of the FOST and associated addendums.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Barbers Point Naval Air Station are grouped below according to program category.

IRP

- Complete underground storage tank closeout in FY09.
- Complete well abandonment in FY09-FY10.
- Complete additional FOSTs and associated addendums in FY09.

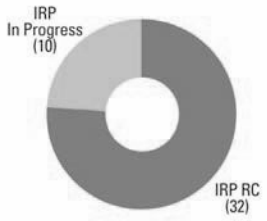
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Barstow Marine Corps Logistics Base

NPL/BRAC 2005 Realignment

FFID:	CA917302426100	**Funding to Date:**	$ 108.5 million
Location (Size):	Barstow, California (5,688 acres)	**Est. CTC (Comp Year):**	$ 41.3 million (FY 2039)
Mission:	Maintain, repair, rebuild, store, and distribute supplies and equipment; formerly conducted industrial operations	**IRP Sites (Final RIP/RC):**	42 (FY2011)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	37.93; placed on NPL in November 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in October 1990	**IRP/MMRP Status Table:**	Refer to page M-6-22
Contaminants:	Heavy metals, PCBs, petroleum hydrocarbons, pesticides, herbicides, MTBE, VOCs, SVOCs, radioactive materials, TCE		
Media Affected:	Groundwater and Soil		



Progress To Date

Barstow Marine Corps Logistics Base (MCLB) consists of Yermo Annex, Nebo Main Base, and the Rifle Range. Vehicle maintenance, repair and maintenance of weapons and missile systems, and storage of petroleum and chemical products contributed to contamination. The site types include sludge disposal areas, plating waste disposal areas, low-level radioactive waste storage areas, spill sites, underground storage tank (UST) sites, and evaporation ponds. EPA placed the installation on the NPL in November 1989 after high concentrations of trichloroethylene (TCE) were detected in groundwater monitoring wells. The installation signed a federal facility agreement (FFA) in October 1990. In 2005, the BRAC Commission recommended Barstow MCLB for realignment. The installation formed a technical review committee, prepared a community relations plan (CRP), and established an information repository and administrative record in FY91. The CRP was revised in FY02. Public meetings are held annually; however, no interest exists in forming a Restoration Advisory Board. The installation completed 5-year reviews in FY03 and FY08.

To date, CERCLA and UST regulation sites have been identified at this installation. The installation has completed Records of Decision (RODs) for Operable Units (OUs) 1, 2, 3, 4, 5, and 6. The installation closed OUs 3 and 4 in FY00, and OUs 5 and 6 in FY02. In FY02, the Navy conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Barstow MCLB for FY04 through FY07 is detailed below.

In FY04, the installation completed the OU 2 Nebo North air sparging (AS) and soil vapor extraction (SVE) report. Remedial action operations (RA-O) and long-term management (LTM) continued at CERCLA Areas of Concern (CAOCs) 37 and 38, and landfill caps. The installation worked with Regional Water Quality Control Board and a private entity to manage the methyl tertiary-butyl ether (MTBE) plume. The installation requested compensation from the private entity. The installation submitted the draft OU 7 remedial investigation (RI) report. Technical memorandums in support of an explanation of significant differences (ESD) for OUs 1 and 2 were completed.

In FY05, the installation completed repairs at CAOC 7. RA-O at CAOCs 37 and 38, and landfill cap LTM continued. The OUs 1 and 2 optimization studies were completed and preparation of ESDs began. The installation continued working with the Navy's Office of the General Council (OGC) to recapture funds related to the MTBE plume. The Navy obtained closures from the State for 44 USTs.

In FY06, Barstow MCLB, EPA, and the State of California approved the OU 2 Nebo South ROD. The installation implemented RA-O activities for groundwater at CAOCs 37 and 38, and LTM for landfills. The Navy continued to coordinate with OGC to recapture funds related to the MTBE plume. The installation initiated an ecological risk assessment (ERA) and RI for OU 7.

In FY07, the installation repaired CAOC 37 and 38 systems. The Navy continued partnerships with regulators through systematic planning, meetings, and site tours.

FY08 IRP Progress

Barstow MCLB continued system optimization at CAOCs 37 and 38, and AS/SVE systems at CAOC 6 and the OU 2 Nebo North plume. The Navy updated the site master plan and FFA schedule. The installation completed a second 5-year review. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed the completion of the MTBE settlement agreement. Technical issues delayed the completion of formal optimization studies. Regulatory issues delayed the completion of the ERA and RI at OU 7.

The Navy continued partnerships with the regulators through systematic planning, meetings, and site tours.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Barstow Marine Corps Logistics Base are grouped below according to program category.

IRP

- Complete ERA and RI at OU 7 in FY09.
- Complete the MTBE settlement agreement in FY09.
- Complete and issue the land use control remedial design in FY09.
- Conduct optimization study of remedy in FY09.
- Update base master plan in FY09-FY10.

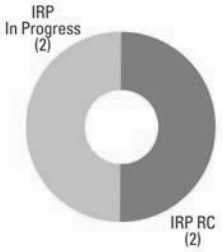
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Bedford Naval Weapons Industrial Reserve Plant

NPL

FFID:	MA117002357000	**Funding to Date:**	$ 23.1 million
Location (Size):	Bedford, Massachusetts (46 acres)	**Est. CTC (Comp Year):**	$ 34.4 million (FY 2036)
Mission:	Designed, fabricated, and tested prototype weapons and equipment	**IRP Sites (Final RIP/RC):**	4 (FY2014)
HRS Score:	50.00; placed on NPL in May 1994	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in September 1999	**Five-Year Review Status:**	A 5-year review is not required for this installation.
Contaminants:	Acids, BTEX, incinerator ash, industrial wastes, POLs, photographic wastes, solvents, paints, VOCs, SVOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-6-92
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The Bedford Naval Weapons Industrial Reserve Plant (NWIRP), a formerly government-owned, contractor-operated plant, designed, produced, and tested prototype equipment for missile guidance and control systems. Contaminants found at the installation include acids, benzene, toluene, ethylbenzene, and xylene (BTEX), incinerator ash, industrial wastes, paints, petroleum/oil/lubricants (POLs), photographic wastes, solvents, and volatile organic compounds (VOCs). EPA placed the installation on the NPL in May 1994, and the installation signed a federal facility agreement (FFA) in September 1999. The installation established a technical review committee in FY89 and converted it to a Restoration Advisory Board in FY95. A community relations plan was developed in FY89 and updated in FY92. The installation maintains an information repository. The facility was declared excess and closed as a non-BRAC closure on December 31, 2000.

Sites identified at the installation include: Site 1: an incinerator ash disposal area (potential soil contamination with ash and heavy metals); Site 2: a components-laboratory fuel tank (potential soil contamination with low levels of POLs); Site 3: a northwest groundwater plume (groundwater contaminated with VOCs); and Site 4: a former fuel pump/tank BTEX area (soil and groundwater contaminated with BTEX). The installation completed a No Further Action Record of Decision (ROD) for Sites 1 and 2. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Bedford NWIRP for FY04 through FY08 is detailed below.

In FY04, the Navy completed the Site 4 heating portion of the removal action. The Navy also completed thermal treatment for Sites 3 and 4, and cool-down for Site 4 began. The Navy began the Site 4 ROD. The Navy continued regular monitoring of the Site 3 groundwater treatment facility.

In FY05, the Navy continued cool-down of the thermal treatment pilot study at Site 3 and monitoring the natural attenuation at Site 4. The Navy began follow-up source area and bedrock well sampling at Site 3. Bedford NWIRP continued regular monitoring of the Site 3 groundwater treatment facility.

In FY06, the Navy continued cool-down of the Site 3 thermal treatment pilot study. The Navy also continued regular monitoring at the Site 3 groundwater treatment facility. The Navy continued monitoring the natural attenuation at Site 4.

In FY07, the Navy completed groundwater modeling and drafted the revised feasibility study (FS) at Site 3. The installation continued regular monitoring of the groundwater treatment facility at Site 3. The Navy continued monitoring the natural attenuation at Site 4.

FY08 IRP Progress

Bedford NWIRP continued to draft the Site 3 revised FS. The Navy updated the FS, and drafted the revised proposed plan (PP) and ROD for Site 4. The Navy continued regular monitoring of the Site 3 groundwater treatment facility. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed completing the Site 3 revised FS and preparing the PP. Regulatory issues delayed the Site 4 remedial action.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Bedford Naval Weapons Industrial Reserve Plant are grouped below according to program category.

IRP

- Complete the Site 3 revised FS, and prepare the Site 3 PP and ROD for signature in FY09.
- Complete the Site 4 revised PP and ROD in FY09.
- Complete the Site 4 remedial design (RD) in FY10.
- Commence the Site 3 RD in FY10.

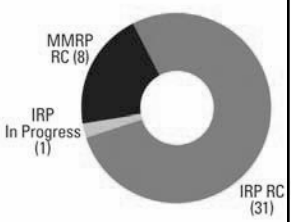
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Bergstrom Air Force Base

BRAC 1991

FFID:	TX657002418800	**Funding to Date:**	$ 48.7 million
Location (Size):	Austin, Texas (3,197 acres)	**Est. CTC (Comp Year):**	$ 2.0 million (FY 2016)
Mission:	Supported reconnaissance and fighter aircraft operations	**IRP Sites (Final RIP/RC):**	32 (FY1999)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	8 (FY2002)
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	VOCs, pesticides, petroleum hydrocarbons, metals, TCE, low-level radioactive waste, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-7-39
Media Affected:	Groundwater and Soil		



Progress To Date

Bergstrom Air Force Base (AFB) began operations in 1942 and supported flying operations for various aircraft throughout its history. In July 1991, the BRAC Commission recommended closure of the installation. The installation closed September 1993, and the City of Austin began to convert the installation into the Austin-Bergstrom International Airport. Site types identified at the installation include underground storage tanks (USTs), landfills (LFs), fuel spill areas, a pesticide evaporation pit, firing ranges, a sludge weathering pit, aboveground storage tanks (ASTs), oil-water separators, a fire training area, and a radioactive waste disposal area. A basewide Environmental Baseline Survey (EBS) was completed in 1993, and supplemental EBSs (SEBSs) were prepared to support property transfer. A BRAC Cleanup Team and a Restoration Advisory Board (RAB) were formed in FY94. The RAB was disbanded in FY97 due to successful remediation efforts at the installation. The Air Force updated the community relations plan (CRP) in FY05 and completed the first 5-year review in FY06.

Environmental studies have identified CERCLA sites and RCRA areas of concern (AOCs). Interim remedial actions have included removal of 106 USTs, removal of contaminated soil and low-level radioactive wastes, and closure of 45 ASTs. To date, 478 sites and AOCs have been designated for no further action. All property (3,197 acres) at the installation has been transferred to the City of Austin. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Bergstrom AFB for FY04 through FY07 is detailed below.

In FY04, 161 acres were transferred, and the Air Force prepared SEBSs, findings of suitability to transfer (FOSTs), and deeds for the 56-acre Explosive Ordnance Disposal Area and the 59-acre Solid Waste Management Unit (SWMU) 76 Area 2 trichloroethylene (TCE) Plume Parcels. The FOST and operating properly and successfully (OP&S) documents for the combined Southeast LFs 3 through 7 and the SWMU 76 Area 1 TCE Plume were also prepared. Operation and maintenance (O&M) and long-term management (LTM) were conducted for the combined Southeast LFs 3 through 7. O&M was also conducted at the Area 1 TCE Plume. The Air Force conducted an inventory of the MMRP sites identified at this installation.

In FY05, EPA approval of the FOST and OP&S documents for the SWMU 76 Area 1 TCE Plume and the combined Southeast LFs 3 through 7 was obtained. The Air Force transferred the remaining parcels (361 acres) and deactivated the SWMU 76 Area 1 soil vapor extraction system. O&M and LTM for the combined Southeast LFs 3 through 7, and O&M of the Area 1 TCE plume continued under a fixed-price remediation contract. The CRP was updated to indicate the status of remediation efforts and identify ongoing opportunities for community involvement. The Air Force completed a draft of the first 5-year review. The Air Force began evaluating requirements at the identified MMRP sites.

In FY06, the Air Force completed the first 5-year review, which concluded that all remedies continued to be protective of human health and the environment. The annual regional fixed-price contract was awarded to continue O&M and LTM for the combined Southeast LFs 3 through 7; O&M of the SWMU 76 Area 1 TCE plume continued under a regional fixed-price remediation contract. The SWMU 76 air sparge system was deactivated and quarterly hot spot groundwater samples were collected to demonstrate no rebound in TCE concentrations as a result of system deactivation. The installation completed an evaluation of MMRP sites.

In FY07, the Air Force awarded the annual regional fixed-price contract to continue LTM and O&M of the combined Southeast LFs 3 through 7, and O&M of the SWMU 76 Area 1 TCE plume. Contaminant concentrations in both plumes continued to decrease and were approaching cleanup levels. The Air Force prepared a statement of work for a regional performance-based contract (PBC) to continue LTM, O&M, well decommissioning, and other activities at Bergstrom AFB for a 10-year period. Bergstrom AFB prepared and submitted documentation to obtain closure for seven MMRP sites.

FY08 IRP Progress

Bergstrom AFB continued LTM and O&M of the combined Southeast LFs 3 through 7, and O&M of the SWMU 76 Area 1 TCE Plume. Contaminant concentrations continued to decline. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The Air Force decided not to pursue a regional multi-year PBC, and reevaluated contract mechanisms to continue LTM, O&M, well decommissioning, and other activities.

FY08 MMRP Progress

No MMRP actions were conduted at this installation.

Plan of Action

Plan of action items for Bergstrom Air Force Base are grouped below according to program category.

IRP

- Continue reevaluating contract mechanisms to continue LTM, O&M, well decommissioning, and other activities in FY09-FY10.
- Continue LTM and O&M activities at LFs 3 through 7, and O&M at SWMU 76 Area 1 TCE Plume in FY09-FY10.

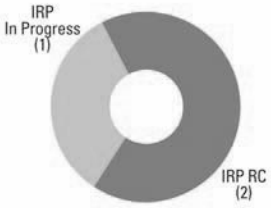
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Brandywine Defense Reutilization and Marketing Office

NPL

FFID:	MD357182400000	**Est. CTC (Comp Year):**	$ 18.6 million (FY 2016)
Location (Size):	Brandywine, Maryland (8 acres)	**IRP Sites (Final RIP/RC):**	3 (FY2008)
Mission:	None (inactive)	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	50.15; placed on NPL in June 1999	**Five-Year Review Status:**	Planned
IAG Status:	FFA under negotiation	**IRP/MMRP Status Table:**	Refer to page M-6-90
Contaminants:	PCBs, solvents (including TCE), VOCs, SVOCs, metals		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 13.6 million		



Progress To Date

The Brandywine facility is an inactive eight-acre former Defense Reutilization and Marketing Office (DRMO) site located approximately eight miles south of Andrews Air Force Base (AFB). Andrews AFB acquired the property from the Navy in 1961 and used it to store bulky aircraft parts, aircraft engine fuels and lubricants, paints, chemicals, and other supplies subject to deterioration. The facility is identified as spill site (SS) 01 in the Andrews AFB Installation Restoration Program (IRP) site inventory. As a Defense Property Disposal Office in the 1970s, this facility temporarily accumulated wastes from other area DoD facilities. No hazardous materials have been stored onsite since 1980. Brandywine DRMO was placed on the NPL in June 1999. The primary contaminants of concern are polychlorinated biphenyls (PCBs) and solvents, including trichloroethylene (TCE). The surface water migration pathway for the facility includes wetlands, Timothy Branch, and Mattawoman Creek. No personnel currently occupy the site. A locked chain-link fence was constructed around the site perimeter to prevent access to the property.

To date, the Air Force has signed an interim Record of Decision (ROD). The installation has performed 3 PCB removal actions, removing a total of 17,000 cubic yards of contaminated soil. The cleanup progress at Brandywine DRMO for FY04 through FY07 is detailed below.

In FY04, the installation initiated the feasibility study (FS) and submitted the draft remedial investigation (RI) report to the partnering group, which consisted of members from EPA, Maryland Department of the Environment, and Prince George's County Health Department.

In FY05, Brandywine DRMO finalized an RI and prepared the draft focused FS (FFS). The installation began a treatability study (TS) for the off-site groundwater plume. Brandywine DRMO began development of the engineering evaluation and cost analysis (EE/CA) for off-site PCBs. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. The installation sent an inaugural newsletter to the local community on the progress and schedule at the site and gave a presentation of on-site activities to the Brandywine and North Keys Civic Association.

In FY06, Brandywine DRMO continued operations of the existing interim remedial action (IRA) pump-and-treat system to remediate contaminated groundwater. The installation completed the FFS, which evaluated and presented groundwater remedies for the aqueous phase plume and management of the dense non-aqueous phase liquid (DNAPL). The installation also performed biotreatability and oxidation TSs to determine the effective means of groundwater remediation for the off-site plume. Brandywine DRMO issued the proposed plan and interim ROD identifying the selected groundwater cleanup alternative. The installation completed the EE/CA and issued a contract to remediate the PCB-contaminated soils and initiated the groundwater IRA. The Air Force engaged the community through the use of fact sheets, public meetings, and interactions with the North Keys Civic Association.

In FY07, Brandywine DRMO continued operations of the pump-and-treat system for TCE-contaminated groundwater. The system was temporarily turned off to dry the drainage area for the PCB removal action, during which 6,350 tons of impacted material were removed using an ecologically-balanced approach. Sampling during the remedial design of the groundwater remedy determined that the chlorinated volatile organic compound (VOC) plume had migrated farther off-property than was originally characterized. The Air Force acquired 3.57 acres of private property to target the DNAPL source zone. Design and initial construction of the groundwater remedy began. The installation coordinated with the Air Force Real Property Agency to declare the DRMO as excess property, and initiated remedial efforts to support future reuse.

FY08 IRP Progress

Brandywine DRMO continued the construction of the groundwater remedy and investigated potential DNAPL source areas. The installation conducted restoration efforts that included bioremediation and bioaugmentation to address groundwater contamination. The Air Force treated a groundwater contamination plume using direct push injections to condition the aquifer to allow for microbial bioremediation. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Brandywine Defense Reutilization and Marketing Office are grouped below according to program category.

IRP

- Initiate and operate a groundwater treatment system in FY09-FY10.
- Expand monitoring well network in FY09-FY10.
- Monitor results of prior injections in FY09-FY10.

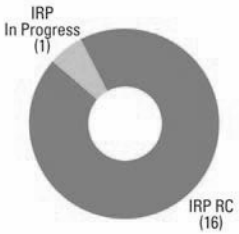
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Brooks City Base

BRAC 2005 Closure

FFID:	TX657172430300	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	San Antonio, Texas (1,309 acres)	**Funding to Date:**	$ 8.2 million
Mission:	Serve as host to the 311 Human System Wing, the USAF's agent for human-centered research, development, acquisition, and operational support	**Est. CTC (Comp Year):**	$ 3.3 million (FY 2020)
		IRP Sites (Final RIP/RC):	17 (FY2002)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	Thinners, pesticides, hydraulics fluids, VOCs, SVOCs, PAHs, PCBs, metals, fuels, POLs, cleaning solvents, paints	**IRP/MMRP Status Table:**	Refer to page M-7-39



Progress To Date

Brooks Air Force Base (AFB) began as Kelly Field No. 5 in December 1917. In 1991, Brooks AFB was designated as the central location for the Air Force Center for Environmental Excellence (now known as the Air Force Center for Engineering and the Environment), one of several tenant organizations on base. In 1998, Air Force Materiel Command converted Brooks AFB from a center to the Air Force's only composite medical wing, the 311th Human Systems Wing. In 2002, the Air Force transferred Brooks AFB to the City of San Antonio, and the installation became Brooks City Base as part of a demonstration project in which the city undertook infrastructure responsibilities in exchange for business opportunities and community development. In 2005, the BRAC Commission recommended closure of Brooks City Base. The installation completed a 5-year review in FY04.

Installation Restoration Program (IRP) sites and areas of concern (AOCs) have been identified at Brooks City Base. Of these sites, 1 AOC and 10 IRP sites have been closed and require no further action (NFA). Six AOCs have also been recommended for NFA. The remaining IRP site continues to undergo remediation. In FY05, the Air Force updated its Military Munitions Response Program (MMRP) site inventory. The cleanup progress at Brooks City Base for FY04 through FY07 is detailed below.

In FY04, the installation continued long-term operations, maintenance, and monitoring of Fire Protection Training Area (FPTA) 2.

In FY05, the Air Force completed its first 5-year review for the remaining IRP site, FPTA 2. The Air Force updated its MMRP inventory.

In FY06, the installation addressed regulatory concerns and made recommendations to close FPTA 2.

In FY07, Brooks City Base completed a data gap investigation for input to the remedial action optimization evaluation for FPTA 2. The installation submitted the groundwater biostimulation optimization evaluation and design to regulators for review and comment. The installation also submitted a no further response action planned (NFRAP) report for FPTA 2 subsurface soil contamination closure to regulators for review and comment.

FY08 IRP Progress

Brooks City Base addressed regulatory concerns regarding the groundwater biostimulation optimization evaluation and design, and the NFRAP report. The installation obtained regulatory approval and implemented the biostimulation design by injecting carbon into five on-base groundwater plume areas.

FY08 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Brooks City Base are grouped below according to program category.

IRP

- Obtain deed record closure for Operable Unit 1 in FY09-FY10.
- Plug and abandon 11 soil vapor extraction wells and associated system conveyance piping in FY09-FY10.
- Conduct quarterly monitoring of groundwater biostimulation progress and document results in FY09-FY10.
- Petition for site closure of FPTA 2 after successful groundwater biostimulations in FY10.

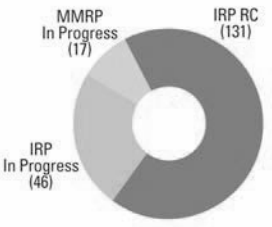
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Camp Lejeune Marine Corps Base

NPL

FFID:	NC417302258000	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Jacksonville, North Carolina (151,000 acres)	**Funding to Date:**	$ 163.1 million
Mission:	Provide housing, training facilities, logistical support, and administrative supplies for Fleet Marine Force units	**Est. CTC (Comp Year):**	$ 126.5 million (FY 2057)
HRS Score:	36.84; placed on NPL in October 1989	**IRP Sites (Final RIP/RC):**	177 (FY2013)
IAG Status:	FFA signed in February 1991	**MMRP Sites (Final RIP/RC):**	17 (FY2019)
Contaminants:	Battery acid, fuels, used oils, paints, thinners, PCBs, pesticides, metals, solvents, VOCs, SVOCs, radioactive materials	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-6-122



Progress To Date

Camp Lejeune Marine Corps Base (MCB) provides housing, training facilities, logistical support, and administrative supplies for Fleet Marine Force units and other assigned units. The installation also provides specialized schools and other training. Contaminants released from past storage and disposal operations have migrated to a shallow aquifer, several surface water bodies, and a deep aquifer used for drinking water. Camp Lejeune MCB was placed on the NPL in October 1989. In February 1991, a federal facility agreement (FFA) was signed. The installation formed a technical review committee in FY88 and converted it to a Restoration Advisory Board in FY95. A community relations plan was completed in FY90. The installation placed its administrative record on the Web in FY00. A community involvement plan was finalized in FY05. The installation signed 5-year reviews in FY99 and FY05.

To date, the installation has completed 35 Records of Decision (RODs). In addition, Camp Lejeune MCB completed an interim final ROD for Site 69. Investigations at Camp Lejeune MCB have identified 86 leaking underground storage tank sites. Since signing the FFA, operable units (OUs) have been identified as part of the Installation Restoration Program (IRP) requiring additional investigation or remediation. The installation requested closure with no further action at 27 sites. In FY02, the Navy completed an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Camp Lejeune MCB for FY04 through FY07 is detailed below.

In FY04, the installation initiated field pilot scale treatability studies (TSs) at Sites 35, 73, and 86. Camp Lejeune MCB also completed the Phase II removal action for spills at Site 84 and polychlorinated biphenyls (PCBs) at Building 45, as scheduled. The installation completed the Site 94 preliminary assessment (PA) and found evidence that further investigation was needed. The installation completed a 5-year review and submitted it for regulatory approval.

In FY05, Camp Lejeune MCB completed pilot scale TSs at Sites 35, 73, 78, and 86. The installation completed and approved the OU 4 final closeout report. The Navy signed the OU 6 ROD. The installation also completed a non-time-critical removal action (NTCRA) source removal at Site 88, the former base dry cleaners. The installation completed a remedial investigation (RI) and feasibility study (FS) for Site 94. The Navy finalized the 5-year review. The Navy identified MMRP sites at this installation and loaded the sites into the normalization of environmental data systems database. The MMRP sites are listed as unexploded ordnance (UXO) for Sites 01 through 14, covering 1,049 acres.

In FY06, Camp Lejeune MCB continued RI/FS/remedial action (RA) plans for Sites 35, 89, 93, and 94. The installation completed an RA at Site 84. The Navy completed RODs for Sites 93 and 94. The Navy and Marine Corps continued site inspections (SIs) and identified all MMRP sites at this installation, storing them in an internal database.

In FY07, Camp Lejeune MCB continued RI/FS/RA plans at Sites 35, 69, 73, 86, 88, 89, and 95. The installation signed interim RA completion reports for Sites 36, 43, 44, and 54. The installation also signed a final RA completion report for Site 41 and implemented the RA for Site 93. The Navy and Marine Corps continued SIs previously awarded and initiated SIs for UXO Sites 3, 5, 6, 8, and 9. The installation identified an additional MMRP site, the previous location of a small caliber indoor pistol range and gas chamber (UXO Site 14), where the building structure had been previously demolished.

FY08 IRP Progress

Camp Lejeune MCB continued RI/FS at Sites 35, 69, 73, 86, 88, and 89. The installation completed the ROD for Site 84 and completed the RA for Site 93, which is now in long-term management. The Navy completed two NTCRAs at Sites 35 and 89. The installation also signed a final RA completion report for Site 2. Camp Lejuene MCB completed field pilot studies for Sites 73, 82, and 89. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed completing the Phase II TS at Site 73.

FY08 MMRP Progress

The Navy and Marine Corps continued ongoing SIs and initiated new SIs for UXO Sites 2, 7, 10, 11, 12, and 14.

Plan of Action

Plan of action items for Camp Lejeune Marine Corps Base are grouped below according to program category.

IRP

- Complete RI/FSs for Sites 35, 73, 86, and 89 in FY09.
- Complete TS and FS for Site 88 in FY09-FY10.
- Complete PA/SI for New River and Montford Point in FY09-FY10.
- Complete Site 89 NTCRA monitoring and Site 95 NTCRA in FY09-FY10.
- Finalize proposed RA plan and ROD for Sites 2, 35, 73, 86, 89 in FY09-FY10.
- Complete optimization study and implementation for Sites 78 and 82 in FY09-FY10.

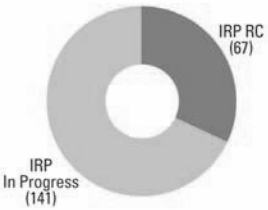
MMRP

- Complete ongoing SIs and initiate SIs for remaining MMRP sites in FY09.
- Finalize SI/RIs for UXO Sites 2, 3, 5, 6, 7, 8, 9, 10, 11, 12, and 14 in FY09-FY10.

Camp Pendleton Marine Corps Base

NPL/BRAC 2005 Realignment

FFID:	CA917302353300	**Funding to Date:**	$ 203.5 million
Location (Size):	Oceanside, California (250,000 acres)	**Est. CTC (Comp Year):**	$ 89.3 million (FY 2020)
Mission:	Provide housing, training facilities, logistics support, and administrative support to Fleet Marine Force Units	**IRP Sites (Final RIP/RC):**	208 (FY2014)
HRS Score:	33.79; placed on NPL in November 1989	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in October 1990	**Five-Year Review Status:**	Completed and planned
Contaminants:	Pesticides, herbicides, heavy metals, PCBs, VOCs, SVOCs, TCE	**IRP/MMRP Status Table:**	Refer to page M-6-22
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Camp Pendleton Marine Corps Base (MCB) provides housing, training facilities, logistics support, and administrative support to Fleet Marine Force Units. Environmental contamination at the installation resulted from maintenance of vehicles and equipment and support facilities, such as gas stations, hospitals, laundries, pest control services, and hobby shops. Sites at the installation include landfills, surface impoundments, pesticide storage areas, fire training areas, vehicle maintenance areas, and underground storage tanks (USTs). The installation was placed on the NPL in November 1989 after the herbicide 2,4,5-TP (Silvex) was detected in two groundwater wells used for drinking water. A federal facility agreement (FFA) was signed in October 1990. In 2005, the BRAC Commission recommended Camp Pendleton MCB for realignment. The installation formed a technical review committee (TRC) in FY91 and prepared a community relations plan in FY92, which was updated in FY01. The installation completed 5-year reviews in FY02, FY04, and FY07.

To date, the installation has completed five Records of Decision (RODs) since environmental restoration activities began. In FY02, the Navy completed an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Camp Pendleton MCB for FY04 through FY07 is detailed below.

In FY04, the installation completed the Operable Unit (OU) 4 feasibility study (FS) for Sites 1D, 1E1, 1H, and 30, and obtained agency concurrence. The installation successfully completed the OU 5 remedial investigation (RI) for Sites 1A1, 6A, 21, 1111, and Area 12 (Site 13), and obtained agency concurrence. The 5-year review for OUs 1 and 3 was completed and the remedies remain protective. The installation conducted an accelerated site inspection for Site 1114 using the EPA Triad approach. The installation achieved no further action status for Site 6A. A Navy Tiger Team conducted an optimization review of OUs 4 and 5 sites to confirm validity of technical approaches. The installation developed a Tier 1 ecological risk assessment and human health risk assessment protocols for OU 5. The installation also completed site assessments for USTs in Areas 11 and 21. Closure was achieved for 17 UST sites from the California Regional Water Quality Control Board. The installation closed Site 7 and finalized the cap closure report.

In FY05, Camp Pendleton MCB completed and obtained agency concurrence on the OU 4 proposed plan (PP) for Sites 1D, 1E1, and 30, which documented the remedial alternatives selected in the FS. The installation completed and obtained agency concurrence on the OU 5 FS for Sites 1A, 6A, 1111, and Area 12 (Site 13). The installation completed the annual groundwater monitoring report and a conceptual site model for aqueous geochemistry for Site 7. The installation continued operation and maintenance (O&M) for remediation systems at UST sites. Additionally, the installation received closure for 18 UST sites. The installation held a TRC meeting to update the expanded regulatory community on the Site 9 explanation of significant differences (ESD), OU 4 PP, and general program status.

In FY06, Camp Pendleton MCB completed fieldwork at Site 33 and initiated the combined RI/FS. The installation began fieldwork at Areas 22 and 23. The Navy also negotiated reduced sampling frequencies and a reduced number of analyses for Site 7 based on the large amount of data collected. The installation installed one monitoring well in the alluvium to monitor landfill gas migration in groundwater. An innovative approach to assessing trichloroethylene (TCE) in porewater, sediment, and fractured bedrock at Site 21 was developed. The installation received closure for 14 USTs. The installation continued O&M at UST sites in Areas 11, 13, 21, 24, 26, 31, 43, and 62.

In FY07, Camp Pendleton MCB completed the remedial design (RD) for Sites 1D and 30, and the RI for Site 33. All parties of the FFA team signed the OU 4 ROD. The Navy completed an interim removal action at Site 1111. The installation prepared an ESD for Site 1A to facilitate the remedial action (RA). The Navy signed the final 5-year review for OU 1 (Site 9). The installation declared that there are no land use controls for the OU 1 sites. The Navy completed fieldwork at Site 9 and Area 13. The installation received closure for 22 USTs and continued O&M at UST sites in Areas 11, 13, 21, 24, 26, 31, and 43.

FY08 IRP Progress

Camp Pendleton MCB completed an FS for Site 33. The installation began landfill gas remediation for Site 7. The FFA team signed the OU 5 ROD. The Navy completed two site assessments for Area 16 UST sites and received closures for eight additional UST sites. The installation completed the RD for Sites 1A1 and 1H and RAs for Sites 1A1 and 30.

Technical issues delayed completion of the RA for Sites 1D and 1H, and completion of the RI/FS for Areas 22 and 23 groundwater. Regulatory issues delayed completion of the FS for Site 1115.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Camp Pendleton Marine Corps Base are grouped below according to program category.

IRP

- Complete a 5-year review in FY09.
- Complete action memorandum and removal action work plan for Site 33 in FY09.
- Remediate USTs in Areas 11 through 17, 21, 22, 24, 26, 43, 53, and 62 in FY09-FY10.
- Complete RI/FSs for Areas 22 and 23 groundwater, and Site 1115 in FY09-FY10.

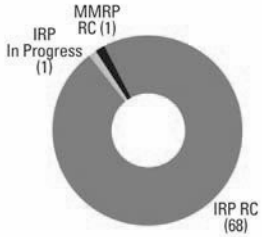
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Carswell Air Force Base
Fort Worth JRB NAS

BRAC 1991

FFID:	TX657002404200	**Funding to Date:**	$ 51.4 million
Location (Size):	Fort Worth, Texas (2,569 acres)	**Est. CTC (Comp Year):**	$ 1.9 million (FY 2010)
Mission:	Supported bomber, tanker, and other aircraft operations	**IRP Sites (Final RIP/RC):**	69 (FY2005)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	1 (FY2001)
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	POLs, JP-4 jet fuel, solvents, waste oils, TCE cleaners, low-level radioactive material, VOCs, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-7-39
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Carswell Air Force Base (AFB) was established in 1942 and supported flying operations for various aircraft throughout its history. In July 1991, the BRAC Commission recommended closure of Carswell AFB. The installation closed in September 1993, but approximately 1,830 acres were reactivated in FY94 after the 1993 BRAC Commission recommended its realignment as a Joint Reserve Base (JRB). The installation's airfield is also used by the adjacent Air Force Plant (AFP) 4, an aircraft manufacturing plant that opened in the 1940s. The Air Force Real Property Agency (AFRPA) is responsible for restoration activities on the BRAC property, and the Air Force Center for Engineering and the Environment (formerly Air Force Center for Environmental Excellence) is responsible for restoration activities on the JRB property. BRAC and Environmental Restoration (ER) account funds are used to implement the restoration program. Site types at the installation include underground storage tanks, landfills, fire training areas, waste burial areas, contaminated groundwater plumes, contaminated ditches, and oil-water separators. The primary contaminants are petroleum hydrocarbons in groundwater, surface water, sediment, and soil, and trichloroethylene (TCE) in groundwater and soil. The installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) in FY94. The Air Force completed the first 5-year review in FY06.

To date, all remedial actions (RAs) have been completed at sites on the golf course and the recreational vehicle family camping site. Remediation of sites located within the JRB property was transferred to the ER program. Of the total 492 acres not retained by DoD, 388 acres have been transferred to the local redevelopment authority (LRA) and 104 acres to other federal agencies, primarily the Federal Bureau of Prisons. DoD has retained approximately 1,830 acres for the JRB (Navy and Air Force) and 247 acres at an off-base weapons storage area (WSA) (Army). In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Carswell AFB for FY04 through FY07 is detailed below.

In FY04, AFRPA reviewed current remedies installed to address an AFP 4 TCE Plume that had migrated under portions of the Carswell AFB BRAC property and found them sufficient and meeting goals. An RA on the sanitary sewer system was initiated. A geophysical clearance survey of an explosive ordnance disposal (EOD) range at the off-base WSA identified areas that may contain ordnance items; ordnance items were visually identified along a creek bed adjacent to the EOD range area. A preliminary assessment (PA) and site inspection (SI) indicated elevated radiation levels at a former storage bunker at the off-base WSA. AFRPA conducted an inventory of MMRP sites and identified an MMRP site on the BRAC portion of the installation.

In FY05, AFRPA investigated the radioactive contamination in the bunker at the off-base WSA and transferred approximately 37 acres to the LRA. In addition, completion of the focused feasibility study (FFS) for the AFP 4 TCE Plume was coordinated with state and federal regulators. Regulators agreed to consider an explanation of significant differences (ESD) to an AFP 4 Record of Decision for the remedies proposed in the FFS; the ESD would support an operating properly and successfully (OP&S) determination and transfer of 187-acres to the LRA (Carswell Golf Course Parcel). The installation discussed finalizing the completion of property transfer with the Navy. The sanitary sewer system RA was completed. Additionally, the Air Force awarded a contract for clearance of potential munitions and explosives of concern (MEC) at the off-base WSA EOD range. AFRPA began evaluating requirements at the identified MMRP sites. The RAB and BCT each met three times.

In FY06, federal regulators and the Air Force Safety Center (AFSC) accepted the PA/SI report for radiation at the off-base WSA; no further action is required at the site. Regulators approved the FFS for the AFP 4 TCE Plume. The Air Force completed the first 5-year review and submitted it to regulators. Regulators approved closure of the sanitary sewer system. A draft ESD, draft finding of suitability to transfer (FOST), and OP&S determination report for the AFP 4 TCE Plume were submitted to regulators. Following regulator approval of the ESD, FOST, and OP&S determination report, the Carswell Golf Course Parcel could be transferred. Discussions with the Navy to transfer property continued. MEC clearance activities at the EOD range were completed, and a report was prepared and submitted to the AFSC, DoD Explosives Safety Board (DDESB), and regulators for review. The RAB and BCT each met three times.

In FY07, regulators approved the ESD for the AFP 4 TCE Plume impacting the golf course area and the OP&S determination report, and concurred on the FOST providing for transfer of 187 acres to the LRA. Regulators also concurred on the draft final FOST for the public sale of the 247-acre off-base WSA property. The WSA was transferred to the Army, followed by transfer of the remaining JRB acreage to the Navy. The AFSC and the DDESB approved the MEC clearance report for the off-base WSA EOD range. The RAB and BCT each met three times.

FY08 IRP Progress

Carswell ARB obtained regulatory approval for the Corrective Action Plan (CAP) for Area of Concern (AOC) 1, located on the JRB property. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Carswell Air Force Base are grouped below according to program category.

IRP

- Implement Phases I and II of the CAP for AOC 1 in FY09.

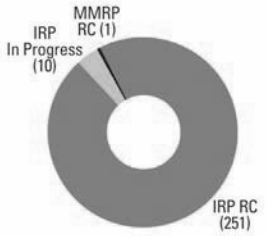
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Castle Air Force Base

NPL/BRAC 1991

FFID:	CA957002455100	**Funding to Date:**	$ 167.9 million
Location (Size):	Atwater, California (2,777 acres)	**Est. CTC (Comp Year):**	$ 58.6 million (FY 2044)
Mission:	Trained tanker crews and serviced KC-135 stratotanker	**IRP Sites (Final RIP/RC):**	261 (FY2006)
HRS Score:	27.93; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	1 (FY2008)
IAG Status:	IAGs signed in July 1989	**Five-Year Review Status:**	Completed and planned
Contaminants:	Spent solvents, PCBs, POLs, pesticides, cyanide, cadmium, VOCs, SVOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-6-29
Media Affected:	Groundwater and Soil		



Progress To Date

EPA placed Castle Air Force Base (AFB) on the NPL in July 1987, and the Air Force signed interagency agreements (IAGs) in 1989 and 2004. In July 1991, the BRAC Commission recommended closure of the installation, which formerly supported B-52 bomber and KC-135 tanker training and operations. The installation closed in September 1995. The Air Force has identified landfills, underground storage tanks (USTs), discharge areas, chemical disposal pits, fire training areas, fuel spill areas, and polychlorinated biphenyl (PCB) spill areas at the installation. An Environmental Baseline Survey was completed in FY93. A BRAC cleanup team was formed in FY92 and a Restoration Advisory Board (RAB) formed in FY95. The installation completed 5-year reviews in FY99 and FY04.

Sites found at the installation were grouped into three operable units (OUs): OU 1 (groundwater), OU 2 (groundwater), and the source control OU (SCOU). Interim actions have included removing contaminated soil from the PCB spill areas, installing potable-water supply wells with filtration systems to remove trichloroethylene (TCE) from groundwater, and removing USTs. The Air Force has completed a comprehensive basewide (CB) Part 1 Record of Decision (ROD) for groundwater, which combined previous work done for OUs 1 and 2, and Castle Vista; a CB Part 2 ROD; and RODs 1, 2, and 3 for all SCOU sites. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The installation closed seven sites and transferred all remaining property in FY07. The cleanup progress at Castle AFB for FY04 through FY07 is detailed below.

In FY04, the installation received operating properly and successfully concurrence from EPA. The installation also completed the 5-year review and obtained EPA and State approval. Additionally, the installation shut down the Castle Vista groundwater treatment system. One remaining well exceeding the maximum contaminant level was converted to wellhead treatment. An IAG was signed for deed transfer of approximately 1,330 acres for aviation use. All but one remaining soil vapor extraction (SVE) sites were closed. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed the SCOU ROD 3. Remedial action began on the SCOU ROD 3 sites. Groundwater extraction and treatment systems continued to be effective. The installation conducted investigations at the weapons storage area. The Air Force began evaluating requirements at MMRP sites at this installation. RAB activities continued.

In FY06, the installation completed the CB Part 2 ROD and seven SVE closure reports, which were submitted to regulators. The Air Force finalized two finding of suitability to transfer documents that declared all of Castle AFB property ready for transfer. The Air Force evaluated, cleared, and closed one MMRP site.

In FY07, Castle AFB completed transfer of all remaining property (666 acres in 16 parcels). The Air Force received regulatory approval to close seven Installation Restoration Program (IRP) sites, and operations at the last SVE sites continued. The installation completed all physical MMRP investigation work.

FY08 IRP Progress

Castle AFB completed a draft partial SVE site closure report for six sites. The Air Force Real Property Agency approved a performance-based contract (PBC) strategy developed by the installation. The installation initiated preparations for the third 5-year review.

FY08 MMRP Progress

Castle AFB completed an administrative review of historical actions.

Plan of Action

Plan of action items for Castle Air Force Base are grouped below according to program category.

IRP

- Submit partial SVE site closure report and obtain regulatory closure of six SVE sites in FY09.
- Complete 5-year review in FY09.
- Award PBC in FY09.

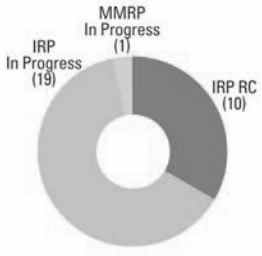
MMRP

- There are no MMRP actions scheduled for FY09 or FY10.

Cecil Field Naval Air Station

NPL/BRAC 1993

FFID:	FL417002247400	**Funding to Date:**	$ 63.9 million
Location (Size):	Jacksonville, Florida (30,895 acres)	**Est. CTC (Comp Year):**	$ 8.5 million (FY 2029)
Mission:	Provide facilities, services, and material support for maintenance of Naval weapons and aircraft	**IRP Sites (Final RIP/RC):**	29 (FY2008)
HRS Score:	31.99; placed on NPL in November 1989	**MMRP Sites (Final RIP/RC):**	1 (FY2008)
IAG Status:	FFA signed in October 1990	**Five-Year Review Status:**	Completed and planned
Contaminants:	Waste fuel oil, solvents, heavy metals, halogenated aliphatics, phthalate esters, SVOCs, lead, VOCs	**IRP/MMRP Status Table:**	Refer to page M-7-13
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The Cecil Field Naval Air Station (NAS) supports the maintenance of Naval weapons and aircraft. In July 1993, the BRAC Commission recommended closure of this installation and relocation of its aircraft, personnel, and equipment to other stations. BRAC 1995 redirected associated bombing ranges to Jacksonville NAS, reducing the BRAC footprint to 17,225 acres. Operations that caused contamination include equipment maintenance, storage and disposal of fuel and oil, fire training, and training on target ranges. Investigations identified CERCLA sites, 10 major underground storage tank (UST) sites, 235 USTs, 250 BRAC grey sites, and 1 RCRA site. EPA placed the installation on the NPL in November 1989 and signed a federal facility agreement (FFA) in November 1990. A technical review committee was formed in FY94 and converted to a Restoration Advisory Board in FY95. A BRAC cleanup team was formed in FY94. The installation completed 5-year reviews in FY00 and FY05.

To date, the installation has signed 26 Records of Decision (RODs) and 15 findings of suitability to transfer (FOSTs), totaling 17,043 transferred acres, and delisted approximately 16,584 acres from the NPL. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Cecil Field NAS for FY04 through FY07 is detailed below.

In FY04, the installation signed RODs for Sites 25, 32, and 45, and completed land use control (LUC) remedial designs (RDs) for Site 45. Cecil Field NAS completed operating properly and successfully (OP&S) documentation for Sites 1, 2, 3, 8, 16, and 17, initiated remedial action (RA) at North Fuel Farm and Day Tank 1, and completed RAs at Sites 49 and 58. The Navy installed air sparging systems at Building 271 and the jet engine test cell. Cecil Field NAS completed the preliminary assessment and site inspection for Site 59 and initiated the remedial investigation (RI). The installation transferred 224 acres.

In FY05, Cecil Field NAS completed the second 5-year review; completed RODs for Sites 21, 57, and 58; and signed a FOST that transferred 120.4 acres. The installation submitted draft OP&S documentation and draft LUC RDs for Sites 5, 21, 25, 32, 57, and 58 to regulators. The facility completed Site 59 RI fieldwork and completed the Site 15 feasibility study and proposed plan. The installation installed the North Fuel Farm air sparging system and continued long-term operations (LTO) and long-term management (LTM) at 36 groundwater sites. The facility completed munitions and explosives of concern (MEC) investigation, and detonated found MEC at 20 acres of the North Apron Expansion site.

In FY06, Cecil Field NAS completed LTO/LTM at 36 sites. The installation completed RAs at Site 49. The Navy signed RODs at Sites 15 and 49 and approved OP&S documents and LUC RDs for eight sites. The installation implemented the biostimulation and augmentation pilot study at Site 59. The installation completed the MEC investigation and removal for 20 acres at Hangar 860 and two additional acres at the North Apron Expansion site.

In FY07, Cecil Field NAS signed three FOSTs totaling 216 acres. The installation monitored for natural attenuation at Sites 1, 2, 3, 5, 8, 16, 17, 21, 45, 36/37, 57, and 58. Cecil Field NAS continued the MEC investigation and removal at Hangar 860 and North Apron Expansion, and submitted after-action reports.

FY08 IRP Progress

Cecil Field NAS completed two RODs for Sites 15 and 59, and continued LTO/LTM at 36 groundwater sites. The installation prepared a No Further Action Decision Document for Site 25. The Navy continued remediation activity at Site 59.

FY08 MMRP Progress

Cecil Field NAS excavated Site 15 and cleared Building 365 and Hangar 860 following interim site approval.

Plan of Action

Plan of action items for Cecil Field Naval Air Station are grouped below according to program category.

IRP

- Complete excavation at Site 15 and issue completion report in FY09-FY10.
- Continue air sparging systems at Sites 36 and 37 in FY09-FY10.
- Continue LTM at 36 sites in FY09-FY10.
- Continue air sparging system and monitoring at North Fuel Farm in FY09-FY10.

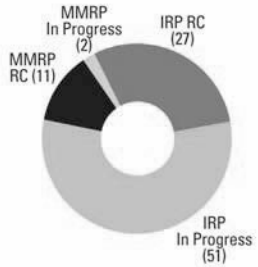
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Chanute Air Force Base

Proposed NPL/BRAC 1988

FFID:	IL557002475700	**Est. CTC (Comp Year):**	$ 56.1 million (FY 2016)
Location (Size):	Rantoul, Illinois (2,174 acres)	**IRP Sites (Final RIP/RC):**	78 (FY2011)
Mission:	Served as technical training center and airport	**MMRP Sites (Final RIP/RC):**	13 (FY2010)
HRS Score:	Pending	**Five-Year Review Status:**	Completed and planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-6-76
Contaminants:	POLs, chlorinated solvents, metals, UXO, VOCs, SVOCs		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 114.2 million		



Progress To Date

Chanute Air Force Base (AFB) was one of five Air Training Command Technical Training Centers providing specialized training for officers, airmen, and civilian employees of the Air Force and other DoD agencies. In 1988, the BRAC Commission recommended Chanute AFB for closure. The installation signed a memorandum of understanding with the State of Illinois, and closure occurred in 1993. The Air Force signed an interagency agreement (IAG) in 1990. The majority of the installation has been leased to the Village of Rantoul for use as an airport. The Operable Unit (OU) 2 portion of the installation was proposed for the NPL in FY01. Sites identified at the facility include landfills, fire training areas, oil-water separators, a petroleum sludge disposal pit, jet engine test cells, and underground storage tanks (USTs). Interim actions have included removal of USTs, pipelines, and contaminated soil at UST sites; capping of landfills; removal of sludge and contaminated soil at a sludge pit; and removal of oil-water separators. Both a BRAC cleanup team and a Restoration Advisory Board (RAB) were formed in FY94. In FY04, the community relations plan (CRP) was updated.

The installation has determined all areas of concern (AOCs) require no further action (NFA) or have been designated as Installation Restoration Program (IRP) sites. In FY03 the Illinois EPA (IEPA) approved closure of 111 former fuel storage tank sites. In FY04, the Air Force completed an inventory of all Military Munitions Response Program (MMRP) sites. The Air Force signed 11 NFA Records of Decision (RODs) and transferred 781 acres to the Village of Rantoul in FY07. In FY08, the Air Force signed 2 NFA RODs. The cleanup progress at Chanute AFB for FY04 through FY07 is detailed below.

In FY04, the installation completed the initial investigation of Salt Fork Creek and the initial remedial investigation (RI) field activities at OUs 1 and 2. The investigations discovered contamination at 43 new IRP sites. Cap construction at Landfill (LF) 2 was completed. Operation and maintenance for LFs 1, 2, and 3 began. A treatability study (TS) of the leachate collection system at LFs 1, 2, and 3 was initiated. RI reports were initiated for multiple sites within OUs 1 and 2. The IEPA approved closure of 25 additional fuel storage tank sites. Planning documents and initial fieldwork were completed for the Water Towers and basewide polychlorinated biphenyl (PCB) investigation. Actions at multiple non-CERCLA sites progressed. The Air Force conducted an inventory of all MMRP sites. MMRP sites were identified at this installation. The CRP was updated to indicate the status of remediation efforts and identify ongoing opportunities for community involvement.

In FY05, the installation continued the non-CERCLA PCB investigation and closure actions at multiple fuel storage tank sites. RI field activities identifying widespread soil contamination and localized groundwater impacts were substantially completed with limited sampling remaining in OU 2. Eleven AOCs and seven IRP sites achieved regulatory approved closure. The installation initiated 16 RI reports for sites in OUs 1 and 2, and submitted 9 RI reports for regulatory review. The Air Force began evaluating requirements at MMRP sites at this installation. The installation expanded community outreach efforts and completed an effort to increase the visibility of the RAB, which resulted in a campaign to solicit new members and elect a community co-chair.

In FY06, the Air Force submitted 11 RI reports for 34 IRP sites in OUs 1 and 2 for regulatory review. The installation received regulatory concurrence for eight RI reports. Chanute AFB initiated a feasibility study (FS) for three IRP sites in OU 1. The installation prepared proposed plans (PPs) and RODs for six sites documenting the decision for NFA. The Air Force prepared a PP for one additional site where NFA is warranted. The installation continued closure of non-CERCLA sites on schedule. Chanute AFB continued to evaluate requirements at MMRP sites. The Air Force Safety Center concurred with the clearance of one suspected MMRP site.

In FY07, the installation transferred 781 acres to the Village of Rantoul, signed NFA RODs for 11 IRP sites, and prepared NFA PPs and RODs for 4 additional IRP sites. Five RI reports for 15 IRP sites were submitted for regulatory review, and received concurrence. The Air Force prepared an FS for five IRP sites in OU 1 and conducted a TS for groundwater contaminated with volatile organic compounds (VOCs). The Site Inspection Completion Report (SICR) for two fuel-related IRP sites was submitted for regulatory review. The IEPA concurred with corrective action plans for four former fuel storage tank sites, including one fuel-related IRP site and approved closure of one former fuel storage tank site. The Air Force initiated the procurement process for a performance-based contract (PBC) to complete restoration activities. The installation initiated the MMRP site closure process for all MMRP sites.

FY08 IRP Progress

Chanute AFB finalized and signed two NFA RODs addressing four IRP sites and prepared an NFA PP and ROD for five additional IRP sites. The Air Force continued coordination with IEPA to finalize the SICR for two petroleum/oil/lubricant (POL) sites. The installation finalized RI reports with the regulatory agencies for 24 of the 26 remaining IRP sites. The Air Force completed remedial actions at three former fuel storage tank sites. The Air Force also completed a groundwater TS to evaluate enhanced biodegradation and chemical oxidation technologies. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative and regulatory issues delayed the completion of two RI reports. Regulatory issues deferred completion of two FSs addressing seven OU 1 sites.

FY08 MMRP Progress

Chanute AFB closed several MMRP sites as part of the RI documentation process.

Administrative issues delayed the closure of the remaining MMRP sites.

Plan of Action

Plan of action items for Chanute Air Force Base are grouped below according to program category.

IRP

- Obtain regulatory concurrence on two RI reports in FY09.
- Complete two FSs addressing seven OU 1 sites in FY09.
- Award PBC to complete restoration activities at the installation in FY09.

MMRP

- Obtain closure for all remaining MMRP sites in FY09.

Charleston Naval Complex

BRAC 1993

FFID:	SC417002434300, SC417002757100, SC417002267000, SC417002425800, SC417002256000	**Media Affected:**	Sediment, Soil, Groundwater
Location (Size):	Charleston, South Carolina (2,922 acres)	**Funding to Date:**	$ 56.6 million
Mission:	Repaired, maintained, and overhauled Navy ships	**Est. CTC (Comp Year):**	$ 2.2 million (FY 2031)
HRS Score:	N/A	**IRP Sites (Final RIP/RC):**	125 (FY2012)
IAG Status:	N/A	**MMRP Sites (Final RIP/RC):**	2 (FY2007)
Contaminants:	POLs, solvents, petroleum hydrocarbons, SVOCs, VOCs, asbestos, cyanide, decontaminating agents, heavy metals, paints, PCBs, pesticides	**Five-Year Review Status:**	Completed
		IRP/MMRP Status Table:	Refer to page M-7-37

Progress To Date

The Charleston Naval Complex (CNC) housed five major naval commands (Naval Shipyard, Naval Station, Naval Fleet and Industrial Supply Center, Fleet and Mine Warfare Training Center, and Naval Reserve Center) and several small organizations. In July 1993, the BRAC Commission recommended closure of CNC; operational closure occurred on April 1, 1996. CNC subsequently converted its technical review committee to a Restoration Advisory Board and formed a BRAC cleanup team (BCT) in 1994. Concurrently, the State of South Carolina formed a local redevelopment agency (LRA). A community relations plan was updated in FY01.

To date, the Navy has identified solid waste management units (SWMUs) and areas of concern (AOCs) that require remedial action (RA). The BCT has completed 96 no further action (NFA) determinations, and 23 sites have received approval from the South Carolina Department of Health and Environmental Control (SCDHEC) for no further investigation with land use controls (LUCs). The remaining sites require long-term monitoring. The BCT has also identified 84 underground and aboveground storage tanks (UST/ASTs), of which 77 have received NFA concurrence. The Navy divided transfer of CNC's 2,922 acres into four phases; all transfers are complete. The Navy completed the final economic development conveyance consisting of 436 acres via early transfer in 2005. Other significant transfers include the sale of 24 acres of the Chicora Tank Farm in 2004 and transfer of 1,677 acres to other federal entities. The Navy has investigated an additional 16 new RCRA sites, 12 of which have received NFA concurrence from SCDHEC, 2 have NFA recommendations (AOCs 725 and 726), 1 is recommended for monitored natural attenuation (MNA) (AOC 722), and 1 has RA underway (AOC 723). The Navy completed an inventory of Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at CNC for FY04 though FY07 is detailed below.

In FY04, the Navy sold the 24 acres of the Chicora Tank Farm to a private entity. Additionally, the Navy submitted an interim measure work plan for interim LUCs at Phase IV land parcels and implemented corrective actions for SWMU 196 and AOC 607.

In FY05, the Navy received SCDHEC concurrence on the SWMU 9 presumptive LUC remedy, and the Navy completed two modifications to the RCRA Part B permit. The first modification designated the presumptive remedy for SWMU 9, and the second modification updated the status of 124 sites. The Navy transferred the final 436 acres to the LRA. The Navy performed a pilot study injection of lactate solution and submitted a work plan for full-scale operation at AOC 607. The Navy installed a biosparge/soil vapor extraction (SVE) system at SWMU 196. The installation implemented a lactate injection system for source area treatment at SWMU 39. The Navy received MNA concurrence from SCDHEC on SWMUs 25 and 70, and submitted a pilot study work plan for SWMU 166. CNC also submitted a corrective management study (CMS) for SWMU 17 with the recommendation to perform air sparging, SVE, biosparging, and passive recovery. The installation also submitted CMS recommending MNA and lactate injection for AOCs 722 and 723, respectively.

In FY06, the Navy continued MNA and long-term monitoring at 37 sites. The installation continued RAs at SWMUs 25, 39, 166 and 196, and AOCs 607 and 723. The Navy received concurrence from SCDHEC on the CMS for SWMU 17 and AOC 723.

In FY07, CNC submitted the final CMS (SWMU 166/163) for the original 133 RCRA sites plus 5 corrective measures implementation plans (CMIPs) (SWMUs 9, 25/70, 39, 196, and LUC sites). The installation conducted the fill placement for the landfill cover (SWMU 9); began installation of the air sparging/SVE system at SWMU 17; and continued RAs at SWMUs 25/70, 39, 196, and AOCs 607 and 723. The Navy performed additional investigations at SWMUs 163 and 166 in preparation of the final RA. The installation received SCDHEC concurrence for MNA at AOC 722, and NFA concurrence for two additional UST/AST sites. The installation began a permit modification to update the status of numerous sites and resumed the Zone J Waterfront RCRA facility investigation (RFI) studies. The installation joined with SCDHEC and South Carolina State Ports Authority to conduct an Explosives Hazard Assessment and Mitigation Measures study, which covered two MMRP sites and AOCs 501 and 503 to provide a rationale for SCDHEC to grant NFA to these sites.

FY08 IRP Progress

CNC achieved remedy in place (RIP) for all sites based on the implementation of the CMIP for SWMUs 163/166. The installation closed several petroleum sites. The Navy continued corrective measures at SWMUs 17, 25/70, 39, 196, and AOCs 607 and 723 and continued MNA with long term monitoring at 14 additional sites. The installation completed Zone J RFI studies and reports. The Navy continued fieldwork to support AOCs 517, 523, 693, 694, and 695, and SWMU 179. CNC performed an excavation at one UST/AST site, continued operation of a solar-powered oil collection unit at another site, and received NFA determinations at two other sites. to regulatory issues. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy initiated a second Explosives Risk Assessment and Mitigation Measures (XRAMM) study for AOCs 500 and 502.

Plan of Action

Plan of action items for Charleston Naval Complex are grouped below according to program category.

IRP

- Continue corrective measures at 7 sites, and MNA and long-term monitoring at 14 sites in FY09-FY10.
- Complete RFIs for remaining sites, and complete RCRA permit modification in FY09-FY10.

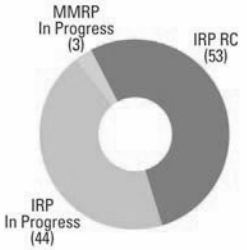
MMRP

- Complete XRAMM study for AOCs 500 and 502 in FY09.

Cherry Point Marine Corps Air Station

NPL/BRAC 2005 Realignment

FFID:	NC417302726100	**Funding to Date:**	$ 87.9 million
Location (Size):	Cherry Point, North Carolina (29,139 acres)	**Est. CTC (Comp Year):**	$ 87.7 million (FY 2041)
Mission:	Maintain and operate support facilities; provide services and materials for marine aircraft	**IRP Sites (Final RIP/RC):**	97 (FY2014)
HRS Score:	70.71; placed on NPL in December 1994	**MMRP Sites (Final RIP/RC):**	3 (FY2019)
IAG Status:	FFA signed in January 2005	**Five-Year Review Status:**	Completed and planned
Contaminants:	SVOCs, explosives, propellants, VOCs, PCBs, petroleum hydrocarbons, solvents, heavy metals	**IRP/MMRP Status Table:**	Refer to page M-6-122
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The Cherry Point Marine Corps Air Station (MCAS) provides services and materials for marine aircraft. EPA placed the installation on the NPL in December 1994. The Navy signed a federal facility agreement (FFA) in FY05. In 2005, the BRAC Commission recommended Cherry Point MCAS for realignment. A technical review committee was established in FY91 and two information repositories were established in FY93. The installation established a Restoration Advisory Board and completed a community relations plan in FY95. The community involvement plan (CIP) was updated in FY05. In FY03, the installation finalized the first 5-year review. The installation completed 5-year reviews at eight sites in FY08.

To date, the installation has completed eight Records of Decision (RODs). The installation conducted an initial assessment study in FY83, which identified Installation Restoration Program (IRP) sites. A RCRA facility assessment performed in FY88 identified solid waste management units. The Navy and EPA agreed to perform additional investigations at 32 sites. The installation has also identified underground storage tank sites. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Cherry Point MCAS for FY04 through FY07 is detailed below.

In FY04, the installation obtained concurrence for the No Further Action Decision Documents at Sites 35a and 85, completed the non-time-critical soil removal at Site 29, and initiated groundwater monitoring in accordance with the Site 29 corrective action plan. The installation finalized the feasibilitiy studies (FSs) and initiated the RODs for Operable Units (OUs) 4 and 13, and initiated the FS for OU 5. Cherry Point MCAS completed the Phase II remedial investigation (RI) at OU 14. The installation initiated a comprehensive voluntary groundwater monitoring program at OUs 1, 4, 5, and 13. An update to the CIP was drafted and submitted for review.

In FY05, Cherry Point MCAS finalized the FFA. The Navy finalized the OUs 4 and 13 RODs, and the OU 1 ecological risk assessment (ERA). The installation finalized the RIs for OUs 5 and 6, and initiated FSs. The installation completed the OU 14 Phase III RI fieldwork. The Navy conducted an enhanced bioremediation treatability study within OU 1 to test treatment technologies for chlorinated volatile organic compounds (VOCs) in groundwater. The installation finalized the CIP.

In FY06, the Navy finalized the FS, proposed remedial action plan (PRAP), and RODs for OUs 5 and 6, and began implementing their respective remedies. The installation initiated an update of the OU 1 RI to incorporate the latest human health screening criteria and the latest sampling results of the ERA.

In FY07, Cherry Point MCAS completed a removal action at OU 6 (Site 12 Crash Crew Training Area) in accordance with the ROD. The Navy removed and contaminated soils and intiated long-term monitoring at this site. Cherry Point MCAS initiated site inspections (SIs) at three MMRP sites.

FY08 IRP Progress

Cherry Point MCAS finalized the RI and initiated the FS for OU 14. The Navy also completed an RI addendum for OU 1 and initiated the FS for the central groundwater plume. The installation completed a remedial action completion report (RACR) for OU 6 and removal actions at OU 1 (Tributary 2). Cherry Point MCAS completed 5-year reviews for the OU 1 Groundwater Central Hotspot Area, Site 16, and OUs 2 through 6, and 13. to regulatory issues. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed completion of supplemental investigations and FSs at OU 1 and Sites 14, 16/83, 17, and 18.

FY08 MMRP Progress

Cherry Point MCAS developed a communication plan to inform stakeholders of anticipated MMRP actions.

Technical issues delayed completion of the SIs at Sites 1, 2, and 3.

Plan of Action

Plan of action items for Cherry Point Marine Corps Air Station are grouped below according to program category.

IRP

- Finalize FS, PRAP, and ROD for OU 14 in FY09.
- Complete interim RACR for OU 5 and finalize all OU 6 actions in FY09.
- Finalize RI/FS for OU 1 central groundwater plume in FY09.
- Complete supplemental investigations, FSs, and RODs for OU 1 and Sites 14, 16/83, 17, and 18 in FY09.
- Initiate remedial design/RA for OU 14 in FY10.

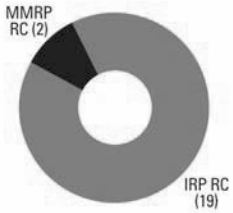
MMRP

- Complete SI for Sites 1, 2, and 3 in FY09.
- Inform stakeholders of anticipated MMRP actions in FY09-FY10.
- Complete finalized RI for Site 1 in FY10.

Chicago O'Hare International Airport Air Reserve Station

BRAC 1993

FFID:	IL557122427200	**Funding to Date:**	$ 9.8 million
Location (Size):	Chicago, Illinois (274 acres)	**Est. CTC (Comp Year):**	$ 0.2 million (FY 2005)
Mission:	Supported Air Force Reserve and Air National Guard flying operations	**IRP Sites (Final RIP/RC):**	19 (FY2005)
		MMRP Sites (Final RIP/RC):	2 (FY2002)
HRS Score:	N/A	**Five-Year Review Status:**	Completed and planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-8-19
Contaminants:	SVOCs, PNAs, petroleum hydrocarbons, POLs, TCE, heavy metals, VOCs		
Media Affected:	Groundwater and Soil		



Progress To Date

Chicago O'Hare International Airport (IAP) Air Reserve Station (ARS) began operations as an aircraft assembly plant and later supported Air Force Reserve and Air National Guard flying operations. Environmental cleanup studies began at the installation in 1983. In 1993, the BRAC Commission recommended closure of the station. In 1996, the Air Force and City of Chicago signed a purchase agreement. The City paid for replacement facilities to be constructed at Scott Air Force Base, Illinois, in exchange for the Chicago O'Hare IAP ARS property. The installation closed in July 1999. Site types identified at the installation include underground storage tanks (USTs), landfills (LFs), fuel spills, aboveground storage tanks, a fire training area, and a low-level radioactive waste disposal area. Primary contaminants are petroleum hydrocarbons, metals, polynuclear aromatic hydrocarbons, volatile organic compounds (VOCs), and semivolatile organic compounds (SVOCs), which have been released into soil and groundwater. In FY97, a stationwide Environmental Baseline Survey (EBS) was completed and in FY98 parcel-specific EBSs were completed for Parcels 2, 3, and 3A. In FY03, the Air Force implemented a land use control (LUC) and institutional control (IC) management plan. The installation formed a Base Closure and Transition Team and a BRAC cleanup team (BCT). The Air Force completed the first 5-year review in FY07.

Environmental cleanup studies have identified Installation Restoration Program (IRP) sites, areas of concern, and Military Munitions Response Program (MMRP) sites. A basewide Record of Decision (ROD) and the LF 001 ROD have been completed. All property (274 acres) at the installation has been transferred to the City of Chicago. In FY04, the Air Force conducted an inventory of MMRP sites. Interim remedial actions have included removal of 19 USTs, contaminated soil, and low-level radioactive waste. In FY08, the Air Force conducted a review of historical reports and determined that all required MMRP actions were complete. The cleanup progress at Chicago O'Hare IAP ARS for FY04 through FY07 is detailed below.

In FY04, the Air Force completed a human health risk assessment and drafted a feasibility study and proposed plan for LF 001 in preparation for the final ROD. An EBS for the remaining property was completed, and the LF 001 remedy was selected. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the Air Force completed the LF 001 ROD and the finding of suitability to transfer for the remaining four acres, which were transferred to the City of Chicago. The installation attained the last remedy in place (RIP) milestone. The Air Force began evaluating requirements at MMRP sites at this installation. BCT activities continued.

In FY06, LUC/IC oversight continued. The evaluation of MMRP sites indicated that no explosive safety hazards exist.

In FY07, the Air Force completed the first 5-year review report. Annual LUC/IC compliance inspections were conducted, and no compliance variances were found.

FY08 IRP Progress

Chicago O'Hare IAP ARS completed an annual review of LUC/IC compliance and continued to find no violations. This is the last narrative for this installation, as all sites have achieved response complete (RC).

FY08 MMRP Progress

The Air Force reviewed historical reports and determined that all required MMRP actions were complete.

Plan of Action

Plan of action items for Chicago O'Hare International Airport Air Reserve Station are grouped below according to program category.

IRP

- Continue to monitor LUC/IC compliance in FY09.

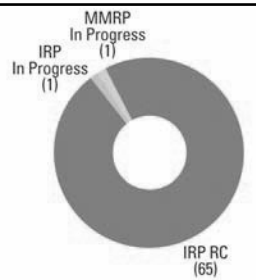
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Cornhusker Army Ammunition Plant

NPL

FFID:	NE721382023400	**Est. CTC (Comp Year):**	$ 25.5 million (FY 2024)
Location (Size):	Hall County, Nebraska (4,020 acres)	**IRP Sites (Final RIP/RC):**	66 (FY2004)
Mission:	Manufactured ammunition	**MMRP Sites (Final RIP/RC):**	1 (FY2012)
HRS Score:	51.3; placed on NPL in July 1987	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in December 1994	**IRP/MMRP Status Table:**	Refer to page M-6-104
Contaminants:	Explosives and heavy metals		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 66.5 million		



Progress To Date

Cornhusker Army Ammunition Plant (AAP) is a former ammunition manufacturing facility. In FY83, the Army identified an explosives-contaminated groundwater plume migrating off site. The off-site contamination affected more than 250 private residences in Grand Island. In FY86 and FY95, the Army extended the Grand Island municipal water distribution system to all affected residences. In FY86, the Army removed and incinerated 40,000 tons of explosives-contaminated soil from sumps and leaching pits. EPA placed the installation on the NPL in July 1987 because of explosive liquid waste contaminants released during the manufacturing process to sumps, cesspools, and leaching pits, and disposal of solid waste in landfills and burning areas. The community formed a local redevelopment authority in FY89. The Army and EPA signed a federal facility agreement (FFA) in July 1990. In FY94, the Army performed an interim remedial action (RA), removing an additional 5,000 tons of explosives-contaminated soil. In FY01, the Army completed the transfer of disposal responsibility for Cornhusker AAP from the Army Materiel Command to the U.S. Army Corps of Engineers. The Army completed a 5-year review in FY04.

An initial assessment study completed in FY80 identified 65 contaminant sources at the installation. In FY99, the results of long-term groundwater monitoring of the off-post contamination provided data to support monitored natural attenuation of the explosive contaminants. In FY03, the Army completed an inventory of Military Munitions Response Program (MMRP) sites. To date, the installation has completed five Records of Decision. The cleanup progress at Cornhusker AAP for FY04 through FY07 is detailed below.

In FY04, the installation completed an RA for the aboveground storage tank site in the shop area and continued RA-operation (RA-O) of the explosives-contaminated groundwater plume at Operational Unit (OU) 1. The installation submitted the final CERCLA 5-year review. The Army discovered additional MMRP sites during the clean certification process. The Army transferred the former OU 5 Burning Grounds to the MMRP. Explosives safety actions included the flashing of Load Line 3 and demolition of boiler houses at Load Lines 2 and 3.

In FY05, the installation continued RA-O at OU 1. The Army initiated chemical characterization of asbestos-contaminated debris pits and residual explosives-contaminated soils beneath former concrete floor slabs and ramps in Load Lines 1 and 2. The installation initiated an installationwide site inspection (SI) under the MMRP.

In FY06, the installation continued RA-O of the OU 1 groundwater explosives plume and long-term management at OUs 3 and 5. The Army performed chemical characterization and the removal of contaminated soils at Load Lines 1 and 2. The installation completed the explosives safety removal and certification of Load Line 4 and initiated an explosives safety submission for six additional areas. Cornhusker AAP completed the installationwide SI for MMRP. An engineering evaluation and cost analysis (EE/CA) and action memorandum was initiated for future accelerated interim RA at the OU 5 open burning/open detonation (OB/OD) ground.

In FY07, Cornhusker AAP performed chemical characterization and removal of contaminated soils at Load Line 4. The installation accelerated RA-O of the OU 1 groundwater explosives plume with in situ amendments (Newman Zone/West Blend). The installation initiated the performance-based contract for full remediation of discarded military munitions and environmental contaminants of concern.

FY08 IRP Progress

Cornhusker AAP continued to accelerate RA-O of OU 1 groundwater explosive plume in Phase I of an in situ amendment injection. The Army removed explosives-contaminated soils at Load Line 4. Cornhusker AAP submitted an explosives safety submission for No DoD Action Indicated (NDAI) for the sale of additional land. to regulatory issues. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the approval for NDAI and public transfer at four sites. Regulatory issues also delayed the approval of the Freon SI for NDAI and public transfer, and transfer of the Load Line 4 property.

FY08 MMRP Progress

Administrative issues delayed approval for the interim RA in EE/CA. Regulatory issues delayed development of the performance-based acquisition strategy.

Plan of Action

Plan of action items for Cornhusker Army Ammunition Plant are grouped below according to program category.

IRP

- Gain approval for NDAI and public transfer at four sites in FY09.
- Gain approval of the Freon SI for NDAI and public transfer in FY09.
- Transfer Load Line 4 property in FY09.

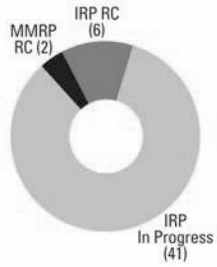
MMRP

- Initiate performance-based acquisition awards in FY09.
- Initiate removal of explosives from the OB/OD site in FY09.
- Award performance-based acquisition contract for OB/OD site in FY09.
- Obtain approval for the interim RA and EE/CA in FY09.

Dallas Naval Air Station

BRAC 1993

FFID:	TX617002278600	**Est. CTC (Comp Year):**	$ 6.5 million (FY 2018)
Location (Size):	Dallas, Texas (832 acres)	**IRP Sites (Final RIP/RC):**	47 (FY2007)
Mission:	Served as a pilot training center	**MMRP Sites (Final RIP/RC):**	2 (FY2005)
HRS Score:	N/A	**Five-Year Review Status:**	Completed
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-39
Contaminants:	VOCs, SVOCs, POLs, solvents, asbestos, heavy metals		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 83.4 million		



Progress To Date

In July 1993, the BRAC Commission recommended closure of the Dallas Naval Air Station (NAS), which served as a pilot training center. The installation closed in September 1998. After the base was closed, operations were transferred to Fort Worth NAS. A number of the industrial operations that supported the installation's military mission contributed to contamination. For investigation of environmental conditions, the installation was divided into six areas, categories A through F, based on operations and property ownership. In FY94, a BRAC cleanup team (BCT) was formed, and a BRAC cleanup plan was completed. The installation formed a Restoration Advisory Board (RAB), and established an information repository. The RAB adjourned in FY05. A local redevelopment authority was established and adopted a land reuse plan. During FY96, the installation completed a community relations plan.

The installation completed a RCRA facility assessment, which identified solid waste management units (SWMUs) and areas of concern. To date, Installation Restoration Program (IRP) sites have been identified at this installation requiring further action. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at Dallas NAS for FY04 through FY07 is detailed below.

In FY04, the installation completed soil remediation, and continued monitored natural attenuation (MNA) on groundwater plumes. The installation also implemented enhanced MNA pilot studies. Dallas NAS initiated BCT review of closure documents and final regulatory approval.

In FY05, the installation continued investigation and MNA on the groundwater plumes. The installation submitted final response action plans. In addition, the installation completed response action completion reports for 84 soil sites and submitted them for review. Long-term operation (LTO) and long-term management (LTM) continued for the remaining sites. The RAB adjourned, due to the specified environmental cleanup standards and funding provided in the settlement agreement between the City of Dallas and the Navy.

In FY06, Dallas NAS completed site restoration and groundwater excavation at SWMUs 18 and 85 by engineering maintenance and control. The installation continued LTO/LTM for remaining sites. The Navy completed MNA remediation at SWMU 35 and began the report.

In FY07, Dallas NAS submitted a groundwater MNA report, conducted basewide groundwater sampling and MNA at 13 sites within a groundwater contamination plume, and initiated an oil-water separator removal at Building 1424. The installation also submitted a response action completion report for SWMU 35 groundwater and an annual response action effectiveness report (RAER) for 13 groundwater plume areas.

FY08 IRP Progress

Dallas NAS conducted semiannual basewide groundwater sampling and completed an annual RAER for 13 groundwater plumes. The installation completed the closure activities report for the oil-water separator at Building 1424. The installation received no further action for basewide soil removal activity and the SWMU 35 groundwater plume.

Regulatory issues delayed submission of the revised response action plans for SWMUs 136 and 138.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Dallas Naval Air Station are grouped below according to program category.

IRP

- Continue monitoring for 12 groundwater plumes in FY09-FY10.
- Submit RAER for 12 groundwater plumes in FY09-FY10.

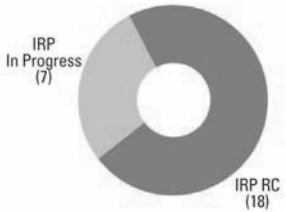
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Davisville Naval Construction Battalion Center

NPL/BRAC 1991

FFID:	RI117002203600	**Funding to Date:**	$ 61.6 million
Location (Size):	Davisville, Rhode Island (1,285 acres)	**Est. CTC (Comp Year):**	$ 10.2 million (FY 2023)
Mission:	Provided mobilization support to Naval Construction Forces	**IRP Sites (Final RIP/RC):**	25 (FY2011)
HRS Score:	34.52; placed on NPL in November 1989	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in March 1992	**Five-Year Review Status:**	Completed and planned
Contaminants:	Heavy metals, PCBs, pesticides, petroleum hydrocarbons, POLs, VOCs, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-6-139
Media Affected:	Groundwater, Sediment, Soil		



Progress To Date

The Davisville Naval Construction Battalion Center (NCBC) provided mobilization support to Naval Construction Forces. Site types at the installation include landfills, solvent storage and disposal areas, transformer storage areas, spill areas, underground storage tanks, and fire training areas. Contaminants include solvents, polychlorinated biphenyls (PCBs), petroleum/oil/lubricants (POLs), and pesticides. EPA placed the installation on the NPL in November 1989. The Navy signed a federal facility agreement (FFA) in March 1992. In July 1991, the BRAC Commission recommended closure of the installation. Construction battalion training and mobilization activities were transferred to the Naval Construction Battalion Center, Gulfport, Mississippi, and to the Naval Construction Battalion Center, Port Hueneme, California. The installation closed in April 1994. The installation established an administrative record and information repository in FY89. In FY94, the installation's technical review committee was converted to a Restoration Advisory Board (RAB) and a BRAC cleanup team (BCT) was formed. In FY95, a BRAC cleanup plan was completed, and in FY96 and FY97, respectively, the BCT prepared BRAC business plans and a community relations plan. In FY03 and FY08, the installation completed 5-year reviews.

The installation has completed three Records of Decision (RODs). In addition, there have been five No Further Action RODs completed by the installation. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Davisville NCBC for FY04 through FY07 is detailed below.

In FY04, the installation issued a finding of suitability to transfer for Site 21 (Parcel 3) and initiated pilot study fieldwork and Phase II remedial investigation (RI) fieldwork at Site 16. The Navy completed screening-level ecological risk assessments for Site 16 and conducted an Environmental Baseline Survey (EBS) at Site 21. Long-term management (LTM) continued at Sites 3, 7, 9, and EBS Site 21.

In FY05, Davisville NCBC continued LTM at Sites 3, 7, 9, and the EBS Site 21. The installation also continued supplemental Phase II RI fieldwork at Site 16.

In FY06, Davisville NCBC continued LTM at Sites 7, 9, and EBS Site 21. The Navy initiated the Phase III RI work plan at Site 16. The installation reached a settlement with the State of Rhode Island concerning a natural resource damage claim. The Navy submitted delinquent LTM and annual inspection reports to regulators.

In FY07, the Davisville NCBC continued interim groundwater sampling at Site 3 and coordinated a synoptic sampling event between the Navy's Site 3 and the U.S. Army Corps of Engineers NIKE PR-58 FUDS site. The installation conducted two sampling rounds for Site 7. For Site 16, the Phase III RI work plan was completed and fieldwork was initiated. The installation completed three rounds of monitoring at Site 9. The Navy conducted four RAB meetings and seven on-site BRAC cleanup team meetings.

FY08 IRP Progress

Davisville NCBC completed Site 16 RI fieldwork and submitted a draft report. The installation completed an update of the Site 7 conceptual site model and commenced an update of the LTM plan. The Navy continued LTM of Sites 3, 7, 9, and EBS Site 21. The Navy completed a second 5-year review. The cost of completing environmental restoration has changed significantly due to technical issues.

The installation conducted three RAB meetings and five BCT meetings.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Davisville Naval Construction Battalion Center are grouped below according to program category.

IRP

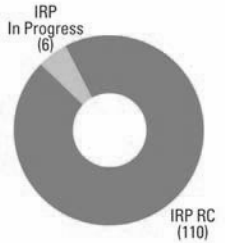
- Continue LTM of Sites 7, 9, and EBS Site 21 in FY09-FY10.
- Conduct source area investigation at Site 7 in FY09-FY10.
- Complete Site 3 feasibility study (FS) and Site 16 FS, proposed remedial action plan, and ROD in FY09-FY10.

MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Defense Distribution Depot Memphis

FFID:	TN497152057000	**Funding to Date:**	$ 56.4 million
Location (Size):	Memphis, Tennessee (642 acres)	**Est. CTC (Comp Year):**	$ 12.5 million (FY 2020)
Mission:	Stored and distributed clothing, food, medical supplies, electronic equipment, petroleum products, and industrial chemicals	**IRP Sites (Final RIP/RC):**	116 (FY2011)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	58.06; placed on NPL in October 1992	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	FFA signed in March 1995	**IRP/MMRP Status Table:**	Refer to page M-6-149
Contaminants:	POLs, VOCs, pesticides, heavy metals, chlorinated solvents		
Media Affected:	Groundwater and Soil		



Progress To Date

EPA placed Defense Distribution Depot (DDD) Memphis on the NPL in October 1992. DDD Memphis, EPA, and Tennessee Department of Environment and Conservation (TDEC) signed a federal facility agreement (FFA) in March 1995. In September 1995, the BRAC Commission recommended closure of DDD Memphis. In FY96, DLA completed a BRAC cleanup plan that serves as the Site Management Plan and contains the master schedule, which has been updated annually. Mission activities ceased at DDD Memphis in FY97. All underground storage tanks (USTs) were removed or closed in place. In FY93, the installation formed a Restoration Advisory Board (RAB). In FY98, DDD Memphis developed a community relations plan. In FY01, the RAB obtained a technical assistance for public participation (TAPP) grant. In FY02, the RAB's TAPP contract was completed. The installation completed 5-year reviews in FY03 and FY08.

DDD Memphis covers approximately 642 acres divided into two areas: the Main Installation (MI) and Dunn Field (DF). The installation divided all CERCLA sites and the remaining USTs into four operable units. An interim remedial action (RA) Record of Decision (ROD) for DF groundwater was signed in FY96. RODs for MI and DF were signed in FY01 and FY04, respectively. The cleanup progress at DDD Memphis for FY04 through FY07 is detailed below.

In FY04, DLA, EPA, and TDEC signed the DF ROD. The Department of the Army signed the Finding of Suitability to Transfer (FOST) 3. DDD Memphis completed the MI and the DF disposal sites remedial design (RD), submitted FOST 4 for approximately 41 acres at DF for public comment, and conducted the DF source areas pilot study of soil vapor extraction (SVE) and zero-valent iron (ZVI) injection. The BRAC cleanup team initiated early implementation of the selected remedy (EISR) from the DF ROD to address contaminant concentrations downgradient from the proposed off-site permeable reactive barrier (PRB) location. DDD Memphis conducted a partnering session to assist the transition from the RD contractor to the RA contractor.

In FY05, the Army signed FOST 4. DDD Memphis completed the MI RA work plan and received EPA and TDEC approval. DDD Memphis began the DF disposal sites RA. DDD Memphis completed the EISR fieldwork and submitted and received EPA and TDEC approval of the EISR RA completion report (RACR). DDD Memphis completed the MI land use control implementation plan (LUCIP) annual inspection.

In FY06, the Army signed one deed and one letter of assignment to the Department of the Interior (DOI) for the FOST 3 property. DA also signed one deed for a portion of the FOST 4 property and offered the remaining property for public sale. DDD Memphis completed the DF disposal sites RA, and submitted and received EPA and TDEC approval of the disposal sites RACR. DDD Memphis completed construction and initiated the MI RA enhanced bioremediation treatment. The installation began preparing the DF source areas RD and completed additional source areas RD investigation fieldwork regarding the effectiveness of SVE on the loess formation. DDD Memphis also began preparing the DF off-depot groundwater RD for which the installation completed the ZVI PRB implementation study work plan and fieldwork. DDD Memphis completed the MI LUCIP annual inspection.

In FY07, DDD Memphis completed the DF source areas RD, the two associated RA work plans, and construction of Phase I of the source areas RD (fluvial SVE). DOI signed a deed for the FOST 3 golf course property. The Army completed the public sale for the remaining FOST 4 property. DDD Memphis continued the MI RA and completed the MI LUCIP annual inspection. The installation conducted the 5-year review. DDD Memphis, EPA, and TDEC agreed to amend the DF ROD based on results of the ZVI PRB study. DDD Memphis initiated a revised DF proposed plan (PP) and DF ROD amendment, and submitted draft documents to EPA and TDEC for review. The installation conducted two RAB meetings and one public briefing for the DF source areas RD.

FY08 IRP Progress

DDD Memphis completed excavation, transportation, disposal, and construction of thermal-enhanced SVE in the loess. The fluvial SVE and loess thermal-enhanced SVE systems removed approximately 12,000 pounds of contaminants from the soil. The installation completed a 5-year review and received EPA and TDEC approval. DDD Memphis completed the enhanced reduction dechlorination microcosm study and intermediate aquifer investigation. The installation completed the MI LUCIP annual inspection, continued operating the MI enhanced bioremediation treatment RA, and initiated a membrane interface probe investigation on the MI. Based on achievement of groundwater remedial goals, approximately half of the extraction wells in the DF groundwater interim RA were turned off. DDD Memphis submitted the final DF revised PP and final DF off-depot groundwater RD. DDD Memphis submitted the draft final DF ROD amendment to EPA and TDEC for review. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

Technical issues delayed the completion of the DF ROD amendment.

The RAB conducted a restoration meeting and an administrative meeting.

FY08 MMRP Progress

DLA has identified no Military Munitions Response Program (MMRP) sites at this installation.

Plan of Action

Plan of action items for Defense Distribution Depot Memphis are grouped below according to program category.

IRP

- Conduct public comment period and meeting for DF revised PP in FY09.
- Conduct public briefing for DF off-depot groundwater RD and implement RA in FY09.
- Receive regulatory approval of DF off-depot groundwater RD in FY09.
- Shutdown remaining DF groundwater interim RA (pump and discharge system) in FY09.
- Complete DF ROD amendment in FY09.
- Submit MI RACR in FY10.

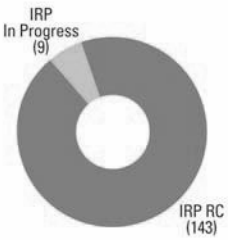
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Defense Distribution Depot San Joaquin, Sharpe Facility
Formerly Sharpe Army Depot

NPL

FFID:	CA997152083200	**Funding to Date:**	$ 76.1 million
Location (Size):	Lathrop, California (724 acres)	**Est. CTC (Comp Year):**	$ 96.8 million (FY 2047)
Mission:	Receive, store, and distribute supplies, materials, and equipment	**IRP Sites (Final RIP/RC):**	152 (FY2010)
HRS Score:	42.24; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	IAG signed in March 1989	**Five-Year Review Status:**	A 5-year review is not required for this installation.
Contaminants:	VOCs, heavy metals, POLs, TCE, pesticides	**IRP/MMRP Status Table:**	Refer to page M-6-32
Media Affected:	Groundwater and Soil		



Progress To Date

Defense Distribution Depot (DDD) San Joaquin, Sharpe Facility began operation in 1941 as a supply and maintenance center. Activities at the property have included overhauls, repairs, painting, paint stripping, metal finishing, and degreasing of aircraft and heavy construction equipment. Investigations have identified contaminated groundwater, soil, and building sites. EPA placed the installation on the NPL in July 1987, and the installation signed an interagency agreement (IAG) in March 1989 with EPA and California regulatory agencies. The installation developed a community relations plan (CRP), which was updated in FY07. The installation completed a 5-year review in FY04.

The installation covers approximately 724 acres. Of the contaminated soil sites identified, 141 have achieved response complete (RC). Two Records of Decision (RODs) have been signed to date: the Operable Unit (OU) 1 groundwater remedy in FY93 and the OU 2 basewide soil remedy in FY96. The cleanup progress at DDD San Joaquin, Sharpe Facility for FY04 through FY07 is detailed below.

In FY04, the installation completed the first final 5-year review report and continued OU 1 groundwater remedial process optimization. The installation also developed an internal response completion plan (RCP), formerly known as the exit strategy, that reviews the selected remedies and formulates appropriate approaches to bring the response actions to completion and ultimately to closeout and delisting.

In FY05, DDD San Joaquin, Sharpe Facility completed the RCP and obtained EPA and state regulatory approval. The installation continued operations and maintenance (O&M) and optimization of the groundwater treatment systems (GWTSs) and groundwater monitoring.

In FY06, DDD San Joaquin, Sharpe Facility began the process of updating the CRP. The installation continued O&M, monitoring, and optimization of the GWTSs and the groundwater monitoring well network. The installation began implementing the RCP by conducting alternative treatment technology and natural attenuation studies. The installation initiated the work plan for completion of the OU 2 Site S-26 remedial action (RA).

In FY07, DDD San Joaquin, Sharpe Facility completed the update of the CRP and OU 2 Site S-26 RA. The installation continued O&M and optimization for the GWTSs and groundwater monitoring. DDD San Joaquin, Sharpe Facility continued implementation of the RCP, including preparation and submission of alternative treatment technology and additional plume delineation work plans to regulatory agencies.

FY08 IRP Progress

DDD San Joaquin, Sharpe Facility continued GWTS O&M, groundwater monitoring, and implementation of the RCP. The installation completed the Site S-26 RA report and additional RCP plume delineation evaluations. DDD San Joaquin, Sharpe Facility prepared the OU 2 ROD amendment and proposed plan (PP), and prepared the second 5-year review report. The installation initiated RCP alternative technology pilot studies and evaluations. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

Technical issues delayed the RCP feasibility study and risk assessment report, and the OU 1 ROD amendment.

FY08 MMRP Progress

DLA has identified no Military Munitions Response Program (MMRP) sites at this installation.

Plan of Action

Plan of action items for Defense Distribution Depot San Joaquin, Sharpe Facility are grouped below according to program category.

IRP

- Continue GWTS O&M, associated compliance actions, and groundwater monitoring in FY09.
- Continue RCP alternative technology pilot studies and performance evaluations in FY09.
- Complete second 5-year review report in FY09.
- Complete OU 2 ROD amendment and PP in FY09.
- Complete the groundwater plume delineations and evaluations and submit findings to regulators in FY09.
- Install alternative treated groundwater discharge line in FY09.
- Begin preparation of the OU 1 ROD amendment in FY10.

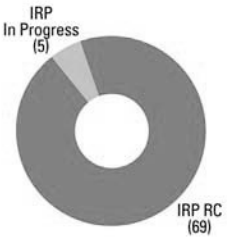
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Defense Distribution Depot San Joaquin, Tracy Facility

NPL

FFID:	CA997150682700	**Funding to Date:**	$ 102.9 million
Location (Size):	Tracy, California (908 acres)	**Est. CTC (Comp Year):**	$ 19.5 million (FY 2038)
Mission:	Store and distribute medical, textile, food, electronic, industrial, construction, chemicals, and other supplies and equipment	**IRP Sites (Final RIP/RC):**	74 (FY2012)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	37.16; placed on NPL in August 1990	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	FFA signed in 1991	**IRP/MMRP Status Table:**	Refer to page M-6-32
Contaminants:	Chlorinated solvents, heavy metals, pesticides, POLs, VOCs		
Media Affected:	Groundwater and Soil		



Progress To Date

Defense Distribution Depot (DDD) San Joaquin, Tracy Facility stores and distributes supplies and equipment for DoD. EPA placed DDD San Joaquin, Tracy Facility on the NPL in August 1990, and the installation signed a federal facility agreement (FFA) in 1991. Sites at this installation include burn and disposal pits, underground storage tanks, hazardous waste storage sites, and other areas of contamination. Contamination has been identified in on-site soil and groundwater, and off-site groundwater. The installation established a community relations plan (CRP) in 1994 and updated it in FY04 and FY06. The installation completed a 5-year review in FY05.

To date, response complete (RC) has been achieved on 61 sites on this installation. Two Records of Decision (RODs) have been signed, one for the treatment of groundwater contamination and one sitewide, comprehensive ROD. The cleanup progress at DDD San Joaquin, Tracy Facility for FY04 through FY07 is detailed below.

In FY04, DDD San Joaquin, Tracy Facility completed an amendment and an explanation of significant differences to the the sitewide comprehensive ROD. The installation also completed three remedial action (RA) reports: one for Solid Waste Management Unit (SWMU) 8; one for SWMUs 4, 6, and 20; and one for Defense Site Environmental Tracking System 67. The installation continued operations and maintenance (O&M) and optimization of groundwater treatment systems (GWTS), and groundwater monitoring. Additionally, the installation continued soil vapor extraction (SVE) for trichloroethylene (TCE) and perchloroethylene (PCE) in soil gas. The installation updated the CRP.

In FY05, the installation completed the 5-year review, which included an outline of the draft response completion plan (RCP). The installation continued O&M and optimization of GWTS, and groundwater monitoring. Additionally, the installation continued SVE for TCE and PCE in soil gas.

In FY06, DDD San Joaquin, Tracy Facility began preparing the draft RCP. The installation shutdown one of the two GWTS. The installation continued O&M, monitoring, and optimization of GWTS, and groundwater monitoring. DDD San Joaquin, Tracy Facility continued SVE for TCE and PCE in soil gas.The installation updated the CRP.

In FY07, DDD San Joaquin, Tracy Facility continued to update the CRP. The installation continued O&M, monitoring, and optimization of GWTS, and groundwater monitoring. The installation continued preparation of the draft RCP that included considerations for alternative technology and natural attenuation (NA) groundwater studies, a feasibility study (FS), and a risk assessment, for inclusion and documentation in an amendment to the sitewide comprehensive ROD. The installation continued SVE for TCE and PCE in soil gas. The installation conducted an NA cone penetrometer test (CPT) investigation.

FY08 IRP Progress

DDD San Joaquin, Tracy Facility continued O&M and optimization of GWTS and groundwater monitoring. The installation completed and submitted the RCP (exit strategy) to regulators; therefore, the alternative technology studies, FS, risk assessment, and Operable Unit (OU) 1 ROD were no longer required. DDD San Joaquin, Tracy Facility and regulators initiated a remedy to include an FS for the northwest corner (NWC) of the North Depot Dieldrin site and conducted a groundwater CPT investigation and aquifer testing for dieldrin in the NWC of the site. The installation continued passive venting of the SVE system in three areas. DDD San Joaquin, Tracy Facility also conducted a CPT investigation and evaluation in the three SVE areas to determine continued SVE or no further action (NFA). In addition, the installation conducted a CPT investigation at Site WH 10 (SWMU 20) to delineate the lateral and vertical extent of soil and groundwater contamination. The installation began preparation of an OU-1 remedy optimization work plan. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

Technical issues delayed the completion of the sitewide preliminary close-out report (PCOR). Administrative issues delayed the completion of the OU 2 TCE/PCE SVE operations, RA report, and ROD amendment. Regulatory issues delayed the final determination of a remedy for the North Depot Dieldrin site.

FY08 MMRP Progress

DLA has identified no Military Munitions Response Program (MMRP) sites at this installation.

Plan of Action

Plan of action items for Defense Distribution Depot San Joaquin, Tracy Facility are grouped below according to program category.

IRP

- Complete sitewide PCOR in FY09.
- Complete OU 2 TCE/PCE SVE operations, RA report, and ROD amendment in FY09.
- Conduct on- and off-depot groundwater CPT investigations in FY09.
- Submit FS and prepare proposed plan and ROD amendment for North Depot Dieldrin site NWC in FY09.
- Continue GWTS O&M, associated compliance and groundwater monitoring, and remedial process optimization in FY09.
- Shutdown the extraction well system to evaluate groundwater volatile organic compound (VOC) concentrations in FY09.

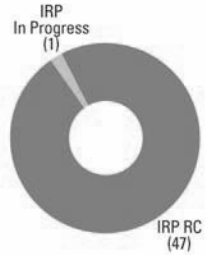
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Defense Supply Center Philadelphia
Formerly Defense Personnel Support Center

BRAC 1993

FFID:	PA397154266500	**Media Affected:**	Groundwater and Soil
Location (Size):	Philadelphia, Pennsylvania (87 acres)	**Funding to Date:**	$ 30.5 million
Mission:	Procured and distributed food, clothing and textiles, medical supplies and equipment, and general and industrial items in support of the DoD military services, federal and civil agencies, and foreign countries; and to ensure military readiness	**Est. CTC (Comp Year):**	$ 4.6 million (FY 2012)
		IRP Sites (Final RIP/RC):	48 (FY2003)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-36
Contaminants:	POLs, PCBs, pesticides, asbestos		



Progress To Date

In July 1993, the BRAC Commission recommended closure of the Defense Personnel Support Center Site, now known as the Defense Supply Center (DSC) Philadelphia, and relocation of its mission to the Naval Support Activity Philadelphia location in northeast Philadelphia. The commission also recommended closure of the Defense Clothing Factory. Sites include underground storage tanks, aboveground storage tanks, pesticide management areas, hazardous waste management areas, polychlorinated biphenyl (PCB)-containing transformers, asbestos-contaminated areas, and former railroad track areas. The only Installation Restoration Program (IRP) site currently open and undergoing remediation is the subsurface groundwater petroleum hydrocarbon plume, which underlies large portions of the installation. Studies have indicated that the plume originated off-site and migrated onto DSC Philadelphia. A BRAC cleanup team was formed in FY94 and has since provided information to the base transition office and the local redevelopment authority to support reuse plans for the installation. A final Environmental Baseline Survey and a BRAC cleanup plan were completed, and an environmental assessment was prepared. In FY95, a Restoration Advisory Board was formed. From FY96 to FY00, DSC Philadelphia and Sunoco, Inc. jointly remediated the hydrocarbon plume under a consent order with the Commonwealth of Pennsylvania. In FY00, the Pennsylvania Department of Environmental Protection (PADEP) issued an administrative order against DLA, DSC Philadelphia, and the Department of the Army requiring sole remediation responsibility of the government. The Defense Energy Support Center (DESC) was selected to manage the subsurface hydrocarbon plume remediation for DLA at the DSC Philadelphia site. A cooperative agreement with the City of Philadelphia was implemented in FY99 for operating and maintaining the site until the air rights were transferred in FY02. In FY05, the installation began to establish an administrative record.

DSC Philadelphia covers approximately 87 acres. DSC Philadelphia closed five IRP sites in FY01, one IRP site in FY03, and three IRP sites in FY04. Remaining IRP sites, aside from the hydrocrabon plume, were closed prior to FY01. The cleanup progress at DSC Philadelphia for FY04 through FY07 is detailed below.

In FY04, construction began on the vacuum-enhanced remediation system at DSC Philadelphia. Additionally, DSC Philadelphia identified and closed three more IRP sites. DSC Philadelphia and DLA held meetings and discussions with the Army regarding the transfer of environmental responsibility. A notice of intent to remediate was submitted to PADEP as required by Pennsylvania Act 2.

In FY05, DSC Philadelphia completed the development of the file coding and began incorporating data into a draft administrative record. DESC completed the construction of the vacuum-enhanced remediation system, and began testing operations. Additionally, DSC Philadelphia, DLA, and DESC continued discussions with the Army regarding environmental responsibilities, actions, and timelines.

In FY06, DESC completed testing the vacuum-enhanced remediation system. The system became fully operational. DESC completed Phase I of the deep and intermediate well installation of six deep and four intermediate wells.

In FY07, DESC completed Phase II of the deep and intermediate well installation. DESC installed seven deep and seven intermediate wells. DESC completed groundwater sampling and analysis of the deep and intermediate wells.

FY08 IRP Progress

DESC obtained funds for the installation of vapor liners, which were installed in the Philadelphia Housing Authority (PHA) building and eight newly constructed townhouses. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

Technical issues delayed the submission of a public involvement plan (PIP), a remedial investigation (RI) report, and a cleanup plan, which are required to obtain the operating properly and successfully certification. Contractual issues delayed obtaining the access agreements for operation and maintenance of the remediation system and for installation of any new monitoring wells at the former Passyunk Homes site. Technical issues delayed groundwater sampling in the shallow, intermediate, and deep wells.

FY08 MMRP Progress

DLA has identified no Military Munitions Response Program (MMRP) sites at this installation.

Plan of Action

Plan of action items for Defense Supply Center Philadelphia are grouped below according to program category.

IRP

- Conduct groundwater sampling in the shallow, intermediate, and deep wells in FY09.
- Obtain access agreements for the installation of new monitoring wells at the former Passyunk Homes site in FY09.
- Restart operation of the remediation system on the PHA site in FY09.
- Submit Pennsylvania Act 2 documentation (PIP, RI report, final cleanup plan) in FY09-FY10.

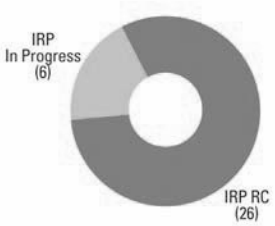
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Defense Supply Center Richmond

NPL

FFID:	VA397152075100	**Funding to Date:**	$ 64.0 million
Location (Size):	Richmond, Virginia (565 acres)	**Est. CTC (Comp Year):**	$ 11.3 million (FY 2035)
Mission:	Provide logistics support (aviation weapon system and environmental) for DoD	**IRP Sites (Final RIP/RC):**	32 (FY2012)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	33.85; placed on NPL in July 1987	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	IAG signed in 1991	**IRP/MMRP Status Table:**	Refer to page M-6-170
Contaminants:	POLs, chlorinated VOCs, PAHs, solvents, pesticides, metals, SVOCs		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Defense Supply Center (DSC) Richmond provides aviation weapon systems and environmental logistics support for DoD. EPA placed the installation on the NPL in July 1987, and the installation signed an interagency agreement (IAG) in 1991. Petroleum/oil/lubricants (POLs), polyaromatic hydrocarbons (PAHs), chlorinated volatile organic compounds (VOCs), solvents, metals, and pesticides have been identified in the groundwater and soil at the installation. Remedial technologies used at DSC Richmond have included soil vapor extraction (SVE), air stripping, dual-phase extraction, density-driven convection, and pump-and-treat remedy. The installation formed a Restoration Advisory Board (RAB) and implemented a community relations plan in FY02. The installation completed a community involvement plan. Five-year reviews were completed in FY97, FY99, FY02, FY05, and FY08.

To date, DSC Richmond has signed nine Records of Decision (RODs). The cleanup progress at DSC Richmond for FY04 through FY07 is detailed below.

In FY04, DSC Richmond conducted a basewide supplemental feasibility study (FS) to refine the conceptual site model (CSM) and to screen technologies for remediation of groundwater. The study employed the Triad method, which integrates systematic planning, dynamic work plans, and on-site analytical tools to meet project and program goals. DSC Richmond also submitted an action memo and removal site evaluation for a principal threat source material removal action. The memorandum supported a time-critical removal of persistent sources to groundwater contamination at DSC Richmond's former fire training pit area at Operable Unit (OU) 4. The installation completed a second revised focused FS for OU 12, a former pesticide storage building. The report identified and screened remedial alternatives consistent with industrial risk-based action levels and long-term institutional controls. DSC Richmond conducted a rebound study for the Acid Neutralization Pit groundwater OU 8 site.

In FY05, DSC Richmond completed a time-critical principal threat source material removal action and associated closeout report at the OU 4, removing over 1,200 tons of hazardous waste. Cost savings were realized by using an on-site laboratory to perform confirmation sampling, which enabled project managers to make quick decisions in the field. The installation also completed the DSC Richmond CSM and the management action plan to identify and manage the restoration program requirements. DSC Richmond completed the proposed plan (PP) for OU 12. Additionally, the installation initiated a land use control (LUC) implementation plan and risk assessments for OUs 10 and 11. RAB meetings continued to inform the public of progress to date.

In FY06, DSC Richmond submitted the installation's first ROD for groundwater media OU 8. The installation submitted PPs for OUs 10 and 11 to regulators, which prescribed LUCs for former pesticide sites. DSC Richmond also completed FSs for OUs 10 and 11. DSC Richmond completed the FS for OU 2, a former landfill in the central part of the installation. The installation submitted an FS and screening-level ecological risk assessment (SLERA) for OU 13 to regulators. The installation finalized a comprehensive CSM in concurrence with regulatory agencies. DSC Richmond initiated the remedial action construction (RA-C) at OU 12. The installation completed the PP and FS for OU 8 and the ROD for OU 12. The installation submitted risk assessments for OUs 10 and 11 as part of the FSs. DSC Richmond initiated the interim RA for OU 9. The installation also continued RAB meetings to inform the public of progress to date.

In FY07, DSC Richmond completed RODs for OUs 10 and 11. DSC Richmond issued a remedial design (RD) for OU 8. DSC Richmond initiated a consolidated 5-year review, which now includes OUs 1, 3, 6, 8, 9, 10, 11, and 12. DSC Richmond constructed a large scale treatability study for remaining groundwater OUs 6 and 7. DSC Richmond finalized an explanation of significant differences for OU 1, which advanced the site into response complete (RC) status. The installation completed the RA-C phase of OU 12. Additionally, the installation completed the RA completion report for OU 12, which advanced the site into RC status. The RAB held monthly meetings.

FY08 IRP Progress

DSC Richmond completed a PP and ROD for OU 2; an RD and RA-C for OUs 8, 10, and 11; and a 5-year review. The installation initiated RA-operation at OU 8. DSC Richmond completed a ROD amendment for OU 9, a SLERA for OU 13, and an RA-C report for OUs 10 and 11. Additionally, DSC Richmond completed the decommissioning work plan for OU 9 and removed the SVE system for OU 8. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues and changes in estimating criteria.

Technical and regulatory issues delayed the ROD for OU 13.

FY08 MMRP Progress

DLA has identified no Military Munitions Response Program (MMRP) sites at this installation.

Plan of Action

Plan of action items for Defense Supply Center Richmond are grouped below according to program category.

IRP

- Complete ROD for OU 13 in FY09.
- Complete RD for OU 2 in FY09.
- Complete FS for OUs 6, 7, and 13 in FY09.
- Complete management action plan in FY09.

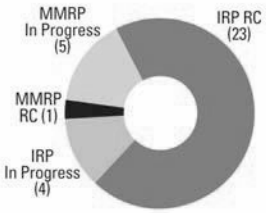
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Deseret Chemical Depot

BRAC 2005 Closure

FFID:	UT821382026500	**Funding to Date:**	$ 23.0 million
Location (Size):	Tooele, Utah (19,364 acres)	**Est. CTC (Comp Year):**	$ 231.7 million (FY 2016)
Mission:	Plan and execute the storage and disposal of chemical weapons	**IRP Sites (Final RIP/RC):**	27 (FY2012)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	6 (FY2016)
IAG Status:	N/A	**Five-Year Review Status:**	Planned
Contaminants:	Solvents, heavy metals, explosives, VOCs	**IRP/MMRP Status Table:**	Refer to page M-6-161
Media Affected:	Groundwater and Soil		



Progress To Date

Deseret Chemical Depot (CD) opened in 1943 as a storage depot for chemical agents. In 2005, the BRAC Commission recommended Deseret CD for closure after completion of its chemical demilitarization mission. The primary mission of Deseret CD is the storage, surveillance, and demilitarization of chemical ammunition, and to provide installation support for chemical weapons disposal at its two permitted treatment facilities: Tooele Chemical Agent Disposal Facility (TOCDF) and Chemical Agent Munitions Disposal Systems (CAMDS). TOCDF is a full-scale treatment facility with four incinerators used for various decontamination activities associated with chemical agents and munitions. CAMDS is a research and development facility used to demonstrate technology for chemical munitions handling, disassembly, incineration, pollution control, and treatment of waste. The Army has tested and evaluated various alternatives to incineration for destruction of chemical and conventional munitions at the facility. Past operations and disposals at Deseret CD have resulted in various types of contaminants across the installation. Solvents, heavy metals, and explosives are the primary contaminants, with chemical agent breakdown products being detected at several sites.

Deseret CD has identified solid waste management units (SWMUs). There are two known releases from these SWMUs and 27 suspected releases. The cleanup progress at Deseret CD for FY04 through FY07 is detailed below.

In FY04, the Army approved a final work plan addendum for SWMU 19. The Army completed a gravel cap at SWMU 37 and installed fencing at SWMU 9. Deseret CD approved the corrective measures study (CMS) for SWMU 22. The Army completed remedial actions (RAs) at SWMUs 17, 19, and 22.

In FY05, the Army completed a final Phase II RCRA facility investigation report and a CMS for SWMU 22.

In FY06, the Army initiated an environmental condition of property (ECP) report in response to the BRAC Commission's recommendation to close Deseret CD after completion of its chemical demilitarization mission.

In FY07, Deseret CD initiated a baseline risk assessment.

FY08 IRP Progress

Deseret CD completed geophysical and subsurface soil sampling activities at SWMU 3. The installation commenced the first phase of a soil gas study at SWMUs 1 and 25. The Army continued installationwide groundwater monitoring, and installed additional monitoring wells in SWMUs 25 and 26. The cost of completing environmental restoration has changed significantly due to regulatory issues and changes in estimating criteria.

Regulatory issues delayed the completion of the ECP. Regulatory issues and additional investigations required by the State of Utah delayed SWMU 3 RAs. Technial issues concerning Chemical Agent Identification Sets delayed completion of the soil gas investigation at SWMU 1.

FY08 MMRP Progress

No Military Munitions Response Program (MMRP) actions have been conducted at this installation.

Plan of Action

Plan of action items for Deseret Chemical Depot are grouped below according to program category.

IRP

- Continue installationwide groundwater monitoring in FY09.
- Complete soil gas investigation at SWMU 1 in FY09.
- Complete ECP, SWMU 3 RAs, and the soil gas study at SWMU 19 in FY09.
- Complete RAs at SWMU 3 and update the Phase II RCRA facility investigation in FY09-FY10.
- Complete geophysical investigation at SWMU 29 and soil vapor intrusion sampling at SWMU 19 in FY09-FY10.

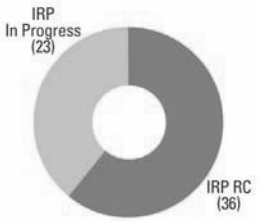
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Dover Air Force Base

NPL

FFID:	DE357182401000	**Est. CTC (Comp Year):**	$ 34.8 million (FY 2032)
Location (Size):	Dover, Delaware (3,730 acres)	**IRP Sites (Final RIP/RC):**	59 (FY2007)
Mission:	Provide airlift support for troops, cargo, and equipment	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	35.89; placed on NPL in March 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in August 1989	**IRP/MMRP Status Table:**	Refer to page M-6-50
Contaminants:	Solvents, VOCs, petroleum products, SVOCs, metals		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 85.2 million		



Progress To Date

Dover Air Force Base (AFB) has provided airlift support for troops, cargo, and equipment since 1942. EPA placed the installation on the NPL in March 1989, and the Air Force signed a federal facility agreement (FFA) in August 1989. Former waste management practices contaminated the shallow groundwater aquifer with petroleum products and volatile organic compounds (VOCs). Site types include solvent spills, fire training areas, landfills, fuel spills, and leaks. The installation completed 5-year reviews in FY03 and FY08.

To date, all of the sites have achieved either remedy in place (RIP) or response complete (RC). The cleanup progress at Dover AFB for FY04 through FY07 is detailed below.

In FY04, Dover AFB completed regulatory reviews and final changes to the feasibility studies (FSs) for all remaining sites and received state concurrence. The Air Force drafted four proposed remedial action plans (PRAPs). The installation continued operation of three fuel recovery systems, operation of an accelerated anaerobic bioremediation system, and monitoring of groundwater plumes. A work plan was drafted for a biogeochemical mulch barrier to treat chlorinated solvents in groundwater. A Record of Decision (ROD) for land use controls (LUCs) at multiple sites was drafted.

In FY05, Dover AFB drafted remedial action work plans (RAWPs) for the South Management Unit and the Area 6 Plume, including a total of 11 sites. The installation drafted two additional PRAPs for groundwater actions at the remaining CERCLA sites. The Air Force drafted four RODs, covering groundwater actions at 11 sites and LUCs at 22 sites. Four petroleum sites achieved RC based on no further action determinations received from the State. Dover AFB finalized FSs for all remaining sites. The installation constructed a biogeochemical mulch barrier to treat chlorinated solvents in groundwater as an innovative technology development project. Operation of three fuel recovery systems and an accelerated anaerobic bioremediation system continued, as did monitoring of groundwater plumes. The installation accepted public comments and held a public meeting for four PRAPs. Dover AFB developed an acceleration initiative with the goal of achieving RIP for all sites by the end of FY06.

The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, Dover AFB signed 6 final RODs for all remaining cleanup actions at 39 sites and completed 4 RAWPs for cleanup of 5 groundwater plumes. Additionally, the installation constructed or implemented final groundwater remedies at 17 sites and completed RA construction completion reports for final remedies at all CERCLA sites. The Air Force also implemented LUCs at all required sites. As a result of the Dover AFB acceleration initiative, all Dover AFB sites met the RIP milestone and 34 sites achieved RC.

In FY07, Dover AFB initiated 5-year reviews for remedies at all sites. The installation continued operations, maintenance, monitoring, and reporting of groundwater cleanup remedies at 24 sites. Additionally, groundwater cleanup activities were completed ahead of schedule at the remaining petroleum site, which acheived RC with state concurrence. The installation conducted optimization studies that recommended reducing the installationwide monitoring well network by 31 wells and closing one site. The installation also completed its first annual monitoring and reporting event for installationwide LUC activities. Dover AFB was named the winner of the Secretary of Defense Environmental Award for Restoration in recognition of its outstanding program acceleration efforts, which achieved RIP at all 59 sites seven years ahead of the DoD goal.

FY08 IRP Progress

Dover AFB completed the second 5-year review, which recommended eight sites for closure. Remedies at all remaining sites were found to be protective and making progress toward achieving RA objectives. The installation continued operations, maintenance, monitoring, and reporting of groundwater cleanup remedies at 24 sites; one of these sites met cleanup objectives and achieved RC. The Air Force Center for Engineering and the Environment conducted an optimization review at Dover AFB, which concluded that the installation's groundwater cleanup approach was effective. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Dover Air Force Base are grouped below according to program category.

IRP

- Continue operations, maintenance, monitoring, and reporting of groundwater cleanup remedies at 23 sites in FY09-FY10.

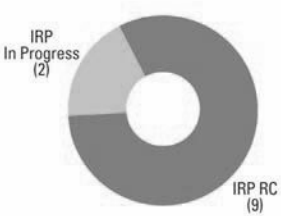
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Driver Naval Radio Transmitting Facility

BRAC 1993

FFID:	VA317002251600	**Funding to Date:**	$ 7.0 million
Location (Size):	Suffolk, Virginia (600 acres)	**Est. CTC (Comp Year):**	$ 0.2 million (FY 2002)
Mission:	Provided radio transmitting facilities and services to support naval ships, submarines, and aircraft	**IRP Sites (Final RIP/RC):**	11 (FY1996)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	Dichlorobenzene, PCBs, POLs, trichlorobenzene, lead, SVOCs, VOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-7-43
Media Affected:	Surface Water, Sediment, Groundwater, Soil		



Progress To Date

The Driver Naval Radio Transmitting Facility was established as a naval air station to train pilots during World War II and was then converted to a transmitter facility after the war. In July 1993, the BRAC Commission recommended closure of the installation; operations ceased on March 31, 1994. The installation formed a technical review committee in FY88 and converted it to a Restoration Advisory Board in FY94, which adjourned in FY97. In FY92, the installation completed a community relations plan and established an administrative record and information repository. Additionally, a BRAC cleanup team was formed in FY94. In FY99, three findings of suitability to transfer were signed, and the property was transferred to three agencies. In FY04, the installation completed a 5-year review.

Studies have identified Installation Restoration Program (IRP) sites at the installation, including a former service station, two polychlorinated biphenyls (PCBs) spill areas, and a number of landfills and other areas used to dispose of solvents, acids, bases, and general refuse. The installation has completed two Records of Decision since environmental restoration activities began. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation. The cleanup progress at Driver Naval Radio Transmitting Facility for FY04 through FY07 is detailed below.

In FY04, the installation finalized the 5-year review and the updated long-term monitoring project plans. The Navy also continued long-term management (LTM) for groundwater and biota at Site 1.

In FY05, FY06, and FY07, Driver Naval Radio Transmitting Facility continued LTM for groundwater and biota at Site 1.

FY08 IRP Progress

Driver Naval Radio Transmitting Facility continued LTM for groundwater at Site 1. This is the last narrative for this installation; all sites have achieved response complete (RC). The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Driver Naval Radio Transmitting Facility are grouped below according to program category.

IRP

- Continue LTM at Site 1 in FY09.
- Complete second 5-year review in FY09.

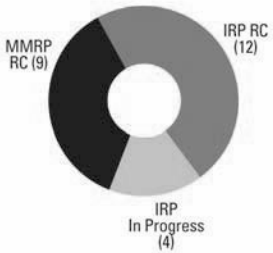
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Eaker Air Force Base

BRAC 1991

FFID:	AR657002447300	**Est. CTC (Comp Year):**	$ 1.0 million (FY 2026)
Location (Size):	Blytheville, Arkansas (3,401 acres)	**IRP Sites (Final RIP/RC):**	16 (FY1999)
Mission:	Supported bomber and tanker aircraft operations	**MMRP Sites (Final RIP/RC):**	9 (FY2002)
HRS Score:	N/A	**Five-Year Review Status:**	Completed and planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-5
Contaminants:	POLs, VOCs, UXO, metals, SVOCs, petroleum hydrocarbons		
Media Affected:	Groundwater, Sediment, Soil		
Funding to Date:	$ 30.9 million		



Progress To Date

In July 1991, the BRAC Commission recommended closure of Eaker Air Force Base (AFB), which formerly supported bomber and tanker aircraft operations. The installation closed in December 1992. Typical environmental site types include underground storage tanks, aboveground storage tanks, oil-water separators, petroleum/oil/lubricant (POL) spill sites, and landfills. Other sites include a fire training area, waste and material storage areas, an explosive ordnance disposal range, a small arms firing range, a trap and skeet range, a JP-4 jet fuel hydrant system, and a bulk fuel storage tank farm. The installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB) in FY94 and completed a community relations plan in FY95. The RAB adjourned in FY00 due to successful remediation efforts and declining community interest. The BRAC cleanup plan was updated in FY97 and FY05. An Environmental Baseline Survey (EBS) and several supplemental EBSs were completed. The installation completed the first 5-year review in FY06.

Environmental studies have identified Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites at Eaker AFB. In addition, a RCRA facility assessment, completed in FY90, identified areas of concern and solid waste management units. Later, an administrative consent order was signed indicating that 30 sites were subject to RCRA corrective action and would be addressed under a RCRA facility investigation. The last remedy in place (RIP) was completed for all IRP sites in FY99. In FY99, the Air Force completed the deed for the 110-acre golf course and transferred a 155-acre parcel in FY00. The cleanup progress at Eaker AFB for FY04 through FY07 is detailed below.

In FY04, the 5-year performance-based contract (PBC) for basewide remedial action operation (RA-O) activities, long-term management (LTM), and groundwater monitoring continued. LTM completion reports for six sites were submitted to regulators for approval. The Air Force conducted an inventory of the MMRP sites identified at this installation.

In FY05, the 5-year PBC for basewide RA-O activities, LTM, and groundwater monitoring continued. The Air Force conducted fieldwork associated with the first 5-year review and submitted a draft 5-year review to regulators. The Air Force began evaluating requirements at MMRP sites at this installation.

In FY06, the Air Force continued the 5-year PBC for basewide RA-O, LTM, and groundwater monitoring activities. The first 5-year review was completed, which concluded that all remedies remaining at the base continue to be protective of human health and the environment. The installation completed an evalutation of MMRP sites.

In FY07, the Air Force completed the 5-year PBC to conduct basewide RA-O, LTM, and groundwater monitoring activities for environmental sites. The Air Force prepared and submitted the annual LTM status report to regulators, and received regulatory approval for closure of four IRP sites. All monitoring wells associated with the four sites were decomissioned. The Air Force prepared a statement of work for a regional multi-year PBC to continue RA-O, LTM, operations and maintenance (O&M), well decommissioning, and other activities. The Air Force also prepared and submitted documentation to obtain closure for nine MMRP sites.

FY08 IRP Progress

Eaker AFB prepared and submitted an annual LTM status report to regulators. The installation conducted RA-O activities, LTM, and groundwater monitoring for four IRP sites. The Air Force decided not to pursue a regional multi-year PBC due to technical contracting requirements. Instead, the Air Force awarded an annual fixed-price contract to continue basewide RA-O activities, LTM, and groundwater monitoring.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Eaker Air Force Base are grouped below according to program category.

IRP

- Prepare and submit annual LTM status report to regulators in FY09-FY10.
- Reevaluate contracting mechanisms to continue LTM, RA-O, O&M, well decommissioning, and other activities in FY09-FY10.
- Continue RA-O activities, LTM, and groundwater monitoring for four IRP sites in FY09-FY10.

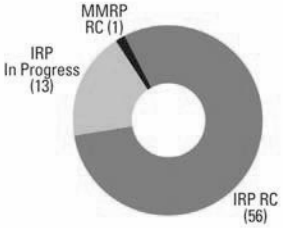
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Earle Naval Weapons Station

NPL

FFID:	NJ217002217200	**Funding to Date:**	$ 29.7 million
Location (Size):	Colts Neck, New Jersey (11,134 acres)	**Est. CTC (Comp Year):**	$ 7.4 million (FY 2025)
Mission:	Handle, store, renovate, and ship munitions	**IRP Sites (Final RIP/RC):**	69 (FY2011)
HRS Score:	37.21; placed on NPL in August 1990	**MMRP Sites (Final RIP/RC):**	1 (FY2005)
IAG Status:	FFA signed in December 1990	**Five-Year Review Status:**	Completed and planned
Contaminants:	VOCs, SVOCs, heavy metals, hydrocarbons, petroleum products, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-7-28
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Earle Naval Weapons Station (NWS) handles, stores, renovates, and ships munitions. Releases of volatile organic compounds (VOCs) and heavy metals from landfills and production areas have contaminated groundwater and soil at the installation. EPA placed the installation on the NPL in August 1990, and the Navy signed a federal facility agreement (FFA) in December 1990. In FY90, the installation formed a technical review committee (TRC), completed a community relations plan (CRP), and established an information repository containing a copy of the administrative record. The Navy converted the TRC to a Restoration Advisory Board in FY95, updated the CRP in FY98, and completed 5-year reviews in FY03 and FY08.

To date, preliminary assessments (PAs) identified sites of concern, four of which required further investigation. The sites include landfills, production areas, storage areas, maintenance areas, and disposal areas. The installation has completed Records of Decision (RODs) at 21 sites and has recommended no further action (NFA) at 13 sites. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Earle NWS for FY04 through FY07 is detailed below.

In FY04, the installation finalized the ROD for Site 13. The Navy completed the proposed plan (PP) for Sites 1 and 11 and submitted draft RODs for Sites 1 and 11 for regulatory review. The installation completed feasibility studies (FSs) for Sites 6, 12, 15, and 17. Earle NWS completed regulatory reviews for the PP for Sites 6, 12, 15, 17, and the 26 secondary tetrachloroethylene (PCE) plume. The installation finalized the ROD and initiated the remedial action (RA) for Site 13. Optimization studies for Sites 16F and 26 were completed. The Conservation Club Range was recommended for NFA.

In FY05, Earle NWS completed the design and construction on the landfill cap for Site 13. The Navy signed RODs for Sites 1 and 11. The installation completed a Classification Exception Area (CEA) draft and initiated the RA for Site 1, and issued draft RODs for Sites 6, 12, 15, and 17. The installation began a draft FS for Site 7 and began discussion of closeout of Sites 9, 41, and 46 through a memorandum of agreement with EPA. The installation issued the final PA for the Conservation Club Range recommending NFA.

In FY06, Earle NWS signed RODs for Sites 3 and 10. The installation continued the RA for Site 1, and began CEA implementation. The installation submitted draft CEAs to the New Jersey Department of Environmental Protection (NJDEP) for Sites 6, 17, and 26, and began reviewing CEAs for Sites 1 and 13. The installation submitted RODs for Sites 6, 12, 15, 17, and 26 for regulatory review. The installation also submitted NFAs for Sites 9, 41, and 46, and the draft FS for Site 7 for regulatory review.

In FY07, Earle NWS signed RODs for Sites 6, 12, 15, 17, and 26. EPA signed RODs for Sites 6, 12, 15, 17, and 26. EPA continued to review NFAs for Sites 9, 41, and 46, and the FS for Site 7. NJDEP continued to review CEAs for Sites 1, 6, 13, 15, 17, and 26. NJDEP submitted comments and FS recommendations for Site 7. EPA continued to review the Conservation Club Range final PA to identify any MMRP sites.

FY08 IRP Progress

Earle NWS completed the FS and developed the PP for Site 7. The installation also completed 5-year reviews for Sites 1, 3, 4, 5, 6, 10, 13, 15, 17, 19, 20, 23, 26, and 27. The Navy continued the RA, including CEA establishment, for Sites 1, 6, 13, 15, 17, and 26.

Regulatory issues delayed the Site 7 proposed RA plan (PRAP).

FY08 MMRP Progress

Earle NWS received regulatory concurrence from EPA on NFA for the Conservation Club Range.

Plan of Action

Plan of action items for Earle Naval Weapons Station are grouped below according to program category.

IRP

- Complete PRAP for Site 7 in FY09-FY10.
- Prepare ROD, work plan, and construct landfill cap for Site 7 in FY09-FY10.
- Achieve regulatory concurrence on NFA for Sites 9, 41, and 46 in FY09-FY10.

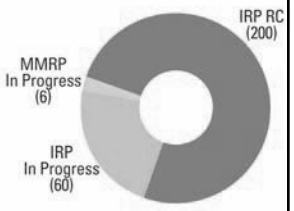
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Edwards Air Force Base

NPL/BRAC 2005 Realignment

FFID:	CA957172450400	**Funding to Date:**	$ 334.5 million
Location (Size):	Kern County, California (301,000 acres)	**Est. CTC (Comp Year):**	$ 711.1 million (FY 2043)
Mission:	Conduct aerospace research, development, testing, and evaluation, and provide support to United States and allies	**IRP Sites (Final RIP/RC):**	260 (FY2012)
		MMRP Sites (Final RIP/RC):	6 (FY2016)
HRS Score:	33.62; placed on NPL in August 1990	**Five-Year Review Status:**	Planned
IAG Status:	FFA signed in 1990	**IRP/MMRP Status Table:**	Refer to page M-6-29
Contaminants:	Waste oils, solvents, petroleum hydrocarbons, POLs, rocket fuel, potential CWM, metals, VOCs, SVOCs, PCBs		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Edwards Air Force Base (AFB) conducts aerospace research, development, testing, and evaluation, in support of defending the United States and its allies. In August 1990, EPA placed the installation on the NPL. The Air Force signed a federal facility agreement (FFA) in 1990. In 2005, the BRAC Commission recommended Edwards AFB for realignment. The installation formed a Restoration Advisory Board (RAB) in 1995.

Studies have identified sites and areas of concern (AOCs) that are divided into 10 operable units (OUs). There are 32 sites in the study phase; 29 sites in the cleanup, operations, construction, Record of Decision (ROD), or decision document stages; 1 site in long-term monitoring; and 399 sites and AOCs require no further investigation. Interim remedial actions have included installing groundwater treatment systems to remove jet fuel and solvents, removing over 350 underground storage tanks and numerous drums of hazardous waste, stabilizing soil to immobilize dioxin and heavy metals, capping the fire fighting training facility, bioventing contaminated soil at 12 sites, and installing 7 soil vapor extraction (SVE) treatment systems. The cleanup progress at Edwards AFB for FY04 through FY07 is detailed below.

In FY04, pilot tests and treatability studies (TSs) at Site 285 and various OU 4 Sites continued. The installation initiated a pilot test to treat perchlorate-contaminated effluent in OU 4. Well installation for the nano-scale zero-valent iron study at OU 5 was completed. At Site 325, several wells were installed, and microcosm studies began to determine the best method of in situ biological contaminant degradation. The RAB met four times.

In FY05, Edwards AFB began and performed multiple TSs throughout the installation. Initiated actions included a PHOSter system TS in OU 2, an in situ bioremediation TS in OU 1, in situ biological and chemical treatment TSs in OU 5, and in situ bioremediation TSs in OUs 4 and 9. The Air Force continued to operate the ion exchange (IX) system at Site 285 in OU 5. The Air Force finalized the proposed plan (PP) for groundwater plumes in OU 4. The installation completed removal actions at Sites 275 and 278 in OU 10. Site 276 was removed from the CERCLA process because no contamination was found. The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites. The RAB met quarterly.

In FY06, Edwards AFB continued the IX ex situ TS of perchlorate in groundwater in OU 5 and continued in situ biological or chemical treatment TSs at OUs 1, 2, 4, 5, 7, and 9. The installation performed bioaugmentation and in situ chemical oxidation (ISCO) TSs in OU 2. The installation finalized the OU 2 South Base PP and submitted the draft OU 7 chemical warfare materiel (CWM) feasibility study (FS) report for agency review. The Air Force and EPA completed and signed the OU 6 ROD. The public reviewed a PP for four of the OU 4 Sites and nine additional sites that included a management plan, land use controls, monitoring, and the shutdown of a groundwater extraction treatment system (GETS). The Air Force continued the PAs at all identified MMRP sites. The Air Force also began some site inspections. The RAB met quarterly.

In FY07, the installation continued operating two dual extraction systems at OU 1, two SVE systems at source areas, and ISCO and bioremediation TSs at Sites 18 and 19. The installation completed the Sites 5/14 ISCO TS work plan and installed the system. The OU 7 CWM FS report was completed. The installation continued operating the IX perchlorate removal TS in OU 5. The installation prepared a draft remedial action work plan (RAWP) for OU 6. The installation operated the Site 25 GETS and the Site 301 bioaugmentation TS, and successfully demonstrated three-phase heating groundwater treatment for methyl tertiary butyl ether. The Air Force installed treatment cells and a six-phase heating groundwater treatment system at Sites 225 and 298. Edwards AFB initiated several treatment systems at OUs 2 and 4. Edwards AFB completed a comprehensive site evaluation (CSE) Phase I and initiated a CSE Phase II for all identified MMRP sites.

FY08 IRP Progress

Edwards AFB completed the OU 4/9 Soils and Debris PP and ROD, and the South Air Force Research Laboratory (AFRL) ROD. The Air Force obtained a technical impracticability (TI) waiver of drinking water standards in the South AFRL ROD. The installation started the PP for OU 8. The Air Force completed the OU 7 CWM PP and draft ROD. The installation completed the draft AFRL RAWP, which includes long-term monitoring and sampling of groundwater to evaluate vapor intrusion pathways. The Air Force completed remedial investigations (RIs) at OUs 5/10, 7, and 8 addendum. Edwards AFB completed an FS for OU 1 and an ISCO TS at OU 2 Sites 5/14. The installation combined a vapor extraction well network at OU 1 (Site 16) and a dual extraction system at Site 18 for remedial optimization. The Air Force completed the RAWP for OU 2 Site 29 Landfill Debris and OU 6. Edwards AFB continued the FS for OU 8 (Site 25), which included a TI waiver and groundwater modeling. The installation continued to implement other remediation systems and TSs at OUs 1, 2, 4, 5/10, 7 and 9. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed completion of the following: OU 2 ROD; OUs 4, 8, and 9 FS , and OU 7 (Site 3) FS and PP.

FY08 MMRP Progress

Edwards AFB completed the CSE Phase II fieldwork and began drafting the report.

Plan of Action

Plan of action items for Edwards Air Force Base are grouped below according to program category.

IRP

- Complete FSs for OUs 4/9 AFRL Arroyos, 5/10, and 8 in FY09.
- Complete PPs for OUs 1 and 7 (Site 3) in FY09.
- Finalize OU 4/9 RAWP for South AFRL in FY09.
- Complete ROD for OUs 2 and 7 CWM in FY09-FY10.

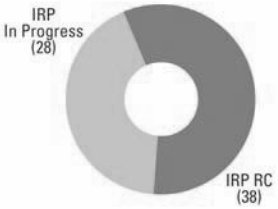
MMRP

- Complete CSE Phase II report in FY09.
- Initiate follow-on RI phase for munitions response sites in FY09.

Eielson Air Force Base

NPL/BRAC 2005 Realignment

FFID:	AK057302864600	**Est. CTC (Comp Year):**	$ 9.3 million (FY 2032)
Location (Size):	Fairbanks, North Star Borough, Alaska (19,790 acres)	**IRP Sites (Final RIP/RC):**	66 (FY2006)
Mission:	Provide tactical air support to Pacific Air Forces	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	48.14; placed on NPL in November 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	IAG signed in May 1991	**IRP/MMRP Status Table:**	Refer to page M-7-2
Contaminants:	POLs, benzene, VOCs, PCBs, solvents, heavy metals		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 59.8 million		



Progress To Date

The mission of Eielson Air Force Base (AFB) is to provide tactical air support to Pacific Air Forces. EPA placed the installation on the NPL in November 1989, and the Air Force signed an interagency agreement (IAG) in May 1991. In 2005, the BRAC Commission recommended Eielson AFB for realignment. Environmental studies at Eielson AFB began in FY82. Sites include fire training areas, landfills (LFs), spill sites (SS), aboveground storage tanks, underground storage tanks, and disposal pits. Primary contaminants affecting groundwater and soil are petroleum/oil/lubricants (POLs), benzene, and chlorinated solvents. Additional contaminants include heavy metals, volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs). In FY95, the installation converted its technical review committee to a Restoration Advisory Board (RAB). Five-year reviews were completed in FY98, FY03, and FY08.

Eielson AFB cleanup sites were grouped into six operable units (OUs); 24 sites were investigated and determined to require no further action (NFA). To date, all Records of Decision (RODs) for the Installation Restoration Program (IRP) have been signed, and amendments have been signed for the OUs 2 through 5 RODs. In FY05, the Air Force updated its Military Munitions Response Program (MMRP) inventory. In FY06, Eielson AFB removed SS 68 from the IRP. The cleanup progress at Eielson AFB for FY04 through FY07 is detailed below.

In FY04, Eielson AFB received funding for the proposed event-driven monitoring (EDM) concept for the long-term monitoring program. A removal action and site evaluation were completed at SS 35. Eielson AFB received regulatory concurrence that the remaining buried drums at the site do not constitute a changing site condition and do not alter the conclusions drafted in the ROD. The installation remediated the emulsion seepage. NFA is required for the remainder of the buried drums. Removal of the OU 1 bioventing system at Sites E 9 and ST 20 was completed. Long-term operational savings from the three decommissioned OU 1 bioventing systems were used to repair and upgrade the OU 2 bioventing system at Site ST 10/SS 14. The RAB held biannual meetings.

In FY05, Eielson AFB continued to make progress with the EDM initiative. The installation completed OU 2 bioventing system repair and upgrade for Site ST 13/DP 26. Remedial action operation (RA-O) activities at the OU 2 bioventing systems at Sites ST 10/SS 14 and ST 13/DP 26 continued. The installation completed the sitewide sampling and analysis of monitoring wells. The current measures at Garrison Slough remain protective and progress toward the targeted risk range continued. Fish removal action from the slough continued. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development. The RAB co-chairs suspended regularly scheduled meeting periods and will meet as needed. An annual fact sheet publication will convey IRP information to the surrounding communities.

In FY06, Eielson AFB employed the EDM initiative for in situ monitoring and implemented the remedial process optimization (RPO) effort. The installation continued RA-O activities at the OU 2 bioventing systems at Sites ST 13/DP 26 and ST 10/SS 14. The installation awarded a munitions sweep contract for Garrison Slough. The Air Force removed SS 68 from the IRP. Future activities will be addressed through the compliance program following State of Alaska cleanup standards for Regulation 18 Alaska Administrative Code 78. The Eielson AFB RAB merged with the U.S. Army Corps of Engineers (USACE) FUDS program for the Eielson Farm Road Anti-Aircraft Artillery site. The combined RAB met to discuss the USACE's proposed plan for remediation efforts at the site.

In FY07, Eielson AFB continued the RA-O for OU 2 bioventing systems for Sites ST 13/DP 26 and ST 10/SS 14. The installation collected groundwater data for selected IRP sites. The base completed the fish removal initiative at Garrison Slough. In addition, Eielson AFB completed the munitions sweep of Garrison Slough. The Air Force initiated an MMRP comprehensive site evaluation (CSE) Phase I at this installation.

FY08 IRP Progress

Eielson AFB completed RA-O at four OU 2 and two OU 3 sites as the RA objectives for the sites were attained. The Air Force assembled an RPO team, which included federal and state regulators, and successfully moved several POL sites to the land use control (LUC) phase and drafted a LUC management plan. The Air Force completed the third 5-year review, which included a finalized LUC management plan. Eielson AFB evaluated data collected at Site WP 45 and SS 57 to determine applicability of a future carbon donor project for enhanced trichloroethylene (TCE) remediation. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

Eielson AFB completed CSE Phase I fieldwork.

Plan of Action

Plan of action items for Eielson Air Force Base are grouped below according to program category.

IRP

- Install carbon donor system at SS 57 and Site WP 45 based on pilot study results in FY09.
- Replace Water Supply Well C in FY09.
- Conduct an evaluation of Garrison Slough for PCB source removal in FY09.
- Conduct groundwater treatment at SS 57 and Site WP 45 in FY10.
- Initiate PCB removal action in Garrison Slough in FY10.

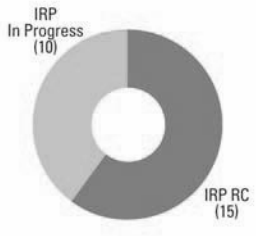
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

El Toro Marine Corps Air Station

NPL/BRAC 1993

FFID:	CA917302320800	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Irvine, California (4,738 acres)	**Funding to Date:**	$ 150.4 million
Mission:	Served as the primary Marine Corps jet fighter facility on the West Coast; provide materials and support for Marine Corps aviation activities; provide housing for Marine Corps personnel	**Est. CTC (Comp Year):**	$ 68.6 million (FY 2038)
HRS Score:	40.83; placed on NPL in February 1990	**IRP Sites (Final RIP/RC):**	25 (FY2014)
IAG Status:	FFA signed in October 1990	**MMRP Sites (Final RIP/RC):**	None
Contaminants:	Herbicides, SVOCs, heavy metals, TCE and other VOCs, petroleum hydrocarbons, PCBs, pesticides	**Five-Year Review Status:**	Underway and planned
		IRP/MMRP Status Table:	Refer to page M-6-24



Progress To Date

The El Toro Marine Corps Air Station (MCAS) served as the primary Marine Corps jet fighter facility on the West Coast, providing materials and support for Marine Corps aviation activities. The installation was placed on the NPL in February 1990, and a federal facility agreement (FFA) was signed in October 1990. The sites at the installation are grouped into three operable units (OUs): VOC-contaminated regional groundwater (OU 1), sites potentially contributing to groundwater contamination (OU 2), and all remaining CERCLA sites (OU 3). The technical review committee, formed in FY90, was converted to a Restoration Advisory Board (RAB) in FY94. In July 1993, the BRAC Commission recommended closure of this installation and transfer of its aircraft, personnel, equipment, and support to Miramar Naval Air Station and Camp Pendleton Marine Corps Base. In FY94, a BRAC cleanup team (BCT) was formed and a BRAC cleanup plan was developed. In FY05, the installation updated its community relations plan (CRP).

To date, approximately 3,727 acres have been transferred or found environmentally suitable for transfer. Studies at El Toro MCAS have identified 24 CERCLA sites, over 1,000 locations of concern, and 404 underground storage tanks (USTs). The installation has completed 19 Final Records of Decision (RODs) for 21 sites since environmental restoration activities began for the various sites. This includes the completion of two No Further Action (NFA) RODs, and regulatory concurrence on NFA for 36 UST sites, 12 aerial-photography anomaly (APHO) sites, and 12 aboveground storage tanks. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at El Toro MCAS for FY04 through FY07 is detailed below.

In FY04, the installation finalized the finding of suitability to transfer (FOST) and finding of suitability to lease without regulatory agency exceptions or contingencies. El Toro MCAS also completed radiological release reports for IRP Sites 2, 8, 12, 17, and 25. The installation submitted the draft CRP update to regulators. The Navy signed the Site 16 monitored natural attenuation ROD. The installation initiated the Site 11 remedial design (RD) in support of the remedial action (RA), and Sites 8 and 12 non-time-critical removal actions.

In FY05, El Toro MCAS completed fieldwork for the Site 11 (Transformer Storage Area) RA. In addition, the installation completed the draft NFA ROD for Site 24 vadose zone soils and completed the draft remedial investigation (RI) report for Site 1 (former explosive ordnance disposal range). The installation completed the RD for the Site 24 groundwater VOC source area and initiated RA field activities. The installation completed the RD for the Site 18 Regional VOC groundwater plume. The installation completed a draft feasibility study (FS) addendum for Sites 3 and 5 landfills and Site 8 Defense Reutilization and Marketing Office (DRMO) Storage Yard. The Navy completed exploratory trenching at 43 locations and soil sampling at various pipeline features and achieved NFA status for 11 aircraft direct refueling stations. The installation completed the excavation and removal of petroleum-impacted soils at former UST Site 308. Additionally, the installation completed investigation and achieved regulatory concurrence on NFA for nine APHO sites, six temporary hazardous waste accumulation areas, seven oil-water separator (OWS) sites, two USTs, and two solid waste management units. The installation completed the CRP update and facilitated BCT and RAB meetings.

In FY06, El Toro MCAS completed a draft RI report for Site 1. The installation drafted RODs for Sites 8 (DRMO Storage Yard) and 12 (Sludge Drying Beds). The installation completed the ROD for Site 24 (vadose zone soils). The installation initiated RAs for the Site 2 landfill cap, and the RA activities at IRP Sites 18 and 24 VOC groundwater plume. The Navy completed exploratory trenching at 43 locations and soil sampling at various JP5 pipeline features. The Navy achieved NFA for 11 aircraft direct refueling stations, approximately 3,100 linear feet of primary pipelines, and 1,600 linear feet of secondary pipelines.

In FY07, El Toro MCAS completed the ROD for Sites 8 and 12, an FS addendum, and draft RODs for Sites 3 and 5. The Navy also completed an RI report and draft FS for Site 1. The installation completed a supplemental groundwater evaluation for Anomaly Area 3. El Toro MCAS completed the final operating properly and successfully (OP&S) report for Site 16, a final operations and maintenance (O&M) manual for Sites 18 and 24, and a final interim RA completion report for Site 24. Operations are underway for demonstrating OP&S for Sites 18 and 24, and RA activities for Site 17. The installation completed treatment and confirmation sampling.

FY08 IRP Progress

El Toro MCAS completed RODs for Sites 3 and 5 and initiated the draft RD/RA for agency review. The Navy completed the draft final vadose zone FS for agency review, and prepared a work plan in support of a groundwater pilot test study. El Toro MCAS completed the draft final O&M manual and the final RAs cap construction for Sites 2 and 17, revegetation is underway. The installation issued the final radiological release report for Building 297. The installation also completed the FOST of approximately 3.9 acres of public sale property. The Navy and regulators distributed a fact sheet with groundwater cleanup updates and RA objectives for Sites 18 and 24. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the design and RA at Sites 8 and 12, O&M and long-term management (LTM) sampling, and the Site 24 OP&S report.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for El Toro Marine Corps Air Station are grouped below according to program category.

IRP

- Continue O&M and LTM sampling, implement pilot test for Site 1 groundwater in FY09.
- Complete the RD and initiate RA in the field activities at Sites 8 and 12 in FY09.
- Complete OP&S report for Site 24 in FY09.
- Complete RD/RA for Sites 3 and 5 in FY09-FY10.
- Draft the RA completion report for Sites 2 and 17 in FY09-FY10.

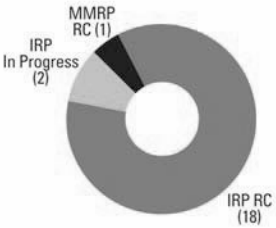
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Ellsworth Air Force Base

NPL

FFID:	SD857212464400	**Funding to Date:**	$ 85.5 million
Location (Size):	Rapid City, South Dakota (4,858 acres)	**Est. CTC (Comp Year):**	$ 2.0 million (FY 2015)
Mission:	Maintain a combat-ready force capable of executing long-range bombardment operations	**IRP Sites (Final RIP/RC):**	20 (FY2002)
		MMRP Sites (Final RIP/RC):	1 (FY2003)
HRS Score:	33.62; placed on NPL in August 1990	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in January 1992	**IRP/MMRP Status Table:**	Refer to page M-7-38
Contaminants:	Solvents (including TCE), POLs, lead, low-level radioactive waste		
Media Affected:	Groundwater and Soil		



Progress To Date

Ellsworth Air Force Base (AFB) maintains a combat-ready force capable of executing long-range bombardment operations. The base was placed on the NPL in August 1990 and signed a federal facility agreement (FFA) in January 1992. Site types include landfills, underground storage tanks, maintenance areas, a fire training area, and a low-level radioactive waste burial site. Groundwater and soil contamination resulted from releases of trichloroethylene (TCE) and petroleum/oil/lubricants (POLs) at these sites. In FY95, the base formed a Restoration Advisory Board. In FY00, a 5-year review was completed for 13 sites, and in FY05, a second 5-year review was completed, both concluded that all sites were protective of human health and the environment.

Sites at the installation were grouped into 12 operable units (OUs). Records of Decision have been signed for OUs 1 through 10 and OU 12. Two sites are not located on Ellsworth AFB; the Badlands Bombing Range (Site OT 18), located approximately 50 miles southeast of the installation on the Pine Ridge Indian Reservation, and Site RW 27, located west of the installation in Wyoming. The cleanup progress at Ellsworth AFB for FY04 through FY07 is detailed below.

In FY04, the installation completed the remedial investigation (RI) and feasibility study (FS) for Site OT 18. The installation also completed the expanded RI and started the FS at Site RW 27. Ellsworth AFB continued remedial action operations (RA-O) and long-term management (LTM) at selected sites. The preliminary assessment (PA) was no longer required, as the area previously identified by Air Force contractors as a Military Munitions Response Program (MMRP) area of concern was subsequently determined to be an explosives ordnance disposal site closed under the Environmental Restoration Program in FY97.

In FY05, Ellsworth AFB added information and reformatted data into a substantially expanded PA and site inspection for Site RW 27, and continued RA-O and LTM at selected sites. The installation initiated a study of reductive biodechlorination and a study of impacts on substandard utilities and groundwater flow. Ellsworth AFB completed a second 5-year review and awarded a performance-based contract covering the closure of 13 Installation Restoration Program (IRP) sites. The installation conducted outreach in support of the Badlands Bombing Range (Site OT 18) cleanup. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, Ellsworth AFB continued RA-O and LTM at selected sites. The installation initiated several reductive biodechlorination treatability studies at OU 04 and Site OT 20. The installation also initiated a data gaps investigation related to basewide groundwater at Site OT 20. The installation conducted outreach in support of the Badlands Bombing Range (Site OT 18) cleanup.

In FY07, EPA Region VIII deleted 10 of the 12 OUs at Ellsworth AFB from the NPL. Two sites remain on the NPL: OT 20 and FT 01. The installation continued RA-O and LTM at selected sites and continued the data gaps investigation. The base implemented full scale bioremediation on installationwide groundwater Site OT 20. The installation continued optimization with the shutdown of selected extraction wells and accelerated soil cleanup at Site FT 01 with high vacuum extraction. Ellsworth AFB received EPA approval for the RI at Site RW 27. LTM for Site RW 27 continued and was optimized. The base renewed consultation with the Oglala Sioux Tribe on Badlands Bombing Range (Site OT 18) cleanup.

FY08 IRP Progress

Ellsworth AFB obtained concurrence from the Wyoming Department of Environmental Quality for the Site RW 27 RI report and continued LTM using the optimized sampling plan. The installation completed the Badlands Bombing Range (Site OT 18) tribal consultation and community relations plan. The Air Force started project planning for an engineering evaluation and cost analysis (EE/CA) at Site OT 18. Ellsworth AFB continued RA-O and LTM optimization at selected sites. The installation implemented a Phase II in situ bioremediation with the injection of an additional 750,000 gallons of soy oil or molasses emulsions. Ellsworth AFB used surfactant-enhanced aquifer remediation at two locations to remove persistent free-product petroleum and installed an oxygen diffusion system at Site FT 01 to accelerate groundwater remediation. The installation restarted a high-vacuum extraction system that was used across sites based on continued performance monitoring. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Ellsworth Air Force Base are grouped below according to program category.

IRP

- Complete Badlands Bombing Range (Site OT 18) EE/CA in FY09.
- Continue performance monitoring to evaluate in situ bioremediation of installationwide groundwater and supplement injections, as appropriate, in FY09.
- Complete evaluation of Site RW 27 and continue LTM in FY09.

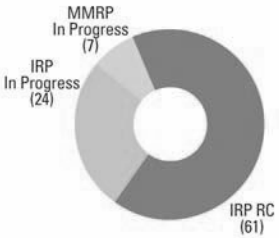
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Elmendorf Air Force Base

NPL/BRAC 2005 Realignment

FFID:	AK057302864900	**Est. CTC (Comp Year):**	$ 58.2 million (FY 2038)
Location (Size):	Anchorage, Alaska (13,452 acres)	**IRP Sites (Final RIP/RC):**	85 (FY2012)
Mission:	Serve as headquarters to the Alaskan Command	**MMRP Sites (Final RIP/RC):**	7 (FY2019)
HRS Score:	45.91; placed on NPL in August 1990	**Five-Year Review Status:**	Planned
IAG Status:	FFA signed in November 1991	**IRP/MMRP Status Table:**	Refer to page M-6-5
Contaminants:	VOCs, heavy metals, POLs, solvents, BTEX		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 92.8 million		



Progress To Date

Elmendorf Air Force Base (AFB) serves as headquarters to the Alaskan Command. EPA placed the installation on the NPL in August 1990, and the Air Force signed a federal facility agreement (FFA) in November 1991. In 2005, the BRAC Commission recommended Elmendorf AFB for realignment. Sites include old construction landfills (LFs), petroleum spill sites (SS), and underground storage tanks. The installation formed a Restoration Advisory Board (RAB) in FY92. In FY97, the RAB charter was rewritten to focus on all environmental activities, beginning the transition to a Community Advisory Board. The installation developed a community relations plan, which was revised in FY00. Five-year reviews were conducted in FY98 and FY04.

The FFA covers 38 sites, grouped into 6 operable units (OUs). An additional 42 sites have been designated as petroleum/oil/lubricant (POL)-contaminated sources, and remedial activities are being performed under the State of Alaska cleanup regulations. By FY97, Records of Decision (RODs) had been signed for OUs 1 through 6. The cleanup progress at Elmendorf AFB for FY04 through FY07 is detailed below.

In FY04, Elmendorf AFB completed the second 5-year review. The installation also completed and signed the ROD for Site DP 98 and the site closure report for LFs 05, 07, and 13; and Site OT 56. In addition, the installation initiated the remedial action (RA) for Site DP 98, system optimization of the OU 5 engineered wetland remediation system, and the removal action at SS 83. Elmendorf AFB received Pacific Air Force's (PACAF's) General Thomas D. White Installation award.

In FY05, Elmendorf AFB began the OU 6 explanation of significant differences (ESD) at Site SD 15. The ESD changed the groundwater remedy at Site SD 15 from high-vacuum extraction (HVE) treatment system to monitored natural attenuation; established a new groundwater cleanup level for 1,1,2,2-tetrachloroethane at LF 02 and Site SD 15; and clarified how land use controls are managed. The installation also completed and signed site closure documents for Sites ST 71 and 74, and SA 99. In addition, Elmendorf AFB completed the Site DP 98 limited-source removal and PACAF's first performance-based contract at Site PL 81. The installation continued operation of the OU 5 engineered wetland system and conducted annual beach sweeps at LF 04. A remedial process optimization project was conducted, which resulted in two separate groundwater plume treatability studies (TSs) to enhance the cleanup process at two locations within the base boundaries. The installation received PACAF's General Thomas D. White Installation and Team awards. The Air Force began preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, Elmendorf AFB began TSs for enhanced bioremediation at the Kenney Plume (Site ST 37) and a bioreactive barrier at the Slammer Plume (Site ST 37). The installation prepared draft decision documents (DDs) for Sites ST 36/66 and 68, and SS 43. The installation completed a site closure report for SS 10. The Air Force also conducted annual beach sweeps at LF 04, and continued operation of bioventing systems at Sites FT 23 and ST 32 and the OU 5 engineered wetland system. The Air Force continued the PAs at all identified MMRP sites. The installation received PACAF's General Thomas D. White Installation award.

In FY07, Elmendorf AFB completed and signed an ESD for OU 6 and a DD for Site ST 68. The installation began the remedial investigation (RI) and feasibility study (FS) for SS 22, conducted annual beach sweeps at LF 04, initiated the third 5-year review, and continued operation of the bioventing system at Site FT 23 and the OU 5 engineered wetland system. Elmendorf AFB continued PAs for all identified MMRP sites.

FY08 IRP Progress

Elmendorf AFB removed the HVE treatment system at Site SD 15 and removed two bioventing systems at Site ST 32. The installation began Phase II fieldwork for the SS 22 RI and removed petroleum-contaminated soil at SS 83. The Air Force also conducted annual debris removal at LF 04 and continued operation of the FT 23 bioventing system. Additionally, Elmendorf AFB continued operation of the engineered wetland system at OU 5 and continued the third 5-year review. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

Elmendorf AFB conducted a fence-to-fence combined PA and site inspection (SI) for additional identified sites.

Plan of Action

Plan of action items for Elmendorf Air Force Base are grouped below according to program category.

IRP

- Complete third 5-year review in FY09.
- Initiate RA report for Site DP 98 and complete SS 22 RI fieldwork in FY09.
- Decommission fuel pipeline at Site OT 92 and bioventing systems at SS 43 and Site ST 68 in FY09.
- Conduct annual debris removal at LF 04 in FY09.
- Continue operation of bioventing system at Site FT 23 and engineered wetland system at OU 5 in FY09.

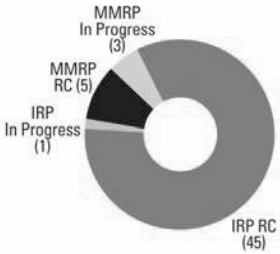
MMRP

- Complete SI at all MMRP sites in FY09.

England Air Force Base

BRAC 1991

FFID:	LA657002445200	**Funding to Date:**	$ 36.2 million
Location (Size):	Alexandria, Louisiana (2,284 acres)	**Est. CTC (Comp Year):**	$ 3.8 million (FY 2054)
Mission:	Supported flying operations for fighter and attack aircraft	**IRP Sites (Final RIP/RC):**	46 (FY2001)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	8 (FY2010)
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	Industrial waste, spent solvents, fuels, waste oil, paints, pesticides, low-level radioactive waste, chlorine gas, PCBs, TCE, POLs, alkali, medical waste, VOCs, SVOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-7-21
Media Affected:	Groundwater, Sediment, Soil		



Progress To Date

England Air Force Base (AFB) was established in 1943 and supported flying operations for various aircraft throughout its history. In July 1991, the BRAC Commission recommended closure of England AFB, and the installation closed in December 1992. Sites identified at the installation include landfills (LFs), underground storage tanks, aboveground storage tanks, fire training areas, oil-water separators, a sewage treatment pond, a low-level radiation site, and gas training kit burial sites. The installation formed a BRAC cleanup team (BCT) in FY93 and a Restoration Advisory Board (RAB) in FY94. The BRAC cleanup plan was updated in FY95 and FY04. The RAB disbanded in FY00 due to lack of interest. In FY08, the installation completed the first 5-year review.

Environmental studies have identified Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites at the installation. A RCRA facility assessment conducted in FY92 identified areas of concern and solid waste management units. Two new MMRP sites were discovered in FY08. To date, more than 1,700 acres have been transferred, primarily to the local redevelopment authority (LRA). The cleanup progress at England AFB for FY04 through FY07 is detailed below.

In FY04, the Air Force transferred 152 acres to the LRA, and the corrective action permit application was revised as requested by the State. The installation continued monitored natural attenuation of the trichloroethylene (TCE) plume to comply with post-closure plan requirements. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, long-term management (LTM) at LF 015 and Spill Site (SS) 021, and remedial action operation (RA-O) at SS 045 (TCE plume) were conducted. The Air Force developed an alternative strategy for site closure and submitted it for review. The Air Force also began evaluating requirements at the identified MMRP sites. Two BCT meetings were held.

In FY06, LTM at LF 015 and SS 021, and RA-O at SS 045 continued. The Air Force transferred approximately 384 acres to the LRA and submitted the first 5-year review to regulators. An operating properly and successfully (OP&S) determination report for SS 045 was prepared, which will be submitted with the RCRA corrective action permit renewal application. Munitions and explosives of concern (MEC) clearance activities were initiated at three sites. The Air Force evaluated the requirements necessary to close the remaining MMRP sites. Two BCT meetings were held.

In FY07, the installation continued LTM at LF 015 and SS 021, and RA-O at SS 045. Regulators reviewed the first 5-year review. The Air Force prepared a final document for signature. A revised RCRA corrective action permit renewal application was prepared and submitted to state regulators, who declared it administratively complete. England AFB completed MEC clearance activities at three sites. The Air Force prepared closure documentation for the remaining MMRP sites. The BCT held two meetings.

FY08 IRP Progress

England AFB finalized and signed the first 5-year review. The installation continued LTM at LF 015 and SS 021, and RA-O at SS 045. The Air Force awarded a new 10-year performance-based contract. The Air Force submitted new corrective action optimization work plans for three sites. The installation prepared OP&S documentation for LF 015 and SS 045. The Air Force received a notice of deficiency for the RCRA permit renewal application and responded to all items. EPA completed a pilot study for soil vapor intrusion and the results recommended no further action for the soil vapor pathway. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical, administrative, and contractual issues delayed submission of OP&S documentation for SS 045. Administrative and contractual issues delayed submission of OP&S documentation for LF 015. The Air Force does not intend to complete OP&S documentation for SS 021 as it is a petroleum site. Technical and administrative issues delayed the preparation of a finding of suitability to transfer the remaining 576 acres.

The BCT held monthly meetings to track open action items required for RCRA permit renewal and property transfer.

FY08 MMRP Progress

England AFB submitted after-action reports for three MMRP sites to the Air Force Safety Center (AFSC). The Air Force awarded a contract for a new historical records review (HRR). The installation identified two new potential MMRP sites.

Technical and contractual issues delayed submission of after-action reports for three MMRP sites to the Department of Defense Explosive Safety Board (DDESB), which delayed obtaining MEC clearance. Contractual issues delayed submission of closure documentations for remaining sites to the AFSC and DDESB.

Plan of Action

Plan of action items for England Air Force Base are grouped below according to program category.

IRP

- Prepare finding of suitability to transfer for the remaining 576 acres in FY09.
- Complete and submit OP&S determination reports for LF 015 and SS 045 in FY09.
- Continue to coordinate with state regulators to finalize RCRA corrective action permit in FY09.
- Implement optimization for LTM at LF 015 and SS 021, and RA-O at SS 045 in FY09.

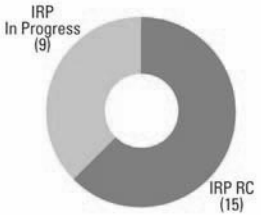
MMRP

- Obtain MEC clearance for three MMRP sites in FY09.
- Submit closure documentation for all MMRP sites to AFSC and DDESB in FY09.
- Complete HRR in FY09-FY10.

F.E. Warren Air Force Base

NPL

FFID:	WY857212417900	**Funding to Date:**	$ 125.0 million
Location (Size):	Cheyenne, Wyoming (5,866 acres)	**Est. CTC (Comp Year):**	$ 27.9 million (FY 2034)
Mission:	Serve as host to the 90th Space Wing, which support missile and space launch operations	**IRP Sites (Final RIP/RC):**	24 (FY2010)
HRS Score:	39.23; placed on NPL in February 1990	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in September 1991	**Five-Year Review Status:**	Completed and planned
Contaminants:	Oils, solvents, metals, acids, petroleum, explosives residues, VOCs, SVOCs, PCBs, PAHs	**IRP/MMRP Status Table:**	Refer to page M-6-178
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The Air Force began restoration activities at F.E. Warren Air Force Base (AFB) in FY84. Between 1984 and 1989, trichloroethylene (TCE)-contaminated soil was removed from Spill Sites (SS) 1, 4, and 7, and the acid dry well site. The EPA placed the base on the NPL in February 1990, and the Air Force signed a federal facility agreement (FFA) in September 1991, which included 19 sites. The Basewide Underground Storage Tank Site was not included in the FFA. The 19 sites were grouped into 7 operable units (OUs). Four additional IRP sites were identified in 2005 as a result of completing a basewide supplemental preliminary assessment (PA) and site inspection (SI), and only three of the sites were added to the FFA. In FY95, a Restoration Advisory Board (RAB) was formed. The Air Force completed 5-year reviews in FY99 and FY04.

Remedial investigations (RIs) have identified sites that were grouped into 14 OUs and 5 investigative zones. The installation has signed Records of Decision (RODs) for 19 of the sites, 11 of which required no further action (NFA). The Air Force updated its Military Munitions Response Program (MMRP) inventory. The cleanup progress at F.E. Warren AFB for FY04 through FY07 is detailed below.

In FY04, the Air Force completed and signed final RODs for Landfills (LFs) 4 and 7, and Fire Protection Training Area 1. The remedial actions (RAs) for LFs 4 and 7 were subsequently completed. The source area RA at SS 7 was completed. The second 5-year review and the Zone C ROD Amendment were completed.

In FY05, F.E. Warren AFB completed and signed the Zone E ROD indicating NFA required. Phase I of the closed firing ranges RI was completed with over 30,000 anomalies identified and investigated. The Zone C ROD Amendment was signed and the remedy was implemented. The remedy selected for Zone C included the use of hydraulic fracturing to place solid potassium permanganate within the zone of groundwater contamination. The installation also completed a supplemental PA/SI that added four sites to the installation's cleanup program. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during inventory development.

Meetings and training for the RAB continued. Partnering meetings with the Air Force, EPA, the State, contractors, and project managers continued regularly.

In FY06, F.E. Warren AFB completed and signed the ROD for Zone D Groundwater and an NFA ROD for the Zone D source areas. The remedial design was completed and construction of the Zone D Groundwater RA remedy was implemented. The installation began a Phase II SI for two of the newly identified sites (SS 09 and Site SA 10), and began RI activities for the other two sites (SS 08 and 10). The Air Force identified munitions and explosives of concern (MEC) and MEC scrap along the base boundary, indicating a need to investigate the adjacent private property. F.E. Warren AFB began the process to obtain access to this property. The Air Force continued the closed firing ranges RI. The RAB held quarterly meetings, and also discussed proposed plans for the installation's sites.

In FY07, F.E. Warren AFB began installation of the Zone D Groundwater remedies and amended the ROD for remedies at two groundwater plumes. The installation continued monitoring all sites requiring RA operation and long-term management, including implementation of a Phase II remedial process optimization for the Zone B Groundwater treatment system. The Air Force also completed the ongoing SI and RI efforts at SS 08, 09 and 10, and Site SA 10. The installation completed field efforts for the closed north ranges RI.

FY08 IRP Progress

F.E. Warren AFB completed the installation of remedies for Zone D Groundwater Plumes C and E. The installation determined based on SI data that NFA was required at SS 09. The Air Force submitted the RA plan to the State of Wyoming. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed completion of the RI/FS for the closed firing ranges. Regulatory and administrative issues delayed completion of the RA for SS 10.

FY08 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for F.E. Warren Air Force Base are grouped below according to program category.

IRP

- Complete RA at SS 08 and 10 in FY09.
- Complete ROD Amendment for Zone B in FY09.
- Complete RI/FS and sign ROD for the closed firing ranges in FY09.

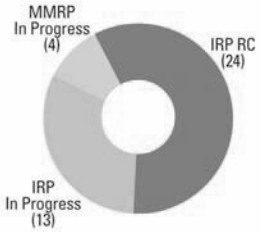
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Fairchild Air Force Base

NPL/BRAC 2005 Realignment

FFID:	WA057212464700	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Spokane County, Washington (4,300 acres)	**Funding to Date:**	$ 55.8 million
Mission:	Provide aerial refueling and airlift services	**Est. CTC (Comp Year):**	$ 59.8 million (FY 2029)
HRS Score:	31.98; placed on NPL in March 1989	**IRP Sites (Final RIP/RC):**	37 (FY2011)
IAG Status:	FFA signed in March 1990	**MMRP Sites (Final RIP/RC):**	4 (FY2013)
Contaminants:	Solvents, fuels, electroplating chemicals, cleaning solutions, corrosives, photographic chemicals, paints, thinners, pesticide residues, PCBs, VOCs, SVOCs, metals, radioactive materials, PAHs	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-6-174



Progress To Date

Fairchild Air Force Base (AFB) provides aerial refueling and airlift services. EPA placed the installation on the NPL in March 1989, and the Air Force signed a federal facility agreement (FFA) in March 1990. In 2005, the BRAC Commission recommended Fairchild AFB for realignment. Sites include contaminated fire training areas, landfills, radioactive waste (RW) sites, spill sites (SS), waste pits (WPs), disposal pits, and ditches. Interim actions included removal of 1,600 cubic yards of soil contaminated with fuels and oils. Additional interim removal actions were completed at the waste storage area, waste fuel operations, a fuel transfer facility, and the arsenic ditches and culverts in FY99. The installation formed a Restoration Advisory Board (RAB) in FY95. In FY00, a partial site delisting effort was initiated with the Washington State Department of Ecology (WA DOE) and EPA. The installation prepared 22 sites for removal from the NPL. Five-year reviews were completed in FY01 and FY08.

Environmental studies have identified Installation Restoration Program (IRP) sites at Fairchild AFB. Records of Decision (RODs) have been signed for 33 sites. The cleanup progress at Fairchild AFB for FY04 through FY07 is detailed below.

In FY04, the installation performed significant remedial process optimization (RPO) initiatives at five of the nine remedial action operation (RA-O) sites. The installation initiated the second 5-year review report preparation. A contract was initiated to perform a Triad remedial investigation (RI) and feasibility study (FS) project for SS 39. The installation continued discussion with the WA DOE regarding terminating remedial operations at Site WP 03.

In FY05, Fairchild AFB initiated significant RPO initiatives at one additional RA-O site and began aggressive optimization at six of the nine RA-O sites. The installation completed the field effort for a Triad RI at SS 39. This effort defined the nature and extent of trichloroethylene (TCE) and carbon tetrachloride contamination in the groundwater, and determined that the contamination would not adversely impact the family housing area. The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, Fairchild AFB completed the SS 39 RI and initiated a contract for the FS. The installation initiated exit strategy development at Sites OT 17 and FT 32, and returned remediated soil to the site. The Air Force continued the PAs at all identified MMRP sites.

In FY07, Fairchild AFB completed the SS 39 draft final FS and started drafting the proposed plan (PP) and ROD. Additional sampling was funded for Sites RW 11 and WP 36 to support a performance-based contract (PBC) award to close these sites. The installation completed and signed no further RA planned documents for two areas of concern where no contamination was discovered above action levels during the site inspection. Fairchild AFB initiated the second 5-year review. Fairchild AFB completed PAs at all identified MMRP sites.

FY08 IRP Progress

Fairchild AFB completed investigative field efforts for Sites RW 11 and WP 36. The installation awarded four site remedy in place (RIP) PBCs for Sites RW 11, WP 36, SD 37, and SS 39. The installation also completed a focused FS and drafted the PP and ROD for SS 39. The Air Force completed the second 5-year review and received EPA concurrence. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed completion of the ROD for SS 39.

Fairchild AFB briefed the RAB on SS 39, progress at Sites RW 11 and WP 36, and investigative efforts.

FY08 MMRP Progress

Fairchild AFB partnered with the Washington Army National Guard to delineate and investigate local eastern Washington MMRP sites. The installation awarded a Phase II comprehensive site evaluation (CSE) Phase II contract and initiated planning.

The Air Force briefed the RAB on MMRP site progress and planned future activities.

Plan of Action

Plan of action items for Fairchild Air Force Base are grouped below according to program category.

IRP

- Complete PP and ROD for SS 39 in FY09.
- Initiate RIP PBCs in FY09.
- Initiate groundwater sampling and remedial design activities at Site SD 37 and SS 39 in FY09.
- Start PP for Sites RW 11, WP 36, and SD 37 in FY09.
- Develop site management and exit strategies for all RA-O sites in FY09.

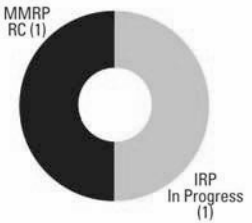
MMRP

- Initiate CSE Phase II in FY09.

Fike-Artel Chemical

NPL

FFID:	WV39799F789200	**Funding to Date:**	$ 0.7 million
Location (Size):	Nitro, West Virginia (12 acres)	**Est. CTC (Comp Year):**	$ 0.3 million (FY 2014)
Mission:	Manufactured smokeless powder (private party operated a batch chemical plant)	**IRP Sites (Final RIP/RC):**	1 (FY2014)
HRS Score:	36.3; placed on NPL in September 1983	**MMRP Sites (Final RIP/RC):**	1 (FY2004)
IAG Status:	None	**Five-Year Review Status:**	Completed
Contaminants:	Organic and inorganic chemicals, metals, dioxin	**IRP/MMRP Status Table:**	Refer to page M-7-44
Media Affected:	Groundwater and Soil		



Progress To Date

Fike-Artel Chemical is part of a 16,000-acre former government plant (Powder Plant "C") that manufactured smokeless powder. EPA placed the property on the NPL in September 1983. A letter of agreement was signed in July 2002, modifying the requirements of the February 19, 1997 consent decree of the United States Southern District Court for West Virginia, determining the Army responsible for a percentage of all remedial response actions, including investigations at the site. The project is a potentially responsible party (PRP) project with numerous PRPs. Under the consent decree, the Army is the settling federal agency and shall reimburse the settling work defendants for past, interim, and future response costs. The settling work defendants (PRPs commonly known as "the Trust") finance and perform the work in accordance with the consent decree. Environmental restoration sites were grouped into five operable units (OUs): disposal of storage tank and drum contents (OU 1); decontamination and disposal of storage tanks, surface drums, and aboveground structures (OU 2); removal of buried drums (OU 3); remedial investigation and feasibility study of groundwater and soil (OU 4); and RI of the cooperative sewage treatment (CST) plant (OU 5).

The Army approved the first Military Munitions Response Program (MMRP) project in FY96. The cleanup progress at Fike-Artel Chemical for FY04 through FY07 is detailed below.

In FY04, work began for the complex groundwater pre-remedial design (RD). The Trust began the work plan for the World War I sewer lines, which included a video inspection of the 66-inch sewer line. In addition, the soil remedy was completed for OU 4 and the CST plant. USACE completed the archive search report for the former Powder Plant "C."

In FY05, the Trust continued the operations and maintenance (O&M) for OU 4 and the CST plant. Additionally, the Trust continued the groundwater component efforts of the RD, which discovered new information with respect to groundwater flow, requiring an increase in the RD effort and removal action remedy.

In FY06, the Trust initiated a remedial action work plan for groundwater. The Trust continued groundwater work for the RD, and O&M continued for the OU 4 and the CST plant. The Trust completed the 66-inch and 12-inch sewer line investigations. EPA approved a schedule change and moved the remedy start date to FY06.

In FY07, the Trust completed cleaning of the 66-inch World War I and 12-inch sewer lines. In addition, the Trust completed the Phase I groundwater well spacing test along Pickens Road. The Trust continued O&M for the OU 4 soils and completed the CST project.

FY08 IRP Progress

The Trust completed the Phase I OU 4 groundwater RD. The Trust continued Phase I O&M for the groundwater treatment system and continued OU 4 soils O&M. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed the RD for the Phase II groundwater treatment system.

FY08 MMRP Progress

No MMRP actions were conducted at this property.

Plan of Action

Plan of action items for Fike-Artel Chemical are grouped below according to program category.

IRP

- Complete RD for the Phase II groundwater treatment system in FY09.
- Continue monitoring progress at the property for payment of response cost to the Trust in FY09-FY10.

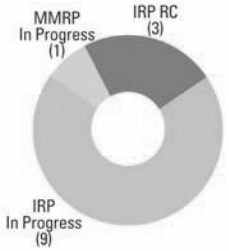
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Former Nansemond Ordnance Depot

NPL

FFID:	VA39799F156700	**Funding to Date:**	$ 44.1 million
Location (Size):	Suffolk, Virginia (975 acres)	**Est. CTC (Comp Year):**	$ 71.3 million (FY 2024)
Mission:	Served as ordnance depot	**IRP Sites (Final RIP/RC):**	12 (FY2017)
HRS Score:	70.0; placed on NPL in July 1999	**MMRP Sites (Final RIP/RC):**	1 (FY2018)
IAG Status:	IAG negotiations on hold with EPA concurrence	**Five-Year Review Status:**	Planned
Contaminants:	TNT, solvents, fuels, pesticides, heavy metals, MEC, SVOCs, VOCs, propellants, explosives	**IRP/MMRP Status Table:**	Refer to page M-6-171
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The Army acquired the Former Nansemond Ordnance Depot (FNOD) between 1917 and 1929 and used the Depot from World War I until November 1950 when the property was leased to the Navy. In 1960, the Army excessed the property and conveyed it to the Beazley Foundation, Inc. FNOD consists of approximately 975 acres and is located in Suffolk, VA at the confluence of the James and Nansemond rivers. The current list of landowners at FNOD includes: Tidewater Community College (TCC); the General Electric Company (GE); Ashley Capital; Dominion Lands, Inc.; Bridgeway LP; Suffolk Towers; SYSCO Food Services; Hampton Roads Sanitation District; Lockheed Martin; the City of Suffolk Industrial Development Authority; and the Virginia Department of Transportation (Interstate 664 divides FNOD). Contaminants identified at the property include TNT, fuels, heavy metals, volatile organic compounds (VOCs), solvents, pesticides, and munitions and explosives of concern (MEC). In FY97, FNOD held its first Restoration Advisory Board (RAB) meeting and the RAB continues to meet quarterly. EPA placed the property on the NPL in July 1999 and delisted the impregnite kit area soils from the NPL in FY03. The FNOD project delivery team meets monthly, and the statewide FUDS Management Action Plan Partnering Team and the EPA Region III FUDS Partnering Team both meet at least twice per year. FNOD has a public affairs work group with representation from regulatory agencies, property owners, and community stakeholders.

To date, the U.S. Army Corps of Engineers (USACE) has signed two No Further Action (NFA) Records of Decision (RODs) and one NFA Decision Document (DD). Cleanup progress at FNOD for FY04 through FY07 is detailed below.

In FY04, USACE completed the off-shore NFA Proposed Plan (PP) and NFA ROD. USACE initiated the site inspection (SI) phases of the Nansemond River Beachfront (NRB); the Marine Corps Power Generation Station; and Tracks G, H, and I explosive magazine lines. Negotiations continued with landowners on the land use control implementation plan (LUCIP) memorandum of agreement (MOA). USACE completed the initial site screening process (SSP) for the GE Pond Area of Concern (AOC).

In FY05, USACE completed the sitewide groundwater conceptual site model investigation, a background levels study, and an anomaly survey of the NRB and James River Beachfront (JRB). USACE also completed near-shore SIs for the JRB and Horseshoe Pond (HSP), as well as the human health risk assessment (HHRA) and ecological risk assessment (ERA) for the Track K Dump (NPL Source Area 6) and the HSP. USACE determined that an engineering evaluation and cost analysis for the Pesticide Drum Area was inappropriate, and began an HHRA and ERA as part of a remedial investigation (RI). USACE also initiated SIs of several AOCs. USACE satisfied the requirements of the FNOD time-critical removal action (TCRA) interagency agreement (IAG) and began drafting the final report. TCC and USACE signed a LUCIP MOA. USACE modified its MEC work plan.

In FY06, USACE signed a final letter of agreement concerning public information access and interim land use control with the City of Suffolk. USACE continued RI work at the JRB, HSP, Main Burning Ground (MBG), TNT Area, Pesticide Drum Area, and Track K Dump (NPL Source Area 6). USACE submitted the draft Pesticide Drum Area RI for regulatory review. USACE completed most of the munitions clearance at the MBG; designated two new AOCs (AOC 23 Renovation Plant and AOC 22 Arsenic Area) on TCC property near the Nansemond River; and initiated SSP investigations at AOCs 12, 14, 15, 20, 22, and 23. EPA approved the TCRA report and it was finalized. Bulk TNT was discovered at the NRB, recharacterizing this location as an NPL Source Area. The district held a public meeting for the Track K Dump PP.

In FY07, USACE and EPA signed the Track K Dump (NPL Source Area 6) NFA ROD. The property expanded SIs at AOCs 4, 10, and 11 to further characterize contaminants. USACE also submitted a draft TNT area RI for review. USACE developed an updated FNOD site management plan. Munitions teams continued to clear seven remaining MBG grids.

FY08 IRP Progress

USACE finalized the AOC 22 SI and found no relationship to the HSP. FNOD initiated expanded SIs at J Lake and TCC Lake to provide additional containment characterization. USACE resubmitted the draft TNT RI for regulatory comments. The Pesticide Drum area PP was approved and the NFA DD was finalized.

Technical issues delayed completion of the HSP RI and PP; the JRB RI, PP, feasibility study (FS), and public meeting; submission of the draft MBG RI report; and the draft HSP RI review of Arsenic Investigation Area (AOC 22). A joint USACE and regulatory project team agreed to cancel the FNOD SSP to return to standard CERCLA SI guidance. Administrative issues delayed supplemental MBG RI fieldwork and the JRB FS.

FNOD held a public meeting regarding the Pesticide Drum Area.

FY08 MMRP Progress

USACE completed the munitions investigation of the MBG.

Technical issues delayed completion of the NRB munitions investigation and the shoreline stabilization FS at the JRB.

Plan of Action

Plan of action items for Former Nansemond Ordnance Depot are grouped below according to program category.

IRP

- Complete RI and submit draft PP for HSP in FY09.
- Submit revised MBG RI report in FY09.
- Finalize RI, submit PP, and initiate FS for shore stabilization at JRB in FY09.
- Initiate NRB hazardous toxic waste RI in FY09.

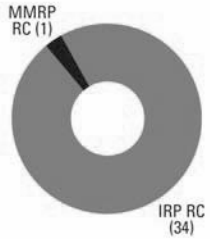
MMRP

- Complete munitions investigations at the NRB in FY09.
- Initiate FS for shoreline stabilization at JRB in FY09.
- Initiate comprehensive SI for all remaining areas of FNOD in FY09.
- Complete SI at J Lake and TCC Lake in FY09.

Fort Chaffee

BRAC 1995

FFID:	AR621372018700	**Est. CTC (Comp Year):**	$ 0.7 million (FY 2003)
Location (Size):	Fort Chaffee, Arkansas (71,359 acres)	**IRP Sites (Final RIP/RC):**	34 (FY2003)
Mission:	Supported light infantry and mobilization missions	**MMRP Sites (Final RIP/RC):**	1 (FY1999)
HRS Score:	N/A	**Five-Year Review Status:**	Completed
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-8-6
Contaminants:	DDT, chlordane, TCE, POLs		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 29.8 million		



Progress To Date

When in operation, Fort Chaffee supported light infantry and mobilization missions. In July 1995, the BRAC Commission recommended closure of Fort Chaffee, except for the minimum essential buildings and ranges for a Reserve component training enclave. The installation closed in FY97. Primary site types include underground storage tanks, a fire training area, landfills, and hazardous waste and hazardous material storage areas. Primary contaminants of concern include petroleum/oil/lubricants (POLs) in groundwater and soil; solvents in groundwater; and pesticides in soil. The community formed a local redevelopment authority (LRA) in FY95. In FY96, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB). In FY99, the installation completed all previously funded work on the enclave sites, passing full responsibility for the sites to the National Guard. In FY04, the installation adjourned the BCT and the RAB. The Army completed 5-year reviews for Sites FTCH 001 and 032 in FY06 and for Sites FTCH 013 and 21E in FY08.

The BRAC parcel available for transfer was approximately 7,037 acres. To date, the Army has completed nine Records of Decision (RODs). Seven of the signed RODs included no further action provisions. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Chaffee for FY04 through FY07 is detailed below.

In FY04, the Fort Chaffee Base Transition Team (BTT) provided stakeholders, including the City of Fort Smith, Sebastian County, and the Fort Chaffee LRA, with the supporting documents for the completed land use control implementation plan. The BTT also issued the first Site FTCH 21E annual groundwater monitoring report and reviewed it with the BCT and RAB. The Army adjourned the BCT and RAB. The installation shipped administrative files to the Army Environmental Center and closed the environmental site office.

In FY06, the installation completed 5-year reviews for landfill Sites FTCH 001 and 032.

In FY07, Fort Chaffee submitted the first 5-year reviews for Sites FTCH 013 and 21E to EPA and the Arkansas Department of Environmental Quality for concurrence. The Army recommended conducting three more years of monitoring in response to a threshold exceedance for trichloroethylene (TCE) in one of the monitoring wells. The additional monitoring is planned to include three surface water samples and three groundwater monitoring wells to be sampled for volatile organic compounds (VOCs) annually through 2010. At the end of this period, the data will be evaluated with respect to the protectiveness of the remedy to support the most recent installationwide 5-year review. The Army permanently closed groundwater monitoring wells at Sites FTCH 001 and 032.

FY08 IRP Progress

Fort Chaffee completed the first 5-year reviews for Sites FTCH 013 and 21E. Due to risk-based threshold concentration exceedence at Site FTCH 21E, the Army will continue annual surface water and groundwater monitoring at Site FTCH 21E until the second 5-year review. The installation sampled groundwater wells, and collected and analyzed three surface water samples for VOCs in accordance with the recommendation in the 5-year review. This is the last narrative for this installation; all sites have achieved response complete (RC). The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Fort Chaffee are grouped below according to program category.

IRP

- Collect and analyze three groundwater samples and surface water samples for VOCs at Site FTCH 21E in FY09-FY10.

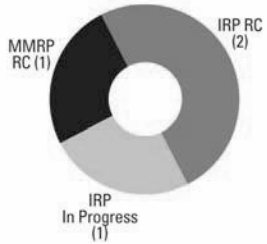
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Fort Crowder
Pools Prairie

NPL

FFID:	MO79799F034700	**Media Affected:**	Groundwater and Soil
Location (Size):	Newton County, Missouri (42,786 acres)	**Funding to Date:**	$ 2.3 million
Mission:	Served as World War II Signal Corps training facility; Korean conflict-era reception station; disciplinary barracks; Atlas missile rocket engine manufacture and testing facility; and jet engine and component manufacture and repair facility	**Est. CTC (Comp Year):**	$ 1.1 million (FY 2013)
		IRP Sites (Final RIP/RC):	3 (FY2013)
		MMRP Sites (Final RIP/RC):	1 (FY2006)
HRS Score:	50.00; placed on NPL in October 1999	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	None	**IRP/MMRP Status Table:**	Refer to page M-7-25
Contaminants:	VOCs, TCE, carbon tetrachloride		



Progress To Date

The Army used the former Fort Crowder during World War II as a Signal Corps training center and again during the Korean conflict as a reception station. The property is located near the City of Neosho, in southwestern Missouri. In 1956, approximately 3,650 acres were transferred to the Air Force for the establishment of Air Force Plant (AFP) 65. Approximately 4,358 acres were leased to the Missouri National Guard for a training facility, known as Camp Crowder. AFP 65 operated until 1968 as an Atlas missile manufacturing and testing facility, and later, until 1980, as a jet engine overhaul and testing facility. AFP 65 was a government-owned, contractor-operated facility. EPA placed the property on the NPL in October 1999. In FY99, the U.S. Army Corps of Engineers (USACE), Kansas City District, signed two administrative orders on consent for removal actions.

The cleanup progress for Fort Crowder for FY04 through FY07 is detailed below.

In FY04, USACE provided technical and legal support to the Department of Justice (DOJ), monitored several source area investigations and removal actions, and began planning a remedial investigation (RI) and feasibility study (FS). Efforts continued with DOJ to obtain settlement of DoD liability for non-Military Munitions Response Program (MMRP) restoration. USACE completed intrusive investigations of the potential chemical warface materiel (CWM) site.

In FY05, USACE assisted in planning and oversight of the installation of a soil vapor extraction system at Quince Road Area. USACE and the Pools Prairie potentially responsible party (PRP) group began planning a pre-RI/FS investigation and continued negotiating the administrative order. USACE continued monitoring removal actions executed by other PRPs and providing technical and legal support to DOJ in support of settlement discussions with PRPs. USACE completed the site inspection phase for the MMRP/CWM scoping security study.

In FY06, USACE performed execution oversight on three administrative orders. USACE also completed the planning and estimating phase of the pre-RI/FS investigation. Legal and technical support to DOJ continued. USACE completed the remedial action construction (RA-C) phase with the educational awareness training of local stakeholders. USACE also initiated the programmatic MMRP/CWM RI/FS and RA-C phases.

In FY07, USACE continued to provide technical and legal support to DOJ for settlement actions. USACE and the National Guard Bureau monitored the execution of pre-RI/FS investigation plans and USACE continued performance monitoring on three removal actions. USACE completed the RI/FS investigation and began the 30-year long-term management (LTM) of the MMRP/CWM site.

FY08 IRP Progress

USACE continued technical and legal support to DOJ for PRP settlement discussion. USACE continued monitoring execution of PRP pre-RI/FS plans and continued performance monitoring on three PRP removal actions. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

FY08 MMRP Progress

USACE continued LTM of the MMRP site.

Plan of Action

Plan of action items for Fort Crowder are grouped below according to program category.

IRP

- Continue technical and legal support to DOJ for PRP settlement actions in FY09-FY10.
- Continue monitoring execution of PRP pre-RI/FS plans in FY09-FY10.
- Continue performance monitoring of PRP removal actions in FY09-FY10.

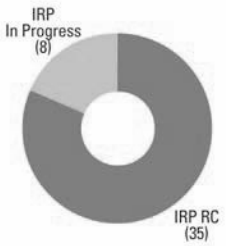
MMRP

- Continue LTM of the MMRP site in FY09-FY10.

Fort Detrick

Proposed NPL

FFID:	MD321162026700	**Media Affected:**	Groundwater, Surface Water, Soil
Location (Size):	Frederick County, Maryland (1,212 acres)	**Funding to Date:**	$ 43.8 million
Mission:	Supports a multi-governmental community that conducts biomedical research and development, medical materiel management, worldwide communications, and the study of foreign plant pathogens	**Est. CTC (Comp Year):**	$ 2.9 million (FY 2014)
		IRP Sites (Final RIP/RC):	43 (FY2012)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	49.52; proposed for NPL in September 2008	**Five-Year Review Status:**	Underway
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-22
Contaminants:	VOCs, metals, biological materials, radionuclides		



Progress To Date

Fort Detrick was established in 1929 when Frederick County purchased 90 acres of farmland for use as a municipal airport. In 1943, Camp Detrick was assigned to the Army Chemical Warfare Service for the development of a Biological Warfare Research Center. Fort Detrick currently houses the National Interagency Confederation for Biological Research and National Interagency Biodefense Campus, and serves as a medical command installation supporting approximately 7,800 military, civilian, and contractor employees conducting biomedical research and development, medical material management, and communications. The environmental investigations and cleanups of contamination from former operations at Fort Detrick have been ongoing since 1992. The potential for offpost groundwater contamination was first identified in 1992. Potentially affected residences were connected to public water supplies or supplied bottled water. In September 2008, EPA proposed the Area B Groundwater Site for the NPL. Identified restoration sites include: 12 disposal and landfill (LF) areas, 6 storage areas, 5 buildings, 2 spill sites (SS), 1 underground storage tank, 1 aboveground storage tank, 1 sewer line, 1 groundwater site, a waste water treatment plant, a wash rack, a small arms range, an explosive disposal, and 8 other sources. Contaminants identified at the site include VOCs, biological materials, metals, and radionuclides. The installation established a Restoration Advisory Board in June 1993.

To date, the Army has achieved response complete (RC) or remedy in place (RIP) at 35 of the 42 waste sites identified at Fort Detrick Areas A, B, and C. The remaining open sites are located at Fort Detrick Area B. The installation completed a No Further Action (NFA) Decision Document (DD) for five sites in Area B. The cleanup progress at Fort Detrick for FY04 through FY07 is detailed below.

In FY04, the Army completed interim remedial action (IRA) at four chemical waste pits at Area B11 to remove the primary source of the Area B trichloroethylene (TCE) and tetrachloroethylene (PCE) groundwater contamination. The IRA resulted in the removal of 3,484 tons of waste and contaminated soil.

In FY05, Fort Detrick performed post operations cleanup action at the former Area B Skeet Range to remove clay pigeon debris causing elevated levels of polyaromatic hydrocarbons contamination in soil. The Army completed a final remedial investigation (RI), feasibility study (FS), and proposed plan (PP) for the Area C Wastewater Treatment Plant (WWTP). The selected remedy included land use controls (LUCs) at a former ash disposal area and NFA for four other areas within the treatment plant.

In FY06, the Army signed the DD for the Area C WWTP. Fort Detrick provided bottled water to four additional homes in close proximity and potentially affected by the Area B Groundwater contamination.

In FY07, the Army completed a final RI/FS and PP for the Area B2 LF Site. The installation selected capping and LUCs as the remedy in the PP. The Army also completed a final RI and PP for five sites in Area B (B Ammo, B Grid, B20 North and South, and B Skeet). The installation selected NFA for the five sites in the PP. Fort Detrick also completed a final RI/FS for 5 Area B LF Sites.

FY08 IRP Progress

The Army signed an NFA DD for the B Ammo, B Grid, B20 North and South, and B Skeet Sites. The Army also signed the DD for Area B2. MDE concurred on both DDs. The installation completed the draft final 5-year review for the 568 TCE SS and submitted it to the Maryland Department of Environment (MDE) for review. The Army completed the final RI/FS for Areas B3, B8, B10, and B11. The draft final PP for capping the Area B Disposal Areas B3, B6, B8, B10, and B11 was submitted to MDE for review and comment. The Army continued sampling and analysis of on-post and off-post groundwater, including residential wells. The installation continued to coordinate with MDE and EPA to develop a work plan for the investigation and remedy selection of Area B Groundwater.

FY08 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Fort Detrick are grouped below according to program category.

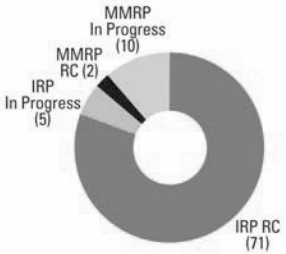
IRP

- Cap six Area B LF Sites (Areas B2, B3, B6, B8, B10 and B11) in FY09.
- Conduct long-term management of the Area B caps in FY09-FY10.
- Complete RI/FS and PP for Area B Groundwater and continue monitoring in FY09-FY10.
- Continue sampling resident wells and provide alternative drinking water as necessary in FY09-FY10.
- Complete 5-year review for the Area C WWTP, including the 568 TCE SS to synchronize review cycles starting in FY10

MMRP

There are no MMRP actions scheduled for FY09 or FY10.

FFID:	MA121042027000	**Funding to Date:**	$ 149.3 million
Location (Size):	Fort Devens, Massachusetts (9,302 acres)	**Est. CTC (Comp Year):**	$ 35.8 million (FY 2027)
Mission:	Supported Reserve component training	**IRP Sites (Final RIP/RC):**	76 (FY2012)
HRS Score:	42.24; placed on NPL in November 1989	**MMRP Sites (Final RIP/RC):**	12 (FY2014)
IAG Status:	IAG signed in November 1991	**Five-Year Review Status:**	Completed and planned
Contaminants:	VOCs, heavy metals, petroleum products, PCBs, pesticides, herbicides, explosive compounds	**IRP/MMRP Status Table:**	Refer to page M-6-92
Media Affected:	Groundwater, Sediment, Soil		



Progress To Date

In July 1991, the BRAC Commission recommended that Fort Devens close and establish a Reserve enclave. In FY96, the Army closed Fort Devens, replacing it with the Devens Reserve Forces Training Area (DRFTA), which assumed the remaining Army mission. DRFTA also is referred to as Fort Devens. In 2005, the BRAC Commission recommended Fort Devens for realignment. EPA placed the installation on the NPL in 1989. The Army and EPA signed a federal facilities agreement (FFA) in November 1991. Identified sites included landfills, vehicle and equipment maintenance and storage yards, the Defense Reutilization and Marketing Office scrap yard, motor pools, and underground storage tanks. Investigations revealed soil and groundwater contamination. In FY94 and FY95, the Army investigated training areas and ranges for possible unexploded ordnance (UXO) and completed all UXO removal actions. In FY94, the installation formed a Restoration Advisory Board and a BRAC cleanup team. The Army signed an Environmental Services Cooperative Agreement with the local redevelopment authority (LRA) in FY01. Fort Devens completed 5-year reviews in FY00 and FY05.

Environmental investigations have identified Installation Restoration Program (IRP) sites. The Army and EPA have signed multiple Records of Decision (RODs). The Army, EPA, and the State have addressed numerous sites under No Further Action (NFA) Decision Documents (DDs) in accordance with the FFA. At this time, the Army has conveyed 2,902 acres to the LRA; 22 acres to the U.S. Department of Labor; 222 acres to the U.S. Bureau of Prisons; and 836 acres to the U.S. Fish and Wildlife Service. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Devens for FY04 through FY07 is detailed below.

In FY04, the installation completed remedial actions (RAs) and the Final Interim Closeout Report for Area of Concern (AOC) 57. The Army approved the AOC 50 ROD. Approval was obtained for the NFA DD for Area Requiring Environmental Evaluation (AREE) 69 AE, North Post oil spill. The installation transferred leased parcels A.1C and Lot 9. The Army completed remedial design and construction of the Shepley's Hill Landfill (SHL) pump-and-treat contingency remedy.

In FY05, the installation implemented operation of the groundwater contingency remedy for SHL and awarded a performance-based contract (PBC) for Supplemental Groundwater and landfill cap assessments (SGLCA) under the long-term management (LTM) remedy phase. The Army achieved remedy in place (RIP) and completed the RA work plan and land use control (LUC) plan for AOC 50 (former North Post/Airfield). Fort Devens sampled for perchlorate in the South Post Impact Area monitoring wells. The Army completed the second 5-year review for all BRAC sites and transferred leased parcels A.2A, A.4, and A.8.

In FY06, the installation initiated a PBC for ongoing LTM and optimization at six AOCs. The installation completed the SGLCA work plans and continued the SHL remedy operation and optimization, as well as the preliminary assessment and site inspection (SI) and supplemental SI for the Grant Housing Areas. The installation also initiated a process for development of LUCs associated with a former range area within the Grant Housing Area and completed a time-critical removal action involving the remediation of lead-contaminated soils. The Army transferred leased parcel A.16 (AREE 69 AE), obtained operating properly and successfully (OP&S) approval for the AOC 69W remedy, and completed the finding of suitability to transfer for AOC 69W (Parcel A.15). The Army awarded a PBC and initiated planning phase activities for performing an SI on MMRP sites identified in the closed, transferred, and transferring inventory report at DRFTA.

In FY07, Fort Devens awarded a PBC for the long-term operation and maintenance of the SHL pump-and-treat contingency remedy. Fieldwork was completed on the SGLCA. EPA provided an OP&S certification for the AOC 50 remedy. The Army completed a revised LTM plan for the remaining six AOC sites in the LTM remedy phase. A draft feasibility study (FS) for implementing LUCs at a former range within the Grant Housing Area is undergoing regulatory and LRA review. The Army transferred leased Parcel A.15 and completed remediation of pesticide-contaminated soils at the former Buena Vista Housing Area. The installation completed the draft MMRP SI work plan and submitted the plan to stakeholders and received comments.

FY08 IRP Progress

Fort Devens finalized the FS and proposed plan for LUCs at the former Grant Housing Area. The installation completed the remedial investigation (RI) work plan for AOC 72, and completed the draft report for the SHL SGLCA. Fort Devens completed a sediment risk characterization report for Site SA71.

Regulatory issues delayed the completion of the ROD for LUCs at the former Grant Housing Area. Administrative issues delayed the completion of the pesticide-contaminated soil remediation at the former housing areas.

FY08 MMRP Progress

Fort Devens completed the final MMRP SI work plan. The Army awarded a new PBC for continuation of RA operation activities at AOC 50 and for munitions and explosives of concern (MEC) SI and RI phase activities at the Markley Range and Oak/Maple Housing Area.

Plan of Action

Plan of action items for Fort Devens are grouped below according to program category.

IRP

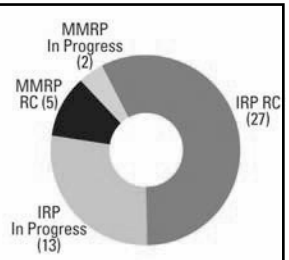
- Complete SHL FS workplan and draft FS report in FY09.
- Complete draft RI report for AOC 72 in FY09.
- Complete the ROD for LUCs at the former Grant Housing Area in FY09-FY10.
- Complete the pesticide-contaminated soil remediation at the former housing areas in FY09-FY10.

MMRP

- Complete final SI report for remaining MMRP sites in FY09.
- Complete SI report for Markley Range in FY09.
- Complete RI for MEC investigation at former Oak/Maple Housing Area in FY10.

Fort Dix

FFID:	NJ221042027500	**Funding to Date:**	$ 18.4 million
Location (Size):	Pemberton Township, New Jersey (30,638 acres)	**Est. CTC (Comp Year):**	$ 8.7 million (FY 2036)
Mission:	Provide training and Reserve support	**IRP Sites (Final RIP/RC):**	40 (FY2009)
HRS Score:	37.40; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	7 (FY2015)
IAG Status:	FFA signed in July 1991	**Five-Year Review Status:**	Completed and planned
Contaminants:	VOCs, POLs, chlorinated solvents, PCBs, heavy metals, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-7-28
Media Affected:	Groundwater and Soil		



Progress To Date

The remedial investigation (RI) of the Fort Dix Sanitary Landfill (LF) began in 1979, leading to the installation of groundwater monitoring wells around the perimeter. Due to the identified contamination, EPA placed the Sanitary LF on the NPL in 1987. The Army and EPA signed a federal facility agreement (FFA) in September 1991. In FY00, the Army petitioned EPA to remove the Sanitary LF from the NPL. In FY89, the installation identified contamination at storage areas, motor pools, abandoned underground storage tanks (USTs), LFs, lagoons, impact areas, and an incinerator. Contaminants identified include heavy metals, volatile organic compounds (VOCs), petroleum/oil/lubricants (POLs), and chlorinated solvents. In 1995 and 2005, the BRAC Commission recommended realignment of Fort Dix, with retention of land and facilities for Reserve component training. The installation formed a Restoration Advisory Board in FY96. The installation completed 5-year reviews for the Sanitary LF in FY99 and FY05.

The installation has completed nine Records of Decision to date. In FY89, the installation performed site characterization and field screening at 16 sites and, in 1993, identified 42 areas requiring environmental evaluation. In FY97, the installation removed 80 abandoned USTs and began evaluating the contaminated sites. In FY99, the Sanitary LF was added to EPA's construction complete list. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Dix for FY04 through FY07 is detailed below.

In FY04, the installation awarded a guaranteed fixed-price remediation (GFPR) contract to conduct remediation at 14 sites. The installation submitted remedial action work plans and RI reports to the regulators and completed soil removals at two sites. The installation continued long-term management (LTM) at the Sanitary LF. The installation completed, and regulators approved, the draft final RI report for the New Egypt Armory site, and an interim removal action of polychlorinated biphenyl (PCB)-contaminated soils was initiated. The installation submitted the draft RI report for the former Pesticide Control Shop to regulators for comment. Fort Dix initiated a 5-year review for the Sanitary LF and continued to pursue its deletion from the NPL.

In FY05, the installation completed a 5-year review of the Fort Dix Sanitary LF, as well as soil remediation at the New Egypt Armory site. The installation continued remediation at 14 Fort Dix sites.

In FY06, the installation continued remediation at the 14 Fort Dix sites under the GFPR contract. The installation completed in situ treatment of the Taxi Stand Plume. The Army continued the installationwide classification exception area groundwater sampling. The installation began sentinel well installation at the Sanitary LF and pursued NPL delisting.

In FY07, Fort Dix continued remediation at the 14 sites under the GFPR contract. The Army continued the installationwide classification exception area groundwater sampling. The installation completed the RI and feasibility study (FS) reports for the Pesticide Control Shop, and submitted them to regulators. The installation also completed the draft RI reports for Range LF and ANC 2 Disposal Area, and submitted work plans to regulators. The installation sampled the Taxi Stand Plume and amended the RI report. The project report was submitted to the regulators. Fort Dix completed the historical records review for closed, transferred, and transferring (CTT) ranges, which was approved by the regulators. The installation completed the site inspection work plan and fieldwork for the CTT ranges.

FY08 IRP Progress

Fort Dix continued remediation at the 14 Fort Dix sites under the GFPR contract. The installation received regulatory approval for revised sampling analyses. The Army also awarded a performance-based contract to conduct LTM and monitoring of sites, including the installationwide classification exception area groundwater sampling. The installation finalized work plans for Range LF and ANC 2 Disposal Area. The installation continued to work with regulators on the sampling required to complete the New Egypt Armory RI and interim removal action reports. Fort Dix received regulatory approval for proposed plans (PPs) for the Pesticide Control Shop and Fire Training Tank Area. The Army developed and received approval for work plans for the RIs at the Range LF and ANC 2 Disposal Area.

Regulatory issues delayed completion of the focused FS (FFS) for the Range LF and ANC 2 Disposal Area. Regulatory issues also delayed the RI/FS for the Pesticide Control Shop.

The Army conducted a public meeting to discuss the Pesticide Control Shop PP.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Fort Dix are grouped below according to program category.

IRP

- Receive regulatory approval for Pesticide Control Shop and Fire Training Tank Area decision documents in FY09.
- Conduct soil removal at Pesticide Control Shop in FY09.
- Conduct sampling and complete RIs at ANC 2 LF and Range LF in FY09.
- Complete FFS for Range LF and ANC 2 Disposal Area in FY09.

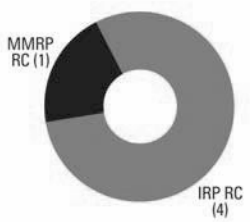
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Fort Dix BRAC

BRAC 1995

FFID:	NJ221402027500	**Est. CTC (Comp Year):**	$ 0.0 million (FY 2001)
Location (Size):	Pemberton Township, New Jersey (31,065 acres)	**IRP Sites (Final RIP/RC):**	4 (FY2001)
Mission:	Provided training and mobilization	**MMRP Sites (Final RIP/RC):**	1 (FY2000)
HRS Score:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	FFA signed in 1991	**IRP/MMRP Status Table:**	Refer to page M-8-39
Contaminants:	Chlorinated solvents, heavy metals, PCBs, asbestos		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 30.7 million		



Progress To Date

In July 1995, the BRAC Commission recommended the realignment of Fort Dix and the transfer of excess property. Prior to being slated for closure, Fort Dix BRAC properties supported training and mobilization efforts for the Army. The Army signed a federal facility agreement (FFA) in 1991. In FY95, the installation formed a BRAC cleanup team and began developing an Environmental Baseline Survey and a BRAC cleanup plan, which were both completed in FY97. The installation formed a Restoration Advisory Board (RAB) in FY96.

In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites on BRAC property. The cleanup progress at Fort Dix BRAC for FY04 through FY07 is detailed below.

In FY04, the installation completed site inspection (SI) fieldwork at Walson Hospital. The Army removed Walson Hospital from the list of excess BRAC properties, choosing instead to retain the property. The installation prepared a draft field investigation and remedy selection report for the transformer SI at the Federal Corrections Institute (FCI).

In FY05, the installation completed the SI, field investigation, and remedy selection report. Polychlorinated biphenyls (PCBs) were detected at two transformer locations. The installation continued to coordinate with the RAB and regulators.

In FY06, the installation prepared draft plans describing the implementation of the remediation at the two transformer locations and additional SI work in the 5600 Area. The installation completed the decision documents for the field investigation and the remedy selection report.

In FY07, the removal action was initiated at the transformer locations, and a Phase II SI was started for the 5600 Area.

FY08 IRP Progress

Fort Dix BRAC finalized the Phase II SI for the 5600 Area and initiated the response action. The installation completed the PCB remediation at the FCI. This is the last narrative for this installation, as all sites have achieved response complete (RC).

Contractual issues delayed the completion of the deed notice for Facility 5675.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Fort Dix BRAC are grouped below according to program category.

IRP

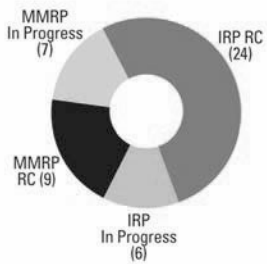
- Complete response action at 5600 Area and obtain final site closure in FY09.
- Obtain final site closure for completed PCB remediation at the FCI in FY09.
- Complete Facility 5675 deed notice in FY09.

MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Fort Eustis

FFID:	VA321372032100	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Newport News, Virginia (8,248 acres)	**Funding to Date:**	$ 53.4 million
Mission:	Serve as host to the Army Transportation Center; provide training in all modes of transportation, including rail and marine; aviation maintenance; involved in amphibious operations	**Est. CTC (Comp Year):**	$ 22.6 million (FY 2017)
HRS Score:	50.00; placed on NPL in December 1994	**IRP Sites (Final RIP/RC):**	30 (FY2014)
IAG Status:	FFA signed in March 2008	**MMRP Sites (Final RIP/RC):**	16 (FY2017)
Contaminants:	PCBs, VOCs, pesticides, heavy metals, SVOCs, petroleum products	**Five-Year Review Status:**	Completed
		IRP/MMRP Status Table:	Refer to page M-6-166



Progress To Date

Fort Eustis, home to the Army Transportation Center, is where soldiers receive education and training in all modes of transportation, aviation maintenance, logistics and deployment doctrine, and research. EPA placed the installation on the NPL in December 1994. The Army signed a federal facility agreement (FFA) in July 2008. The 2005 BRAC Commission recommended the realignment of Fort Eustis garrison functions as part of the Joint Basing effort. Identified sites include landfills, underground storage tanks (USTs), pesticide storage areas, range/impact areas, and surface impoundments. The migration of contaminants from some sites to creeks and estuaries, and the potential migration through surface water and the upper water table to the James River are the greatest concerns at the installation. Analysis of samples indicated the presence of polychlorinated biphenyls (PCBs), pesticides, polyaromatic hydrocarbons (PAHs), and lead in surface water and sediment. During FY96, the installation established an administrative record and set up information repositories at three local libraries. To date, there has been little public interest for the formation of a Restoration Advisory Board. Since FY00, two technical review committee meetings have been held each year. Fort Eustis updated its community relations plan in FY06 and completed a 5-year review in FY08.

Investigations have identified Installation Restoration Program (IRP) sites at the installation. The Army has signed four Records of Decision (RODs) to date. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Eustis for FY04 through FY07 is detailed below.

In FY04, the installation completed the draft remedial investigation for Felker Airfield and the Directorate of Logistics (DOL) Yard long-term management (LTM) plan. The installation conducted monthly liquid vapor extraction (LVE) events at the Army-Air Force Exchange Services (AAFES) Service Station and Helicopter Maintenance Area (HMA), and continued operation of the soil vapor extraction (SVE) system at Landfill (LF) 7. The installation completed an explanation of significant differences to amend the ROD for the Oil Sludge Holding Pond (OSHP). The installation initiated the treatability study (TS) at the fire training area (FTA) and completed the LF 15 cap renovation and repair project. The Army revised and resubmitted the FFA. The installation completed remedial action (RA) fieldwork at the OSHP and sampling at Eustis Lake to support the feasibility study (FS).

In FY05, the installation conducted monthly LVE events at AAFES Service Station and monthly monitoring at the HMA. Additionally, the Army continued operation of the SVE system at LF 7. The Army completed a proposed plan (PP) for Brown's Lake and submitted a ROD to the regulators. The Army prepared a supplemental site evaluation report for Milstead Island Creek, which recommended no further action (NFA). A groundwater and soil TS was initiated at the FTA site. The installation initiated a Vegetative Management Program for LF 15 to lower maintenance costs, establish native vegetation, and improve wildlife habitat. The Army submitted a draft LTM plan for the OSHP for regulatory comment. The installation held an MMRP kick-off meeting with the Army, regulatory agencies, and the awarded contractor. The installation initiated the site inspection (SI) at closed, transferring, and transferred ranges under the MMRP.

In FY06, the Army received a contract award for LTM at LF 15. The Army prepared an NFA PP for Milstead Island Creek. The installation prepared a preliminary draft FS for the FTA site. The Army completed the LTM plan for the OSHP. The Army also requested proposals on a performance-based contract (PBC) for environmental remediation services, which included six installation sites (FTA, OSHP, DOL Yard, Brown's Lake, Bailey Creek, and Eustis Lake). The Army conducted SIs at MMRP sites and completed the historical records review report. Fort Eustis also submitted the draft SI work plan for regulatory review.

In FY07, Fort Eustis awarded a PBC for environmental remediation services at six sites (FTA, OSHP, DOL Yard, Brown's Lake, Bailey Creek, and Eustis Lake). A work plan and additional sampling was completed at Bailey Creek to support the FS evaluation. The Third Port UST site final SI report, the Eustis Lake draft final FS, the FTA draft work plan, LFs 1 and 7 draft final PP, and Milstead Island Creek NFA ROD were submitted for regulatory review. The Army signed the final ROD for Brown's Lake. The final SI report for the Third Post UST was completed and submitted to the regulators. Based on the analytical results, it was determined no additional investigations were warranted and the site will not proceed to the remedial investigation phase; therefore, an NFA Decision Document (DD) was not required. The Army finalized the MMRP SI report and recommended that seven sites proceed to the remedial investigation (RI) phase. An RI/FS contract was awarded for the 1000-inch Rifle Range.

FY08 IRP Progress

Fort Eustis finalized and signed the FFA and completed the first CERCLA 5-year review, which concluded that remedies at the the OSHP and DOL Yard are protective of human health and the environment. The Army achieved site closure at OSHP. The installation prepared a final work plan for the FTA. Fort Eustis finalized the remedial design and RA work plan, and commenced RA fieldwork at Brown's Lake. The Army submitted the Bailey Creek focused FS, the Eustis Lake draft PP, and draft ROD for regulatory review.

Regulatory issues delayed completion of the Bailey Creek, Eustis Lake, and FTA FSs and delayed the completion of the RA at Brown's Lake.

FY08 MMRP Progress

Fort Eustis completed the RI/FS work plan and initiated RI fieldwork at the 1000-inch Rifle Range; however, technical issues delayed the completion of the RI fieldwork.

Plan of Action

Plan of action items for Fort Eustis are grouped below according to program category.

IRP

- Conduct FS and TS at FTA in FY09.
- Complete FS, PP, and ROD for Bailey Creek and Eustis Lake in FY09.
- Complete the RA at Brown's Lake in FY09.
- Achieve site closeout for DOL Yard in FY09.

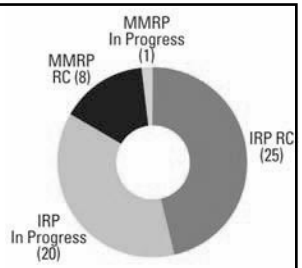
MMRP

- Complete RI, FS, PP, and ROD for 1000-inch Rifle Range in FY09.

Fort George G. Meade

NPL/BRAC 1988

FFID:	MD321022056700	**Media Affected:**	Surface Water, Groundwater, Sediment, Soil
Location (Size):	Fort Meade, Maryland (5,142 acres)	**Funding to Date:**	$ 85.8 million
Mission:	Served as administrative post for various DoD tenants	**Est. CTC (Comp Year):**	$ 25.2 million (FY 2042)
HRS Score:	52.0; placed on NPL in July 1998; Tipton Airfield delisted from NPL in November 1999	**IRP Sites (Final RIP/RC):**	45 (FY2012)
		MMRP Sites (Final RIP/RC):	9 (FY2014)
IAG Status:	FFA under negotiation	**Five-Year Review Status:**	Completed and underway
Contaminants:	Chloronated solvents, metals, munitions and explosives of concern, petroleum hydrocarbons, VOCs, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-89



Progress To Date

In December 1988, the BRAC Commission recommended closing the Fort George G. Meade (FGGM) range and training areas and realigning the installation as an administrative center. The National Security Agency is the primary tenant. Investigations beginning in FY88 identified several areas of concern, including landfills (LFs), petroleum and hazardous waste storage areas, aboveground storage tanks, underground storage tanks, asbestos-containing material in structures, and unexploded ordnance. In July 1995, the Commission recommended additional realignment, reducing Kimbrough Army Community Hospital to a clinic. EPA placed FGGM on the NPL in July 1998. EPA delisted the Tipton Airfield parcel from the NPL in November 1999. The installation formed a BRAC cleanup team in FY94 and a Restoration Advisory Board (RAB) in FY95. The installation completed a 5-year review in FY05.

To date, the Army has completed three No Further Action Records of Decision (RODs), two for Tipton Airfield and one for the clean fill dump. In FY04, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at FGGM for FY04 through FY07 is detailed below.

In FY04, the installation continued long-term management (LTM) activities for the BRAC parcel, completed the remaining remedial investigation (RI) work plans for the CERCLA solid waste management units, and initiated RI fieldwork at four sites. The RI effort at FGGM 17 (Closed Sanitary LF) and 86 continued. The Army initiated an installationwide evaluation of historical impacts associated with past disposal practices and an engineering evaluation and cost analysis (EE/CA) fieldwork for the former Trap and Skeet Range. The installation completed the focused feasibility study (FS) for the Defense Reutilization and Marketing Office (DRMO) groundwater plume (Operable Unit [OU] 5) and opened an investigation of FGGM 13 (former Pesticide Shop). Preparations for the initiation and implementation of the performance-based contract (PBC) strategy continued. The Army completed the closed, transferred, and transferring range and site inventory for the active portion of FGGM under the MMRP. The MMRP inventory evaluated six areas and proposed two for additional evaluation.

In FY05, FGGM completed the 5-year review for the Tipton Airfield BRAC parcel and began work on the 5-year review for the Clean Fill Dump BRAC parcel. The installation submitted the decision document for the ordnance demolition area BRAC site and the draft Closed Sanitary LF RI report for stakeholder review. The installation continued negotiations with EPA on the federal facility agreement (FFA). Additionally, the installation awarded a PBC for 11 sites, including the DRMO and the Trap and Skeet Range. FGGM completed the non-time-critical removal action at the Patuxent Research Refuge. The RAB held monthly meetings and regulatory partnership meetings as needed.

In FY06, FGGM completed the installation of additional monitoring wells to characterize the groundwater condition for the DRMO. Investigation of OU 4 continued under the PBC. The Army completed a draft EE/CA for the Trap and Skeet Range. The installation also completed the comprehensive evaluation of all historical data and cleanup at the former Battery Shop. The Army continued FFA negotiations with EPA. The installation continued investigations at the former Pesticide Shop. Fort Meade completed the historical records review for possible historical MMRP activities at the installation and began the site inspections (SIs) at the MMRP sites.

In FY07, FGGM continued LTM and land use control (LUC) inspections, methane recovery, and RI field investigations. The installation completed a draft human health risk assessment report for the former Trap and Skeet Range, draft Site Conceptual Model report for the former Troop Housing Boiler Plant, draft RI report for the interim remedial action and southeastern groundwater sites, and a draft technical memorandum for the Architect of the Capital Site. The Army completed the draft final preliminary assessment and SI report for the entire installation and the RI for the Closed Sanitary LF. The installation received final regulatory approval for the Granite Nike site, and continued FFA negotiations with EPA. The installation completed the MMRP SI, which identified the former Mortar Range. The geophysical prove-out work plan and fieldwork for the RI were completed. The RAB continued to hold meetings.

FY08 IRP Progress

FGGM continued LTM/LUC inspections, methane recovery, and RI activities. The installation continued FFA negotiations with EPA; however, EPA issued the Army a Section 7003 RCRA Unilateral Administrative Order.

Regulatory and technical issues delayed the completion of the RI/FS for the former Pesticide Shop and the Manor View Dump Site.

The RAB continued to hold meetings.

FY08 MMRP Progress

FGGM completed a final work plan and a draft sampling and analysis plan for munitions constituents.

Plan of Action

Plan of action items for Fort George G. Meade are grouped below according to program category.

IRP

- Complete RI for the former Pesticide Shop and Manor View FSs Site in FY09.
- Complete proposed plans and RODs for the DRMO, former Pesticide Shop, and Architect of the Capital Sites in FY09-FY10.
- Complete PBC requirements (FS or remedial design) for OU 4, DRMO, former Trap and Skeet Range, and Nike Site in FY09-FY10.
- Determine need for the Closed Sanitary LF FS in FY09-FY10.

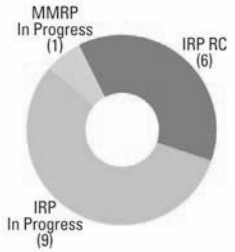
MMRP

- Complete the RI/FS for the former Mortar Range in FY09-FY10.

Fort Gillem

BRAC 2005 Closure

FFID:	GA421402004600	**Funding to Date:**	$ 32.4 million
Location (Size):	Forest Park, Georgia (1,426 acres)	**Est. CTC (Comp Year):**	$ 9.2 million (FY 2029)
Mission:	Supported FORSCOM readiness missions	**IRP Sites (Final RIP/RC):**	15 (FY2014)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	1 (FY2010)
IAG Status:	N/A	**Five-Year Review Status:**	Completed
Contaminants:	Metals, PAHs, VOCs, pesticides, POLs, chlorinated solvents, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-7-15
Media Affected:	Groundwater, Surface Water, Soil		



Progress To Date

The 2005 BRAC Commission recommended Fort Gillem, a sub-installation of Fort McPherson for closure. The installation comprises approximately 1,426 acres and is surrounded by residential and commercial properties. Fort Gillem supports Army Forces Command (FORSCOM) readiness missions and is home for many FORSCOM and Fort McPherson activities. The Eastern Distribution Region of the Army and Air Force Exchange Service uses approximately 60 acres for storage. Fort Gillem also supports the Federal Emergency Management Agency disaster relief activities by providing warehouse and office space. In FY07, the installation solicited public interest in establishing a Restoration Advisory Board (RAB); the Army concluded that there was not community interest in convening a RAB.

The Army completed an inventory of all Military Munitions Response Program (MMRP) sites. In 2001, 27,000 tons of lead-contaminated soil and 4,000 tons of volatile organic compound (VOC)-contaminated soil were excavated at the Northern Landfill Area. The cleanup progress at Fort Gillem for FY04 through FY07 is detailed below.

In FY04, the installation conducted a focused investigation on Area MW 48A at Site FTG 01. The Army completed a focused feasibility study (FS) for Site FTG 07 and a FS for Site FTG 09.

In FY05, the Army awarded a performance-based contract for Sites FTG 01, 04, 07, 09, 10, and 13. The remaining restoration sites (Sites FTG 02, 03, 05, 06, 08, and 14) were recommended for no further action (NFA) based on the site inspection (SI) provided to the Georgia Environmental Protection Division (GA EPD).

In FY06, the Army initiated preparation of an environmental condition of property (ECP) report and a CERFA report in response to the BRAC 2005 recommendations for closure of the installation. Fort Gillem completed a focused FS for the cleanup strategy at Site FTG 01 (Operable Units A, B, H, and I). The Army developed a remedial investigation (RI) work plan to address data gaps at Sites FTG 01, 04, and 07/10. Fort Gillem prepared remedial design documents for interim remedial measures to address source removals at Sites FTG 01 and 09. The Army prepared draft RI reports for Sites FTG 04, 07, 09, and 10. Additionally, the installation evaluated the groundwater monitoring network and the off-site well survey. No MMRP sites have been identified at Fort Gillem, but several maneuver ranges are present. The Army completed a historical records review for the ranges at Fort Gillem.

In FY07, Fort Gillem completed the ECP Phase I and initiated ECP Phase II/SI to determine if additional investigation or cleanup is required. The Army completed the CERFA report and initiated the update of the background study for metals and pesticides as requested by GA EPD. The background study will impact the RI and baseline risk assessment (BLRA) for the following Sites: FTG 01 through 10, 13, and 14. The installation awarded a contract to achieve NFA for Buildings 606 and 610 leaking underground storage tank (UST) sites. A total of four fluid and vapor recovery events were conducted at the Building 610 leaking UST site. Fort Gillem scheduled sampling of the former Trap Skeet Range during the ECP Phase II SI. The installation solicited public interest in establishing a RAB; the Army concluded that there was no community interest in convening a RAB.

FY08 IRP Progress

Fort Gillem completed the background study for metals and pesticides; the GA EPD concurred with the conclusions of the study. The installation received an NFA letter from GA EPD for the Building 606 leaking UST site. The Army received an approved corrective action plan for further investigation and monitoring or remediation of the release on the Building 610 leaking UST site. Fort Gillem updated and submitted the draft RI/BLRA for Sites FTG 04, 09, and 13, and the final RI/BLRA for Site FTG 07/10 to the GA EPD. The Army updated and internally coordinated the preliminary draft RI/BLRA for Site FTG 01. The installation submitted and received concurrence on the technical memorandum to GA EPD recommending the following: closure of Site FTG 11, the work plan to conduct interim actions at Sites FTG 01 and 09, and the effluent discharge criteria for the two proposed pump-and-treat plants for Sites FTG 01 and 09. Fort Gillem met monthly with the GA EPD to discuss program status for all IRP sites. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria. Administrative issues delayed the closure of Building 610 leaking UST sites. Adminstrative issues delayed the RI/BLRA and submittal of reports for Sites FTG 01, 02, 03, 05, 06, 08, and 14.

FY08 MMRP Progress

Fort Gillem initiated SI work for the Trap Skeet Range and identified lead contamination on the surface soil.

Plan of Action

Plan of action items for Fort Gillem are grouped below according to program category.

IRP

- Close Building 610 leaking UST sites in FY09.
- Complete RI/BLRA and submit reports for Sites FTG 01, 02, 03, 05, 06, 08, and 14 in FY09.
- Achieve remedy in place (RIP) for Sites FTG 01, 02, 04, 09, 07, and 13 in FY10.
- Achieve response complete (RC) for Sites FTG 03, 05, 06, 08, 10, 11, and 14 in FY10.

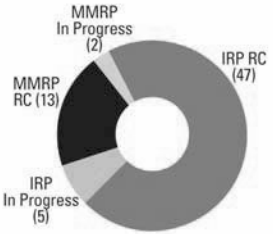
MMRP

- Initiate fieldwork and SI/RI/BLRA for the Trap Skeet Range in FY09.

Fort Lewis
Logistics Center

NPL/BRAC 2005 Realignment

FFID:	WA021402050600	**Contaminants:**	PAHs, VOCs, battery electrolytes, PCBs, heavy metals, POLs
Location (Size):	Fort Lewis, Washington (86,176 acres)	**Media Affected:**	Soil
Mission:	Serve as host to I Corps Headquarters; plan and execute Pacific, NATO, or other contingency missions; provide troop training, airfield, medical center, and logistics	**Funding to Date:**	$ 90.6 million
		Est. CTC (Comp Year):	$ 21.6 million (FY 2034)
		IRP Sites (Final RIP/RC):	52 (FY2010)
HRS Score:	42.78 (Landfill No. 5), placed on NPL in July 1987, delisted from NPL in May 1995; 35.48 (Logistics Center), placed on NPL in November 1989	**MMRP Sites (Final RIP/RC):**	15 (FY2010)
		Five-Year Review Status:	Completed
IAG Status:	IAG signed in January 1990	**IRP/MMRP Status Table:**	Refer to page M-6-173



Progress To Date

Fort Lewis is located approximately 15 miles south of Tacoma, Washington. Its mission includes planning and executing Pacific, NATO, and other contingency missions; providing troop training; operating an airfield and medical center; and providing logistical support. EPA placed two Fort Lewis sites on the NPL after investigations revealed soil and groundwater contamination: Landfill (LF) 5 in July 1987 and the Logistics Center in November 1989. EPA removed LF 5 from the NPL in May 1995. The Army and EPA signed an interagency agreement (IAG) in January 1990. In 2005, the BRAC Commission recommended Fort Lewis for realignment. Additional sites identified at Fort Lewis include landfills, former ranges, and spill sites. Primary contaminants include organic solvents, heavy metals, and fuels. Fort Lewis has developed a community relations program; there has been no public interest in developing a Restoration Advisory Board. The Army has completed three 5-year reviews: one for the Logistics Center in FY97; one for the Logistics Center, LFs 2 and 4, and the Illicit polychlorinated biphenyl (PCB) Dump Site in FY02; and one for the Logistics Center and seven other IAG sites in FY07.

The Army and EPA have signed three Records of Decision to date. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Lewis for FY04 through FY07 is detailed below.

In FY04, the installation continued operations and maintenance (O&M) remedies. The installation completed delineation of the tetrachloroethene (PCE) plume in the Logistics Center Sea Level Aquifer (lower aquifer) and the associated study. The installation completed the field sampling portions of a vapor intrusion study for the Madigan Housing Area. The installation completed interim remedial actions for the former Miller Hill Ranges. The installation submitted draft decision documents (DDs) with proposed final remedies for three Installation Restoration Program (IRP) sites. The Army completed the confirmatory sediment investigation at Park Marsh LF. The installation completed in situ thermal treatment of Area 1 to reduce life-cycle pump-and-treat costs, and continued research involving enhanced mass transfer and assessment of flux. The Army completed the Phase III closed, transferred, and transferring inventory. The installation completed an interim remedial action (IRA) for the former Skeet Range.

In FY05, the installation continued O&M of remedies at the Logistics Center (two groundwater pump-and-treat systems) and the Illicit PCB Dump Site (cap and fence). Long-term management remedies at the Logistics Center and LFs 1 and 4 continued. The installation completed in situ thermal treatment at the second of three Logistics Center source areas. The installation began significant modification of one Logistics Center pump-and-treat system by installing eight new extraction wells. Additionally, the installation closed the potential vapor intrusion pathway for the Logistics Center. A completed Sea Level Aquifer focused feasibility study (FS) was expanded into a full FS. Additional monitoring wells were installed and sampled to further delineate the PCE plume in the Sea Level Aquifer. The installation submitted draft DDs with proposed final remedies for four IRP sites, including a no further action (NFA) remedy for the Park Marsh LF site. The installation conducted site sampling at one of the two remaining sites (LF 6) without a selected or proposed remedy. The installation completed IRAs at the former Evergreen Infiltration Range (soil removal) and former Skeet Range (perimeter fence). The Army initiated a site inspection (SI) for seven MMRP sites. The installation continued the community relations program. Fort Lewis received the DoD Secretary of Defense Environmental Award for Restoration.

In FY06, the installation continued O&M of remedies at the Logistics Center, Illicit PCB Dump Site, and LFs 1 and 4. The installation initiated in situ thermal treatment at the last of three Logistics Center source areas and completed modification of one Logistics Center pump-and-treat system. Fort Lewis also completed the Logistics Center Sea Level Aquifer FS and prepared a draft DD. The Army selected final remedies in final DDs for five non-NPL sites. The installation proposed a NFA remedy for LF 6, one of the remaining non-NPL sites. Fort Lewis completed an SI work plan for all MMRP sites.

In FY07, Fort Lewis completed in situ thermal treatment at the final Logistics Center source area. The installation completed the Logistics Center Sea Level Aquifer remedy selection and began remedy installation. Fort Lewis began the SI for the last remaining non-NPL IAG site. The installation completed the draft Fort Lewis Agreed Order remedial investigation (RI) report. Additionally, the installation also continued O&M of remedies at the Logistics Center, Illicit PCB Dump Site, and LFs 1 and 4. Fort Lewis obtained EPA concurrence that NFA is necessary for the vapor intrusion pathway at Madigan Housing. The installation completed a 5-year review and the land use control (LUC) plan for the Logistics Center and seven other IAG sites. The installation completed field sampling and an SI.

FY08 IRP Progress

Fort Lewis completed the final Fort Lewis Agreed Order RI report. The installation continued O&M remedies at the Logistics Center, Illicit PCB Dump Site, LFs 1 and 4, and four other IAG sites with LUC remedies. The Army completed the engineering design for the Sea Level Aquifer pump-and-treat system. Fort Lewis started a performance-based acquisition (PBA) project for remediation of the Miller Hill; the Washington Department of Ecology approved the FS work plan. The installation began an Army-funded research project that will investigate enhanced bioremediation using low temperature electrical resistive heating for treatment of chlorinated hydrocarbons. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

Fort Lewis started a PBA project for remediation of the Skeet Ranges.

Plan of Action

Plan of action items for Fort Lewis are grouped below according to program category.

IRP

- Complete soil removal at former Miller HIll Range in FY10.
- Complete Sea Level Aquifer pump-and-treat system construction in FY10.
- Complete Agreed Order FS and implement remedy at seven sites in FY10.

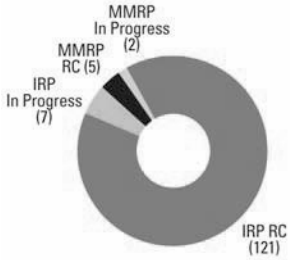
MMRP

- Complete soil removal at former Skeet Range in FY09.

Fort McClellan

BRAC 1995

FFID:	AL421372056200	**Funding to Date:**	$ 225.9 million
Location (Size):	Anniston, Alabama (41,191 acres)	**Est. CTC (Comp Year):**	$ 109.6 million (FY 2035)
Mission:	Served as host to the U.S. Army Chemical School, the U.S. Army Military Police School, and the DoD Polygraph Institute	**IRP Sites (Final RIP/RC):**	128 (FY2017)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	7 (FY2035)
IAG Status:	N/A	**Five-Year Review Status:**	Underway
Contaminants:	VOCs, SVOCs, pesticides, explosives, metals, UXO, radioactive sources, non-stockpile chemical warfare materiel	**IRP/MMRP Status Table:**	Refer to page M-6-1
Media Affected:	Sediment, Soil, Groundwater		



Progress To Date

In July 1995, the BRAC Commission recommended closing most Fort McClellan facilities. The Army retained the minimum essential land and facilities for a Reserve component enclave and essential facilities for auxiliary support of the chemical demilitarization operation at Anniston Army Depot. Studies since FY90 have identified the following site types at Fort McClellan: maintenance facility areas; training and range areas; underground storage tanks; landfills; incinerators; storage handling areas for toxic and hazardous materials; and chemical agent and radioactive substance training, storage, and disposal areas. The main contaminants of concern are chlorinated volatile organic compounds (VOCs) in groundwater and lead in soils. In FY95, EPA concluded that environmental conditions at Fort McClellan did not warrant its placement on the NPL. During FY95, the Army established information repositories at three locations, and the community formed a local redevelopment authority. In FY96, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB). The installation completed its environmental baseline survey and BRAC cleanup plan Version I in FY98. The Army provided technical assistance for public participation (TAPP) contracts to the RAB in FY02, FY03, FY04, FY05, and FY08.

The Army has identified Installation Restoration Program (IRP) sites at the installation and transferred 18,129 acres. The Army has completed 95 decision documents (DDs), 6 action memoranda, and a Record of Decision. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort McClellan for FY04 through FY07 is detailed below.

In FY04, the installation completed Chemical Warfare Materiel 3X scrap removal field activities at Training Areas T 38 and T 24A and a finding of suitability to transfer for Highway 21. The BCT reviewed a finding of suitability to transfer, and the Army transferred 158 acres to the Alabama Department of Transportation. Under the MMRP, the installation completed the Eastern Bypass final removal report for 282 acres of land. Additionally, the Army completed fieldwork activities for an interim removal action on 60 acres of the Y Area Junction of the Eastern Bypass in the Bravo Area. The installation also completed fieldwork activities for a time-critical removal action on two acres at the dog kennels in the Bravo Area. The Army completed fieldwork activities for additional interim remedial actions, including a clearance to depth on 19 acres at three water tank sites in the Bravo Area and a clearance to depth on roads, firebreaks, and high-use areas in the Mountain Longleaf Pine National Wildlife Refuge. The Army extended the TAPP contract for the RAB.

In FY05, the Army transferred five acres and completed a modification to the Environmental Services Cooperative Agreement (ESCA) to comply with a new 2-year funding restriction. The Army also completed negotiations for a second modification to the ESCA technical specification and requirements statement to include additional early transfer parcels and Army continuing responsibility sites. The Army completed a removal action for lead-contaminated soils in a portion of the Iron Mountain Road Ranges that extended into the Eastern Bypass. No Further Action DDs were completed for several small arms firing ranges. The installation completed a clearance to depth within the construction debris area of the Eastern Bypass. The Army extended the TAPP contract for the RAB. The BCT held facilitated meetings.

In FY06, the installation completed X-ray fluorescence surveys at the Snap Lane and Bains Gap Road Tank Sites, and erosion control measures at Iron Mountain Road Ranges. The BCT completed the Problem Formulation and Study Design for Baby Bains Gap Road Ranges. Within the MMRP, Fort McClellan completed a clearance to depth on 19 acres located in the Charlie Area and signed Statements of Clearance for the Eastern Bypass, the Water Tank Sites, and the Bains Gap Road.

In FY07, the Army signed an ESCA inclusive of all early transfer parcels covered in the 2003 ESCA and subsequent modifications, and the remaining early transfer parcels that were not previously included in an ESCA. The installation completed fieldwork for the Baby Bains Gap Road Ranges baseline ecological risk assessment (ERA) and collected groundwater samples at Training Area T 24A. The installation conducted a recurring review of nine munitions and explosive areas of concern. Fort McClellen finalized the removal report and signed the statement of clearance for the Eastern Bypass Y Area Junction. The BCT held facilitated meetings.

FY08 IRP Progress

Fort McClellan completed the Problem Formulation and Study Design for Training Area T 24A and Choccolocco Corridor Ranges. The Army completed additional sampling activities required for the remedial investigations (RIs) for the Iron Mountain Road Rangers, Bains Gap Road Ranges, and Baby Bains Gap Raod Ranges; completed X-ray fluorescence soil sampling at a former pistol range; and completed the RI for the 81mm Mortar Range. The Army also began a 5-year review for the General Services Administration (GSA) Warehouse Area. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Administrative issues delayed the 5-year review for the GSA Warehouse Area.

The Army awarded a TAPP contract to the RAB. The BCT held facilitated meetings.

FY08 MMRP Progress

The Army developed a strategy for supplemental sampling required for the Charlie Area engineering evaluation and cost analysis (EE/CA).

Plan of Action

Plan of action items for Fort McClellan are grouped below according to program category.

IRP

- Complete fieldwork for the Choccolocco Corridor Ranges baseline ERA in FY09.
- Complete 5-year review for the GSA Warehouse Area in FY09.

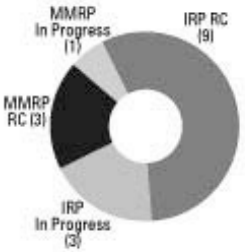
MMRP

- Complete EE/CA for the Eastern Bypass Iron Mountain Road addition in FY09.
- Perform interim removal action on 134 acres in the Charlie Area in FY09.
- Complete EE/CA for Charlie Area in FY10.

Fort McPherson

BRAC 2005 Closure

FFID:	GA421402056500	**Funding to Date:**	$ 8.4 million
Location (Size):	Atlanta, Georgia (487 acres)	**Est. CTC (Comp Year):**	$ 0.7 million (FY 2015)
Mission:	Served as host to the U.S. Army Forces Command Headquarters, the U.S. Army Reserve Command, and the Headquarters of the Third U.S. Army.	**IRP Sites (Final RIP/RC):**	12 (FY2015)
		MMRP Sites (Final RIP/RC):	4 (FY2011)
HRS Score:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-15
Contaminants:	POLs, metals, solvents, VOCs		
Media Affected:	Groundwater		



Progress To Date

In 2005, the BRAC Commission recommended Fort McPherson for closure and disposal. Fort McPherson is located on approximately 487 acres of land within the city limits of Atlanta. The installation is bounded by residential areas to the north (Oakland City), east (Lakewood), and west, with mixed residential and industrial areas located immediately south of the installation. Fort McPherson houses the U.S. Army Forces Command Headquarters, the U.S. Army Reserve Command, and the Headquarters of the Third U.S. Army. Sites include a contaminated fill area, a surface disposal area, four oil-water separators, former small arms ranges, an active small arms range, aboveground storage tanks (ASTs), and multiple underground storage tanks (USTs). Early activities include a preliminary assessment for all sites at Fort McPherson, UST removals at Fort McPherson former Buildings 143 (FTMP-09) and 105 (FTMP-10), an interim removal action to remove the UST and surrounding soil from Building 41 (FTMP-02). In FY99, the installation installed a passive fuel recovery system at FTMP-09. Other actions included site inspections (SIs), a soil vapor extraction pilot test, a Phase I and II remedial investigation (RI), and a corrective action plan (CAP). In FY07, Fort McPherson established a Restoration Advisory Board (RAB).

The Army completed an inventory of all Military Munitions Response Program (MMRP) sites in FY06. The cleanup progress at Fort McPherson for FY04 through FY07 is detailed below.

In FY04 and FY05, the installation continued the free product recovery and monitoring at Buildings 105 and 143 leaking UST (LUST) sites.

In FY06, the Army initiated environmental condition of property (ECP) and CERFA report preparation in response to the BRAC 2005 recommendation for closure of the installation. Fort McPherson continued the free product recovery and monitoring at Buildings 105 and 143 LUSTs, and installed one additional well. Fort McPherson also completed a historical records review to identify all former ranges.

In FY07, Fort McPherson conducted two Aggressive Fluid and Vapor Recovery events at Buildings 105 (FTMP-10) and 143 (FTMP-09) leaking UST sites to capture as much free product and vapor as possible. A CAP Part B was requested by Georgia Environmental Protection Division (GA EPD) for Buildings 105 and 143. The installation completed the ECP Phase I and initiated the ECP Phase II (SI). Fort McPherson completed the CERFA report. The Army established a RAB and held its first meeting. The installation included the Atlanta National Guard (NG) Target Range, Trap and Skeet Range, Atlanta NG Rifle Range, Pistol Range, and 300 Yard Target Range as part of the SI process; further characterization of the Trap and Skeet Range is required.

FY08 IRP Progress

Fort McPherson conducted sampling at multiple sites identified during the Phase I ECP. The installation identified, as a result of the SI, two additional Installation Restoration Program (IRP) sites: the Trap and Skeet Range (FTMP-04-R-01) and Buildings 209 and 302 (FTMP-13). The Army installed two additional groundwater (GW) monitoring wells at FTMP-09 and two wells at FTMP-10, conducted one GW monitoring event, and determined the GW flow direction. Fort McPherson scheduled surface and sub-surface sampling to indentify the background metals (inorganic). The Army developed a comprehensive list of all former and current USTs and ASTs, and identified the closure requirements for each tank. The installation began a CAP Part B for Buildings 105 and 143 LUST sites. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed completion of the CAP Part B for Buildings 105 and 143.

Fort McPherson met with GA EPD and GA UST divisions monthly to discuss the status of the environmental restoration program, and agreed on the path forward to cleanup the property prior to closure and disposal.

FY08 MMRP Progress

Fort McPherson conducted sampling at all former small arms ranges. The installation identified the NG Rifle Range, Pistol Range, NG Target Range, and the 300 Yard Target Range as no further action (NFA) based on SI sampling. The Army programmed and budgeted the funding required to conduct the investigation and remediation at the Small Arms Range (FTMP-C-01) for FY10 and the Trap Skeet Range (FTMP-04-R-01) for FY09.

Administrative issues delayed completion of the SIs.

Plan of Action

Plan of action items for Fort McPherson are grouped below according to program category.

IRP

- Initiate environmental closure of former USTs and ASTs through GA EPD and GA UST divisions in FY09.
- Achieve NFA on the Ash Disposal Dump Site (FTMP-06) in FY09-FY10.
- Initiate supplemental SI and RI for Buildings 209 and 302 (FTMP-13) in FY09.
- Conduct additional SI sampling at Buildings 341, 356, and 456 in FY09-FY10.
- Conduct sampling to determine background levels for metals in FY09-FY10.

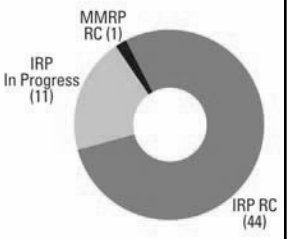
MMRP

- Begin supplemental SI and RI for the Trap and Skeet Range in FY09.

Fort Monmouth

BRAC 1993/BRAC 2005 Closure

FFID:	NJ221382059700	**Funding to Date:**	$ 27.7 million
Location (Size):	Monmouth County, New Jersey (1,338 acres)	**Est. CTC (Comp Year):**	$ 6.4 million (FY 2010)
Mission:	Conducted research and development of C4ISR systems	**IRP Sites (Final RIP/RC):**	55 (FY2010)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	1 (FY2008)
IAG Status:	FFA signed in July 1990	**Five-Year Review Status:**	Underway
Contaminants:	Petroleum hydrocarbons, VOCs, SVOCs, PCBs, heavy metals, radionuclides	**IRP/MMRP Status Table:**	Refer to page M-7-28
Media Affected:	Groundwater and Soil		



Progress To Date

In 1993, the BRAC Commission recommended realignment of Fort Monmouth. This realignment resulted in the closure of the Evans Area; the transfer of part of the Charles Wood (CW) Area to the Navy; and the relocation of personnel from the leased space, Evans Area, and Vint Hill Farms Station to the main post and CW Area. To speed transfer, the Army divided the Fort Monmouth BRAC property into eight parcels: the CW Housing Area and seven parcels in the Evans Area. In FY94, an enhanced preliminary assessment of the BRAC parcels identified 32 sites in the Evans Area and 8 sites in the Olmstead Housing Area. In 2005, the BRAC Commission recommended closure of the Fort Monmouth Main Post and CW Area. Prominent sites are landfills, underground storage tanks, hazardous waste storage areas, polychlorinated biphenyl (PCB) spill areas, asbestos areas, and radiological storage and spill areas. Contaminants in groundwater and soil include chlorinated solvents, volatile organic compounds (VOCs), and heavy metals. In FY94, the Evans Area formed a BRAC 1993 cleanup team and completed Version 1 of the BRAC 1993 cleanup plan. In FY96, the Evans Area formed a Restoration Advisory Board (RAB). The Army formed a RAB for the BRAC 2005 Main Post and CW Area in FY07. The Evans Area initiated a 5-year review in FY06.

The Army identified Installation Restoration Program (IRP) sites at Fort Monmouth, of which 37 have achieved response complete (RC). The Army initiated additional remedial investigations for 28 sites, remedial designs for 8 sites, corrective actions at 4 sites, remedial actions (RAs) at 13 sites, a request for no further action at 7 sites, and monitored natural attenuation at 11 sites. Eight inactive landfills are located on the Main Post, and one inactive landfill is located in the CW Area. In FY02, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. In FY03, the Army transferred the Evans Area Parcels D' and F by deed. The cleanup progress at Fort Monmouth for FY04 through FY07 is detailed below.

In FY04, the Army completed deed transfer actions for Evans Area Parcels A (including the pump house area), A, and B (partial). The installation initiated the finding of suitability to transfer (FOST) while the tenant completed Evans Parcel G RAs. The Army obtained regulatory approval for the remediation work plan for all chemical storage shed discharge areas. The installation completed all PCB remediation and restoration actions within Parcel C and adjacent residential properties.

In FY05, Fort Monmouth Evans Area assessed and delineated wetlands within Evans Parcel B and completed deed transfer actions. The Army completed a FOST for Evans Parcel G. The Army also completed a FOST amendment for Evans Parcel E that included a lead-based paint provision and completed deed transfer. The Army entered into a memorandum of agreement, agreeing to abate asbestos-contaminating materials and perform interior demolition activities within historic buildings in Evans Parcel C.

In FY06, Fort Monmouth Evans Area completed the fieldwork portion for Site FTMM67.

In FY07, Fort Monmouth completed the environmental condition of property (ECP) report and submitted it for regulatory review. Fort Monmouth completed the historical records review and identified a small arms range. The installation completed the historical site assessment for radiological commodities and use. Fort Monmouth completed and submitted the CERFA report and completed the ECP Phase I report for the Main Post and CW Area. The installation submitted the draft RA report for the hazardous materials storage sheds (except for the PCB remediation at Building 9053) to regulators for review. Fort Monmouth initiated site inspection fieldwork at Site FTMM 001 R01. The Army formed a RAB for BRAC 2005 Main Post and CW Area.

FY08 IRP Progress

Fort Monmouth completed the PCB remediation at the Evans Area Building 9053. The Army initiated the delineation and baseline ecological evaluation (BEE) at Evans Area Marconi Building 9004. The installation finalized the Evans Area environmental baseline survey (EBS) and FOST for Parcel C, and provided the FOST and EBS for Parcel D to the public for comment. Fort Monmouth finalized the RA report for the Evans Area hazardous materials storage sheds. The Army transferred Parcel G and initiated an ECP Phase II report for Fort Monmouth Main Post and CW Area. The installation finalized the classification exception area (CEA) documentation for four sites and continued treatment, bioremediation, and long-term management at six sites. Fort Monmouth continued the operation of the groundwater treatment at one site. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed the delineation and BEE at Evans Area Marconi Building 9004, continued injections of oxygen release compounds at Site FTMM 61, and maintenance of the product recovery system at Site FTMM 66.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Fort Monmouth are grouped below according to program category.

IRP

- Finalize delineation and BEE at Building 9004 in FY09.
- Complete FOST for Parcel D and transfer property in FY09.
- Finalize PCB cleanup at Building 9053 in FY09.
- Transfer Parcel C to Wall Township in FY09.
- Complete in situ biodegradation and CEA documentation in FY09.

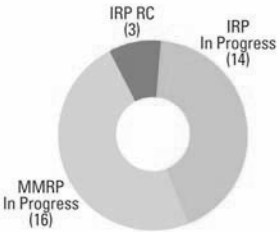
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Fort Monroe

BRAC 2005 Closure

FFID:	VA321372060300	**Funding to Date:**	$ 2.7 million
Location (Size):	Hampton, Virginia (570 acres)	**Est. CTC (Comp Year):**	$ 80.5 million (FY 2013)
Mission:	Provided quality base operations for five major commands/regional HQs and several national defense agencies	**IRP Sites (Final RIP/RC):**	17 (FY2011)
		MMRP Sites (Final RIP/RC):	16 (FY2013)
HRS Score:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-6-167
Contaminants:	Metals and MEC, Explosives and propellants, SVOCs, VOCs		
Media Affected:	Sediment and Soil		



Progress To Date

In 2005, the BRAC Commission recommended closure of Fort Monroe, which is located in southeast Virginia in the City of Hampton. Fort Monroe, most of which was designated a National Historic Landmark in 1960, provides quality base operations support for National Defense Agencies while preparing the Fort Monroe community for the future. Environmental remediation activities at Fort Monroe have been undertaken at several sites, primarily in the form of soil or liquid hydrocarbon removal from leaking underground storage tanks. In FY06, the Army designated a Base Transition Coordinator and an interim BRAC Environmental Coordinator, and established a Restoration Advisory Board (RAB). In FY07, the Governor of Virginia established the Fort Monroe Federal Area Development Authority (FMFADA).

Approximately 288 acres of Fort Monroe property is under a reversionary clause to the Commonwealth of Virginia, with 77 additional acres of accreted land that is not yet under a deed and where ownership is undetermined. Four Installation Restoration Program (IRP) sites at Fort Monroe have achieved response complete (RC): Sites 1 and 2 (two former landfills), Site 3 (a classified document incinerator), and Site 4, (installationwide unexploded ordnance). In FY04, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Monroe for FY04 through FY07 is detailed below.

In FY04, the Army completed a Range Inventory. The inventory identified 13 sites eligible for the MMRP. This inventory served as the preliminary assessment under CERCLA.

In FY06, the installation initiated an environmental condition of property (ECP) and a CERFA report. Fort Monroe also initiated a site inspection (SI) under the MMRP, in order to include a historical records review (HRR). The Army redefined the sites identified in the Range Inventory and evaluated additional sites. Several sites identified during the HRR were recommended for further investigation.

In FY07, Fort Monroe completed the ECP and submitted the CERFA report to the Virginia Department of Environmental Quality (VDEQ) for regulatory comment. The installation, VDEQ, and the FMFADA developed a field sampling plan (FSP) to gather additional data to determine if new sites requiring cleanup exist; historical photographic analysis was also initiated. The RAB received training on the CERCLA cleanup process. RAB members were provided a tour of the sites included in the FSP. The RAB received training on the types of weapon systems previously used at Fort Monroe and the munitions and explosives of concern (MEC) found to date.

FY08 IRP Progress

Fort Monroe completed the SI for the investigation of 25 sites identified in the FSP, which resulted in 14 new IRP sites that will require further investigation either through an expanded site inspection or through remedial investigation (RI). The Army received VDEQ concurrence on no further action at six sites. The installation completed the historical photographical analysis with the U.S. Army Topographic Engineering Center. The Army provided the findings of the analysis to VDEQ, FMFADA, and the RAB. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

Fort Monroe recharacterized existing MMRP sites and identified one new site based on information from the historical photographic analysis. The Army awarded a contract to conduct an RI on closed ranges, analyze alternatives for risk management or response actions in a feasibility study (FS), develop a proposed plan (PP), and complete a decision document (DD) on actions needed to address explosive hazards posed by MEC.

Administrative issues delayed the completion of the RI work plan and initiation of fieldwork on closed ranges.

Plan of Action

Plan of action items for Fort Monroe are grouped below according to program category.

IRP

- Conduct expanded SI in FY09.
- Prepare ecological risk assessment technical memorandum in FY09.
- Award contract for RI in FY09.
- Award contract for removal actions in FY10.

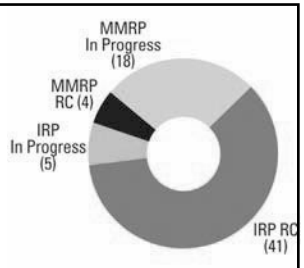
MMRP

- Conduct RI/FS in FY09.
- Complete RI/FS Report, complete DD, and prepare PP in FY10.
- Conduct Public Meeting in FY10.

Fort Ord
Presidio of Monterey

NPL/BRAC 1991

FFID:	CA921372067600	**Media Affected:**	Groundwater and Soil
Location (Size):	Marina, California (27,827 acres)	**Funding to Date:**	$ 415.6 million
Mission:	Served as host to 7th Infantry Division (Light); supports the Defense Language Institute Foreign Language Center, currently at the Presidio of Monterey, California	**Est. CTC (Comp Year):**	$ 361.4 million (FY 2024)
		IRP Sites (Final RIP/RC):	46 (FY2016)
HRS Score:	42.24; placed on NPL in February 1990	**MMRP Sites (Final RIP/RC):**	22 (FY2023)
IAG Status:	FFA signed in July 1990	**Five-Year Review Status:**	Completed
Contaminants:	VOCs, petroleum hydrocarbons, heavy metals, pesticides, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-20



Progress To Date

From 1917 to 1994, Fort Ord served primarily as a training and staging installation for infantry units. In FY87, a hydrogeological investigation identified the Fort Ord sanitary landfills as potential sources of contamination. EPA placed the installation on the NPL in 1990. The Army and EPA signed a federal facility agreement (FFA) in 1990. Identified sites include landfills, underground storage tanks, motor pools, family housing areas, a fire training area, an 8,000-acre impact area, and an ordnance and explosives disposal area. Fort Ord discovered that petroleum hydrocarbons and volatile organic compounds (VOCs) were migrating into groundwater (GW). In 1991, the BRAC Commission recommended closing Fort Ord and moving the 7th Infantry Division (Light) to Fort Lewis, Washington. The Army closed Fort Ord in September 1994. In FY94, Fort Ord converted its Technical Review Committee (TRC) to a Restoration Advisory Board (RAB) and formed a BRAC cleanup team. In FY99, the installation reestablished the TRC and dissolved the RAB. Fort Ord completed 5-year reviews for Operable Unit (OU) 1 in FY01 and FY07. A comprehensive 5-year review for all sites was completed in FY07.

The Army has identified Installation Restoration Program (IRP) sites at Fort Ord. The Army has completed an inventory of all Military Munitions Response Program (MMRP) sites. The Army has transferred over 15,220 acres and completed 12 Records of Decision (RODs) to date. The cleanup progress at Fort Ord for FY04 through FY07 is detailed below.

In FY04, Fort Ord completed the Track 1 proposed plan (PP) and public comment period. The Army completed the non-munitions response (MR) related RCRA closure actions for open burn/open detonation (OB/OD) area 36A and the Track 0 finding of suitability to transfer (FOST). The Army signed the Del Rey Oaks finding of suitability for early transfer. Fort Ord completed the PP and public comment period related to the ecological risk issues at Site 3. The Army transferred 1,227 acres. The Army completed a 500-acre vegetation and surface removal at MMRP sites Ranges 43 through 48, followed by remedial actions (RAs). Fort Ord completed surface removal work at the 1,000-acre Watkins Gate area. The Army completed a 700-acre surface removal in the eucalyptus wildfire area.

In FY05, Fort Ord completed a GW treatment systems optimization strategy and began implementation at OU 2 and Site 2/12. The Army completed FOSTs for Track 0 plug-in properties. The Army completed a ROD for Track 1 and completed FOSTs for related property transfers. Fort Ord completed a remedial investigation (RI) and feasibility study (FS) for the carbon tetrachloride site. Fort Ord completed RAs to depth at Ranges 43 through 48. The Army began planning the prescribed burn project for MR Site 16. Fort Ord began an RI/FS for the Track 2 Parker Flats site and continued developing an RI/FS for Track 3 sites.

In FY06, Fort Ord installed an air stripper at the Site 2/12 groundwater treatment system. The Army also installed a landfill gas extraction and treatment system at OU 2 and a GW pilot study treatment system at OU 1. The Army completed a PP for a GW carbon tetrachloride site. Fort Ord continued development of an RI/FS for Track 3 sites and continued a site safety program for military munitions. The Army transferred the Del Rey Oaks parcel and completed an RI/FS for the Track 2 Parker Flats site.

In FY07, Fort Ord closed Range 36A (RCRA-permitted OB/OD treatment facility); no further action was determined at this site. The Army issued the draft ROD and installed a pilot treatment system for the OU carbon tetrachloride plume (OU CTP). The Army expanded the treatment system and completed a 5-year review for all sites. Fort Ord continued investigations for Site 39 and optimization activities for OU 2. Fort Ord completed PPs, public comment periods, and issued draft RODs for Del Rey Oaks and Track 2 Parker Flats areas. The Army completed public comment periods, issued the PP and draft ROD for the Track 3 Impact Area. Fort Ord conducted a prescribed burn and completed removal to depth for MR Site 16. The Army transferred 165 acres.

FY08 IRP Progress

Fort Ord constructed a GW treatment unit for OU 1 off-site plume. The installation signed a ROD and initiated GW remedy at OU CTP. The Army continued actions to optimize Site 2/12 and OU 2 GW treatment systems. The Army transferred 11 acres. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Regulatory issues delayed the Site 39 ROD amendment and excavation of contaminated soils.

FY08 MMRP Progress

Fort Ord signed two RODs (Parker Flats and Track 3), prepared work plans and FFA schedules, and initiated remedies. Under the Environmental Services Cooperative Agreement (ESCA), the installation's Fort Ord Reuse Authority completed MMRP site clearance activities for the Seaside 1-4 group.

Technical issues delayed the prescribed burn in Bureau of Land Management (BLM) Units 2, 3, 18, and 22, and the MR clearance activities. Technical issues, related to development of the deeds, delayed the transfer of ESCA properties. Technical issues also delayed signature of the ROD for Del Rey Oaks.

Plan of Action

Plan of action items for Fort Ord are grouped below according to program category.

IRP

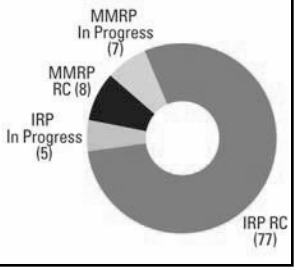
- Complete Site 39 ROD amendment and work plan, and begin excavation of contaminated soils in FY09.
- Continue operation of GW treatment systems at Site 2/12 and OUs 1 and 2 in FY09-FY10.
- Continue in situ GW treatment remedy for OU CTP in FY09-FY10.

MMRP

- Obtain EPA signature for Del Rey Oaks ROD, and issue schedule and work plan in FY09.
- Transfer ESCA properties in FY09.
- Conduct prescribed burn followed by MR clearance in BLM Units 1 through 5, 18, and 22 in FY09.
- Complete removal actions in Parker Flats, California State University, and Monterey Bay areas in FY09.

Fort Richardson

FFID:	AK021452215700	**Funding to Date:**	$ 90.4 million
Location (Size):	Anchorage, Alaska (64,470 acres)	**Est. CTC (Comp Year):**	$ 125.7 million (FY 2039)
Mission:	Support and sustain forces assigned to U.S. Army Alaska	**IRP Sites (Final RIP/RC):**	82 (FY2011)
HRS Score:	50.00; placed on NPL in May 1994	**MMRP Sites (Final RIP/RC):**	15 (FY2016)
IAG Status:	FFA signed in December 1994	**Five-Year Review Status:**	Completed
Contaminants:	White phosphorus, PCBs, heavy metals, POLs, solvents, pesticides, VOCs, dioxins, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-6-3
Media Affected:	Surface Water and Soil		



Progress To Date

Since World War II, Fort Richardson has supported combat unit training and operations. These activities contaminated soil, surface water, sediment, and groundwater with petroleum/oil/lubricants (POLs), solvents, and polychlorinated biphenyls (PCBs). Parts of a 2,500-acre wetland (Eagle River Flats) that serve as an active ordnance impact area were contaminated with white phosphorus. EPA placed Fort Richardson on the NPL in 1994. The Army and EPA signed a federal facility agreement (FFA) in December 1994. In 2005, the BRAC Commission recommended Fort Richardson for realignment. Removal actions addressed PCB-contaminated soil, underground storage tank sites, two drum burial sites, and soil contaminated with volatile organic compounds (VOCs), POLs, and chemical agents. In FY98, the installation formed a Restoration Advisory Board (RAB). The Army completed a 5-year review in FY03 and FY08.

To date, five Records of Decision (RODs) have been signed. Preliminary assessments and site inspections (SIs) ending in FY93 identified 38 potentially contaminated sites. In FY02, the installation completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Richardson for FY04 through FY07 is detailed below.

In FY04, the Army completed the remedial investigation (RI), feasibility study, and proposed plan for Operable Unit (OU) E. After meeting the short-term remedial action (RA) objectives, the Army developed a long-term mortality monitoring strategy for OU C and initiated long-term management (LTM). The installation updated the groundwater model for OU B by incorporating additional data. The RAB met four times and completed a tour of the OU C site. The RAB voted to reduce the number of future meetings in FY05.

In FY05, the Army completed the ROD for OU E, which included natural attenuation with institutional controls for groundwater that has the potential to serve as a drinking water source. The installation treated two hot spot areas of white phosphorous contamination and developed an LTM plan at OU C. In addition, the Army performed a treatability study (TS) to treat contaminated soil that was recently discovered at OU B. The Army completed a comprehensive groundwater evaluation. The RAB held two meetings and conducted one site visit.

In FY06, Fort Richardson achieved construction complete for all OUs. The Army completed the interim RA plan and implemented the LTM strategy at OU E. The installation continued groundwater monitoring and modeling to support the optimization of the selected remedy at OU B. The Army continued hot spot treatments to meet LTM objectives at OU C. The installation, EPA, and the State of Alaska signed a decision document indicating that approximately 60 percent of the Eagle River training area is available for training year-round. The RAB met in an effort to solicit additional community interest.

In FY07, Fort Richardson evaluated and optimized the LTM program for all active Installation Restoration Program (IRP) sites. The Army completed basewide LTM. Fort Richardson installed two sets of wells (deep and shallow) at OU B to determine whether rebounding solvent contamination was migrating off site. Both long- and short-term remedial goals were achieved at OU C. The installation completed a TS at OU C. The Army completed SIs and groundwater monitoring at OU E, and was granted approval for the interim RA report and final LTM plan. The Army held quarterly FFA meetings with EPA and the State. The RAB met twice and distributed quarterly newsletters.

FY08 IRP Progress

Fort Richardson initiated a TS at OU C by capping 10 ponds. The Army, State, and EPA developed an LTM plan for OU C. The installation updated the basewide land use control policy and geographic information system and finalized the second 5-year review. The cost of completing environmental restoration has changed significantly due to technical issues.

Contractual issues delayed the RI at Nike Site Summit.

FY08 MMRP Progress

The draft SI report for MMRP sites on Fort Richardson was completed, but technical issues delayed the final SI report.

Plan of Action

Plan of action items for Fort Richardson are grouped below according to program category.

IRP

- Evaluate TS at OU C in FY09-FY10.
- Complete bedrock model for Poleline Road in FY09-FY10.
- Complete LTM plan for OU B in FY09-FY10.
- Initiate RI at Nike Site Summit in FY09-FY10.

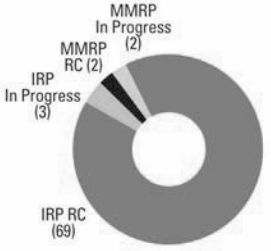
MMRP

- Evaluate SI reports in FY09.
- Evaluate no further actions with regulators for three sites in FY09-FY10.
- Initiate RI activities at two sites in FY09-FY10.

Fort Riley

NPL

FFID:	KS721402075600	**Funding to Date:**	$ 70.5 million
Location (Size):	Junction City, Kansas (100,656 acres)	**Est. CTC (Comp Year):**	$ 10.1 million (FY 2014)
Mission:	Provide training, readiness, and deployability for three component combat brigades, one combat aviation brigade, and one sustainment brigade; active and reserve component units	**IRP Sites (Final RIP/RC):**	72 (FY2014)
		MMRP Sites (Final RIP/RC):	4 (FY2012)
HRS Score:	33.8; placed on NPL in August 1990	**Five-Year Review Status:**	Completed and Planned
IAG Status:	IAG signed in June 1991	**IRP/MMRP Status Table:**	Refer to page M-7-19
Contaminants:	Pesticides, lead, VOCs, metals, solvents		
Media Affected:	Groundwater and Soil		



Progress To Date

Fort Riley provides facilities for several active and reserve Army combat brigades. EPA placed Fort Riley on the NPL in 1990. The installation has five operable units (OUs): Southwest Funston Landfill (OU 1), Pesticide Storage Facility (OU 2), Dry Cleaning Facilities Area (OU 3), Former Fire Training Area-Marshall Army Airfield (OU 4), and 354 Area Solvent Detections (OU 5). Groundwater contamination from OU 4 no longer extends off-post. The installation established a Restoration Advisory Board (RAB) in 1997. The Army completed one 5-year review for OUs 1 and 2 in FY02, and another for OUs 1, 2, 4, and 5 in FY07.

Environmental studies identified Installation Restoration Program (IRP) sites at Fort Riley. In FY05, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. To date, the installation has completed five Records of Decision (RODs) for OUs 1 through 5. The cleanup progress at Fort Riley for FY04 through FY07 is detailed below.

In FY04, the installation completed the remedial investigation (RI) addendum and initiated the feasibility study (FS) addendum for OU 3. The installation completed the proposed plan (PP) and initiated the ROD for OU 4. The installation completed the RI and initiated the FS for OU 5. The Army developed a technical memorandum for characterization of the open burning/open detonation (OB/OD) range. The installation completed Phase I of the site inspection (SI) for the petroleum/oil/lubricant (POL) Tank Farm and began monitoring to determine future actions. The Army conducted the initial MMRP site visit and a historical records (HRR) review for the MMRP SI.

In FY05, Fort Riley completed the FS addendum for OU 3. The installation completed a ROD and initiated a remedial design (RD) and remedial action (RA) plan for OU 4. Additionally, the installation completed an FS and a PP, and initiated a ROD for OU 5. The Army completed an engineering evaluation and cost analysis and the associated public comment period for the abandoned gasoline line (AGL). The Army also completed a technical memorandum for the OB/OD area and installed a new monitoring well. The installation completed Phase II of the SI for the POL Tank Farm and developed a plan to address multiple sites previously listed as response complete (RC) under an expanded SI. The installation generated the HRR report and conducted SI sampling at the MMRP sites. The installation held a public comment period and public meeting for the OU 5 PP in conjunction with a RAB meeting. The installation also developed a revised community involvement plan.

In FY06, Fort Riley completed the pilot study at OU 3. The installation completed the RD/RA plan and initiated a monitored natural attenuation (MNA) remedy for OU 4. The Army completed the ROD for OU 5, in addition to sampling and analysis for an expanded SI. The installation also initiated an agreement similar to a performance-based contract for long-term management for OUs 3, 4, and 5. Fort Riley submitted the MMRP SI report.

In FY07, Fort Riley completed a second 5-year review for all OUs 1, 2, 4, and 5, and submitted the report for regulatory approval. The installation completed an RD/RA plan and initiated MNA remedy monitoring at OU 5. The MNA remedy continued at OU 4. In addition, the installation completed a removal action at AGL and began site monitoring. A PP was completed for OU 3; however, a revision of the FS addendum was determined to be unnecessary. The installation initiated the RI/FS for the Sherman Heights Small Arms Range Impact Slope and Forsyth Landfill Area.

FY08 IRP Progress

Fort Riley approved and implemented an RD/RA (as MNA) and signed a ROD for OU 3. The installation continued MNA oversight at OUs 4 and 5. The Army re-treated and continued monitoring at the AGL site. The cost of completing environmental restoration has changed significantly due to technical issues.

Fort Riley solicited public comment for the OU 3 PP at a RAB.

FY08 MMRP Progress

Fort Riley conducted the RI/FS at Sherman Heights Small Arms Range Impact Slope and Forsyth Landfill Area 2. The installation generated work plans and Explosives Safety Submissions (ESSs). The Army received approval on the ESSs by the DoD Explosives Safety Board.

Plan of Action

Plan of action items for Fort Riley are grouped below according to program category.

IRP

- Continue monitoring at OUs 3, 4, and 5 in FY09-FY10.
- Re-treat and continue monitoring at AGL in FY09-FY10.
- Implement a performance-based agreement for remediation at Sites FTRI 063, 066, and 068 in Camp Funston in FY09-FY10.

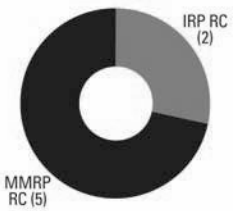
MMRP

- Implement work plans for Sherman Heights Small Arms Range Impact Slope and Forsyth Landfill Area 2 in FY09-FY10.

Fort Ritchie

BRAC 1995

FFID:	MD321022075800	**Est. CTC (Comp Year):**	$ 4.9 million (FY 2006)
Location (Size):	Fort Ritchie, Maryland (1,374 acres)	**IRP Sites (Final RIP/RC):**	2 (FY2006)
Mission:	Supported Site R underground facility	**MMRP Sites (Final RIP/RC):**	5 (FY2003)
HRS Score:	N/A	**Five-Year Review Status:**	Planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-8-28
Contaminants:	Heavy metals, asbestos, VOCs, UXO		
Media Affected:	Soil and Groundwater		
Funding to Date:	$ 10.0 million		



Progress To Date

In 1995, the BRAC Commission recommended the closure of Fort Ritchie. The installation closed in September 1998. Environmental contamination at Fort Ritchie resulted from underground storage tanks (USTs), various firing ranges, and a skeet range. The ranges may contain unexploded ordnance (UXO). Housing units and administrative buildings contain asbestos and lead-based paint. Interim actions at the installation included removal or replacement of USTs, relining of sewer lines with plastic, removal of falling lead paint and high-hazard friable asbestos, closure of an incinerator, and UXO removals. In FY96, the Army formed a BRAC cleanup team and a Restoration Advisory Board. Measures to improve communication and decision-making at the installation included forming a planning group, conducting meetings at the town hall, conducting quarterly progress reviews, establishing hotlines to answer employee questions, and relaying installation updates to the local news media.

To date, the installation has completed one Record of Decision (ROD). In FY03, the Army completed an inventory of all Munitions Response Program (MMRP) sites. The Army has made more than 300 acres of non-UXO property available for reuse. The cleanup progress at Fort Ritchie for FY04 through FY07 is detailed below.

In FY04, the installation completed the polishing round of permanganate treatment under the motor pool floor slab and continued monitoring motor pool wellheads.

In FY05, Fort Ritchie continued monitoring motor pool wellheads. The installation completed the feasibility study (FS) and proposed plan (PP) for motor pool. The installation completed the munitions and explosives of concern removal action in the Fill Area.

In FY06, Fort Ritchie completed a revised FS PP that recommended land use controls with monitoring, and a revised ROD for the motor pool. The installation initiated long-term management (LTM) of the motor pool.

In FY07, Fort Ritchie completed the ROD and signed the finding of suitability to transfer (FOST) for the motor pool.

The LTM work plan for the motor pool was also finalized. Fort Ritchie completed the FOST for the Fill Area.

FY08 IRP Progress

Fort Ritchie transferred the final parcel of property to the Local Redevelopment Authority. The installation continued LTM of the motor pool. The Army completed baseline sampling and initiated LTM of seven wells. This is the last narrative for this installation; all sites have achieved response complete (RC). The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

Fort Ritchie continued LTM of the Fill Area and provided construction clearance support as needed.

Plan of Action

Plan of action items for Fort Ritchie are grouped below according to program category.

IRP

- Continue LTM of the motor pool in FY09.

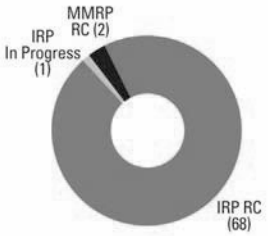
MMRP

- Continue construction clearance support in FY09.

Fort Sheridan

BRAC 1988

FFID:	IL521402083800	**Funding to Date:**	$ 56.9 million
Location (Size):	Fort Sheridan, Illinois (709 acres)	**Est. CTC (Comp Year):**	$ 13.7 million (FY 2010)
Mission:	Provided administrative and logistical support; non-excess property currently used as Army Reserve installation and Navy housing area	**IRP Sites (Final RIP/RC):**	69 (FY2010)
		MMRP Sites (Final RIP/RC):	2 (FY2003)
HRS Score:	N/A	**Five-Year Review Status:**	Planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-6-75
Contaminants:	Metals, VOCs, UXO, fuel hydrocarbons, PAHs, SVOCs		
Media Affected:	Soil		



Progress To Date

Fort Sheridan's missions have included cavalry and infantry training, Nike systems maintenance, and administrative and logistical support. In December 1988, the BRAC Commission recommended closure of Fort Sheridan. Currently, the Army uses 104 acres for an Army Reserve installation. Sites include landfills (LFs), pesticide storage areas, hazardous material storage areas, underground storage tanks (USTs), polychlorinated biphenyl (PCB)-containing transformers, and unexploded ordnance (UXO) areas. Petroleum hydrocarbons, volatile organic compounds (VOCs), and polyaromatic hydrocarbons (PAHs) affect groundwater and soil. Early actions included removal of USTs and contaminated soil. Remedial investigation and feasibility study activities, beginning in FY90, identified groundwater and soil contamination at seven landfills and coal storage areas. In FY94, the installation formed a BRAC cleanup team and an installation survey identified UXO at the former artillery range. In FY95, the installation formed a Restoration Advisory Board (RAB). In FY96, the installation performed a UXO clearance. In FY99, the RAB requested and received technical assistance for public participation. In FY08, Fort Sheridan completed a 5-year review.

The Army completed an inventory of all Military Munitions Response Program (MMRP) sites in FY03. The cleanup progress at Fort Sheridan for FY04 through FY07 is detailed below.

In FY04, the installation completed the No Further Action (NFA) Decision Document (DD) for Sites Coal Storage Area (CSA) 4, VES 8, the water tower, and pesticides in Building 70. The Army initiated the NFA DD for Bartlett Ravine, Van Horne Ravine, Shenck Ravine, Excavation Area 8, Beach Pistol/Machine Gun Range, Wells Ravine Northern Tributary, and Wells Ravine Western Extension. The installation completed construction of the LFs 6 and 7 cap. The DD for Site CSA 3 and LF 5, and implementation of the remedy progressed. The Army completed the proposed plan (PP) for LF 1 and initiated the DD. The installation prepared a draft operation and maintenance (O&M) plan and a groundwater monitoring plan for LFs 6 and 7.

In FY05, the installation completed the O&M and groundwater monitoring plans for LFs 6 and 7, and implemented the O&M plan. The installation completed the DD and its implementation for CSA 3 and LF 5. The Army also completed the DD for LF 1. The installation prepared removal action completion reports for sites CSA 4, VES 8, the water tower, and Building 70.

In FY06, Fort Sheridan implemented the groundwater monitoring plan for LFs 5, 6, and 7. The installation also implemented O&M and long-term management of Site CSA 3 and LF 5, and completed the closure reports for these sites.

In FY07, Fort Sheridan continued O&M work. The installation initiated a pilot study for LFs 6 and 7. The Army completed an interim remedy of LF 1. The installation completed the final PP and DD for the NFA sites and LFs 6 and 7. The Army initiated a 5-year review. The Army completed a site inspection on excess properties.

FY08 IRP Progress

Fort Sheridan received approval for the PP and DD for NFA sites and for LFs 6 and 7. The installation completed a 5-year review. The installation also completed the NFA DD for the Barlett Ravine, Van Horn Ravine, Shenck Ravine, Excavation Area 8, Beach Pistol/Machine Gun Range, Wells Ravine Northern Tributary, and Wells Ravine Extension.

Administrative issues delayed the Record of Decision (ROD) for LF 1 and related remediation actions.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Fort Sheridan are grouped below according to program category.

IRP

- Complete the ROD for LF 1 and all related remediation actions in FY10.

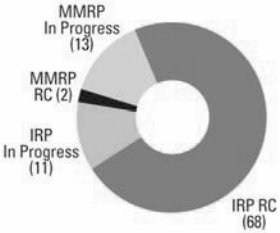
MMRP

- Conduct a geophysical munitions and explosives of concern survey at one of the anti-aircraft artillery firing points in FY10.

Fort Wainwright

NPL

FFID:	AK021452242600	**Funding to Date:**	$ 158.6 million
Location (Size):	Fairbanks, Alaska (917,993 acres)	**Est. CTC (Comp Year):**	$ 45.4 million (FY 2038)
Mission:	Serve as headquarters of the 172nd Infantry Brigade (Separate)	**IRP Sites (Final RIP/RC):**	79 (FY2010)
HRS Score:	50.00; placed on NPL in August 1990	**MMRP Sites (Final RIP/RC):**	15 (FY2016)
IAG Status:	FFA signed in November 1991	**Five-Year Review Status:**	Completed and planned
Contaminants:	PCBs, SVOCs, POLs, heavy metals, solvents, pesticides, paints, UXO, VOCs	**IRP/MMRP Status Table:**	Refer to page M-6-3
Media Affected:	Groundwater and Soil		



Progress To Date

Since World War II, Fort Wainwright has housed light infantry brigades, most recently the 172nd Stryker Brigade Combat Team and the 1-501st Airborne Battalion. Studies at the installation identified drum burial sites, underground storage tanks, a railroad car off-loading facility, an open burn and open detonation area, a former ordnance disposal site, solvent groundwater plumes, petroleum/oil/lubricant (POL) plumes, and pesticide-contaminated soil. EPA placed Fort Wainwright on the NPL in 1990. The Army and EPA signed a federal facility agreement (FFA) in 1991. In FY97, Fort Wainwright convened a Restoration Advisory Board (RAB), which adjourned in FY04 at the recommendation of the community co-chair and community RAB members. The installation gauged the community's desire to reestablish the RAB in FY07; insufficient interest was received. The Army completed 5-year reviews in FY01 and FY06.

Of the 51 eligible CERCLA sites identified in the FFA, 19 sites required no further action and 32 sites were placed into 5 operable units (OUs). Since 1991, 13 sites have closed and 2 new sites have been added, for a total of 21 active sites. To date, the installation has signed five Records of Decision; a new OU was formally added in 2007. In FY02, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Wainwright for FY04 through FY07 is detailed below.

In FY04, the installation completed cleanup operations and site exit strategies (CLOSES) at six additional sites. The Army achieved site closeout at the coal storage yard site. The installation implemented reductions in operations and maintenance (O&M), specifically monitoring requirements on various sites due to the completed CLOSES evaluations. The installation reviewed the MMRP sites during the annual Installation Action Plan (IAP) Workshop and included them in the final IAP.

In FY05, the installation continued using the CLOSES evaluations to revise O&M requirements. The Army discovered that the former communications site (FCS) was contaminated with polychlorinated biphenyls (PCBs). The installation conducted the initial stages of a preliminary site evaluation and removed some PCB-contaminated soils. The installation conducted additional sampling at the Birch Hill Tank Farm aboveground storage tank (AST) site to determine if the site required additional action. The installation continued evaluation of MMRP sites during development of IAPs.

In FY06, Fort Wainwright determined additional actions (removal, disposal, sampling) were required at the Birch Hill Tank Farm AST site. The Army completed the 5-year review and site closeout of additional POL sites. The installation continued using the CLOSES evaluation to revise O&M requirements. At the FCS, the preliminary source evaluation fieldwork uncovered several pieces of discarded military munition (DMM), two of which required site clearances and stop work orders until the DMM could be identified and removed from the area. The installation continued to solicit community interest to warrant RAB reestablishment.

In FY07, Fort Wainwright initiated a remedial investigation (RI) at the FCS, now OU 6, and formally established land use controls. The installation continued using the CLOSES evaluations to revise O&M requirements at the other sites, which resulted in reductions of groundwater monitoring requirements and cessation of some remedial operations. The installation also completed actions required by the 5-year review. The installation conducted MMRP site inspections (SIs). During the drum and debris RI at OU 6, several DMMs were found under the surface.

FY08 IRP Progress

Fort Wainwright completed the initial phase of the OU 6 RI, which included extensive records research, small-scale intrusive investigations, and the installation and sampling of new wells. The Army initiated Phase II of the OU 6 RI, which included full-scale intrusive investigations of areas with potential drums of waste and DMM. The installation completed the removal of all known PCBs, pesticides, POLs, heavy metals, and contaminated soils, and completed sampling of soil gas probes and new monitoring wells. Fort Wainwright completed summary reports for OU 3 Birch Hill and Mile Post Pipeline Breaks, which concluded that a technical impracticability waiver was not necessary. The installation completed summary reports for OUs 2, 4, and 5 systems, and concluded that the systems were functioning properly and would continue operations in the future. The Army and regulators agreed to switch to the monitoring and remediation optimization system (MAROS) analysis process to optimize treatment systems and monitoring plans. Fort Wainwright continued to provide O&M support of active remediation systems and wells and decommissioned unnecessary treatment systems and non-serviceable wells as planned. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

Fort Wainwright received and evaluated the MMRP SI report, and provided public notice for comment. The installation conducted emergency investigation and removal actions at three sites due to the potential for immediate threat to human health by exposure to DMM.

Plan of Action

Plan of action items for Fort Wainwright are grouped below according to program category.

IRP

- Continue to evaluate rebound at sites where systems have been turned off in FY09.
- Begin using MAROS evaluations to revise O&M requirements and evaluate site progress in FY09-FY10.
- Prepare work plans for decommissioning soil vapor extraction and air sparging systems at OUs 3 and 5 source areas in FY09-FY10.
- Negotiate future investigations and O&M requirements at two sites in response to recommendations in the OU 3 summary reports in FY09-FY10.
- Prepare work plans for maintenance and repair of the OU 4 Landfill Cap in FY09-FY10.

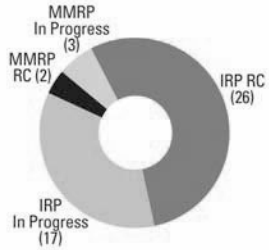
MMRP

- Prepare RI work plans in FY09-FY10.

Fort Wingate

BRAC 1988

FFID:	NM621382097400	**Media Affected:**	Groundwater, Sediment, Soil
Location (Size):	Gallup, New Mexico (21,881 acres)	**Funding to Date:**	$ 44.9 million
Mission:	Stored, shipped, and received ammunition components and disposed of obsolete or deteriorated explosives and ammunition	**Est. CTC (Comp Year):**	$ 135.6 million (FY 2021)
		IRP Sites (Final RIP/RC):	43 (FY2019)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	5 (FY2021)
IAG Status:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
Contaminants:	UXO, PCBs, pesticides, heavy metals, asbestos, lead-based paint, explosive compounds, VOCs, SVOCs, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-113



Progress To Date

In 1988, the BRAC Commission recommended closure of Fort Wingate. The installation was required to store, test, and demilitarize munitions. Restoration efforts have focused on land affected by ordnance-related wastes, unexploded ordnance, and other contaminants. The affected areas are the open burning and open detonation (OB/OD) grounds, soil at a pistol range, pesticide-contaminated soil at Building 5, explosives-contaminated soil at the former bomb washout plant lagoons, polychlorinated biphenyl (PCB) contamination in Buildings 11 and 501, the former explosive washout plant (Building 503), and three solid waste landfills. In FY94, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB). In FY95, the installation revised its BRAC cleanup plan. The RAB adjourned in 2004. In FY06, the installation developed a community relations plan (CRP).

To date, the installation has transferred over 5,400 acres. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Fort Wingate for FY04 through FY07 is detailed below.

In FY04, the installation completed quarterly groundwater sampling at the TNT Leaching Beds. The RAB adjourned.

In FY05, Fort Wingate removed ash and soil from the deactivated furnace area. The installation completed groundwater sampling at the OB/OD ground and completed groundwater investigations at the Eastern Landfill by installing four borings and two wells. The Army negotiated RCRA post-closure permit requirements and developed a work schedule and funding requirements for future cleanup. The installation discussed future MMRP actions during the RCRA post-closure permit requirements negotiations.

In FY06, Fort Wingate was issued a RCRA permit by the New Mexico Environmental Department (NMED). The installation hired a permanent, on-site BRAC Environmental Coordinator to oversee the cleanup program and execution of the RCRA permit. The installation initiated development of a work plan for the RCRA facility investigation (RFI) at Parcel 21. Fort Wingate prepared and submitted a historical aerial photo interpretation report and a hydrogeologic summary report to NMED. The installation developed the first comprehensive cost-to-complete (CTC) estimate. Fort Wingate initiated development of work plans for the Kickout Area on the OB/OD grounds. As required by the RCRA permit, a detailed map of all munitions and explosives of concern (MEC) found since closure of Fort Wingate was included in the CRP. The installation constructed a 3-mile long fence along the western boundary of the OB/OD grounds, which reduced the chance of adjacent property owners encountering MEC. The installation held a BCT meeting. Fort Wingate initiated extensive consultation with the Pueblo of Zuni and the Navajo Nation, which will continue for the duration of the cleanup program.

In FY07, Fort Wingate developed programmatic and comprehensive agreements to address Zuni and Navajo cultural resources during the cleanup. RFI work plans and release assessments for Parcels 11, 12, 14, 21, 22, and 25 were developed and are under review by stakeholders. The installation completed the interim basewide groundwater monitoring plan and off-site groundwater investigation work plans, which stakeholders reviewed. Additionally, the summary report of historical information was completed. The Army submitted and negotiated a conceptual plan for the corrective action management unit (CAMU) to support MMRP operations. The Army awarded a contract to develop a closure plan of the OB/OD hazardous waste management unit. The installation submitted an improved conventional munitions waiver to the U.S. Army Technical Center for Explosive Safety requesting authorization for future work at Parcel 3. Semiannual BCT meetings were held, but the RAB remained adjourned due to insufficient public interest. The Army and Pueblo of Zuni finalized a cooperative agreement to reimburse the tribe for review of technical documents. The Navajo Nation drafted a similar agreement.

FY08 IRP Progress

Fort Wingate completed the programmatic agreement between the Army, Pueblo of Zuni, Navajo Nation, and State Historic Preservation Office. The Army submitted a RCRA permit modification removing Parcel 25 from the permit; no further action is required. Fort Wingate sampled all monitoring wells on the depot and three off-post wells. The Army awarded a basewide background study work plan and RFI work plan for parcels 5, 6, and 23. Fort Wingate sampled all igloos and revetments in Parcels 4, 9, and 24.

Administrative issues delayed completion of the basewide ecological risk assessment (ERA) work plan. Regulatory issues delayed the RFI work plans and assessments for Parcels 4, 6, 11, 12, 14, 21, 22, 24, and 25; and delayed the transfer of Parcels 14 and 25.

FY08 MMRP Progress

The Army submitted the Phase I work plan for the OB/OD unit to the State. The Army Safety Office approved the improved conventional munitions waiver. The installation established the conditional exemption storage site (temporary MEC storage igloos).

Administrative issues delayed the permit modification to construct a CAMU.

Plan of Action

Plan of action items for Fort Wingate are grouped below according to program category.

IRP

- Transfer Parcels 4b, 5b, 8, 14, and 25 in FY09.
- Conduct basewide groundwater sampling in FY09.
- Prepare and complete RFI work plans in FY09.
- Complete basewide ERA in FY09.

MMRP

- Obtain permit modification and construct CAMU in FY09.
- Submit Kickout Area completion report in FY09.
- Award contract to perform the field investigation at the OB/OD unit and Parcel 3 in FY09-FY10.
- Perform aerial magnetometry and aerial photography in FY09-FY10.

Fridley Naval Industrial Reserve Ordnance Plant

NPL

FFID:	MN517002291400	**Est. CTC (Comp Year):**	$ 9.0 million (FY 2020)
Location (Size):	Fridley, Minnesota (83 acres)	**IRP Sites (Final RIP/RC):**	5 (FY2002)
Mission:	Design and manufacture advanced weapons systems	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	30.83; placed on NPL in November 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in March 1991	**IRP/MMRP Status Table:**	Refer to page M-7-24
Contaminants:	POLs, VOCs, SVOCs, TCE, metals, cyanide		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 37.5 million		

Progress To Date

Fridley Naval Industrial Reserve Ordnance Plant (NIROP) designs and manufactures advanced weapons systems. Investigations conducted at this government-owned, contractor-operated installation identified trichloroethylene (TCE) in groundwater. The facility was placed on the NPL in November 1989, because of the TCE contamination in the groundwater, which discharges into the Mississippi River upstream from the Minneapolis drinking water plant. Site types include waste disposal pits and trenches, source areas beneath the main industrial plant, a foundry core butt disposal area, and site-wide groundwater contamination. Wastes and contaminants associated with these site types include petroleum/oil/lubricants (POLs), solvents, plating sludge, construction debris, and foundry sands. The installation signed a federal facility agreement (FFA) in March 1991. The installation formed a technical review committee in FY93 and converted it to a Restoration Advisory Board in FY95. The community relations plan was prepared in FY91 and was updated in FY97. An administrative record was also compiled, and an information repository established in FY95. Naval Sea Systems Command sold the NIROP site in June 2004. The Navy completed a 5-year review in FY04.

To date, the installation has completed a Record of Decision for Operable Units (OUs) 1, 2, and 3. In addition, it achieved response complete (RC) status for Sites 1 and 2. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at Fridley NIROP for FY04 through FY07 is detailed below.

In FY04, Fridley NIROP completed the land use control remedial design. The Navy sold the NIROP site. The installation completed a 5-year review for OU 1, and continued operation of the OU 1 pump-and-treat groundwater containment system. The installation evaluated results of the pilot scale enhanced bioremediation study and found that the pilot study was a limited success.

In FY05, Fridley NIROP continued operation of the OU 1 pump-and-treat groundwater containment system. The installation continued monitoring the enhanced bioremediation pilot study approved by the Minnesota Pollution Control Agency (MPCA) and EPA. In addition, the installation conducted a first round of extended monitoring at the Anoka County Riverfront Park.

In FY06, Fridley NIROP continued operation of the OU 1 groundwater pump-and-treat system. The installation conducted additional monitoring of the enhanced bioremediation pilot study and completed the final pilot study report.

In FY07, Fridley NIROP continued operation of the OU 1 pump-and-treat groundwater system. The U.S. Geological Survey completed their final report of the effectiveness of the groundwater pump-and-treat system to capture and control the plume and also of the subsurface conditions. The installation continued monitoring the effects of the vegetable oil injection study and issued the vegetable oil study final report. The MPCA initiated a statewide survey of facilities that may have stored or used perfluorochemicals, and the installation was identified as a possible location where these products chemicals were stored. The Navy and the Department of Justice continued to resolve the cost recovery and potentially responsible party issue. The Navy awarded a new operation and maintenance contract.

FY08 IRP Progress

Fridley NIROP continued operations of the OU 1 pump-and-treat containment system. The installation performed perfluorochemical testing and found no evidence of contamination. The Navy increased monitoring of specific wells to assess potential bypasses at an additional site. The installation drafted several consent decrees (CDs). Fridley NIROP renewed the permit for a groundwater treatment system. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed finalizing the annual monitoring plans and the 5-year review.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Fridley Naval Industrial Reserve Ordnance Plant are grouped below according to program category.

IRP

- Complete 5-year review in FY09.
- Finalize the annual monitoring plans in FY09.
- Continue systems operation and management in FY09-FY10.
- Finalize the CDs in the cost recovery efforts by involved parties in FY09-FY10.

MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Galena Forward Operating Location

BRAC 2005 Closure

FFID:	AK057302865500	**Media Affected:**	Groundwater and Soil
Location (Size):	Galena, Alaska (162 acres)	**Funding to Date:**	$ 23.3 million
Mission:	Served as an active refueling stop for aircraft bound for the Soviet Union under the Lend-Lease program in World War II, and later as a forward operating location for the Air Force as part of the NORAD Mission	**Est. CTC (Comp Year):**	$ 41.8 million (FY 2038)
		IRP Sites (Final RIP/RC):	20 (FY2011)
		MMRP Sites (Final RIP/RC):	1 (FY2013)
HRS Score:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-6-5
Contaminants:	TCE, POLs, benzene, VOCs, SVOCs, metals		

Progress To Date

Galena Forward Operating Location (FOL) is located on the Yukon River about 270 miles west of Fairbanks, Alaska. The airport was constructed in 1940, and the Air Force has had joint civilian-military use of the airfield since 1951. The active duty force at the installation was drawn down in 1993. In 2005, the BRAC Commission recommended closure of the Galena FOL. Galena FOL occupies 166 acres of land and is comprised of a number of buildings and other structures. The majority of facilities at Galena Airport are owned by the Air Force, although other non-Air Force properties are also present. Military operations have released hazardous chemicals via spills or historical disposal practices, resulting in identified Installation Restoration Program (IRP) sites. The Air Force and the Alaska Department of Environmental Conservation coordinate with local stakeholders, including the Louden Tribal Council, City of Galena, and Galena City Schools, through the Galena Technical Project Team, to address environmental concerns. A Restoration Advisory Board, which was formed in 2004, adjourned due to insufficient interest. The cleanup progress at Galena FOL for FY04 through FY07 is detailed below.

In FY04, the installation initiated a comprehensive remedial investigation (RI) and feasibility study (FS) for multiple sites. The Air Force continued testing bioventing treatment systems at Million Gallon Hill and the petroleum/oil/lubricant (POL) Tank Farm, and the Munitions Storage Tank.

In FY05, the installation conducted monthly sampling of the base drinking water. The Air Force continued the comprehensive RI/FS, and began conducting preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, the installation continued the RI/FS to assess the total extent of contamination. As part of the RI/FS, the installation initiated a baseline ecological risk assessment to address the risks at each IRP site, including potential risks to subsistence resources. The Air Force continued the PAs at all identified MMRP sites. Initial Munitions Response Site Prioritization Protocol ratings for each MMRP site were developed. Galena FOL briefed the RAB on current activities at the installation.

In FY07, the installation continued work on the RI/FS and site characterizations to ensure proper return of lands and release of facilities in accordance with BRAC requirements. The installation continued working to finalize institutional and land use controls (LUCs) associated with operational closure. Galena FOL completed PAs at all identified MMRP sites. The installation briefed the RAB on progress to date and held meetings with the community to maintain awareness and communication.

FY08 IRP Progress

Galena FOL implemented remedial process optimization recommendations, and executed operational closure of the installation. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed Records of Decision (RODs).

FY08 MMRP Progress

The installation completed two site inspections (SIs).

Plan of Action

Plan of action items for Galena Forward Operating Location are grouped below according to program category.

IRP

- Continue RIs for 16 sites in FY09.
- Conduct RA operations of four remediation systems in FY09.
- Conduct annual groundwater monitoring and LUC/institutional control inspections for four sites in FY09-FY10.
- Prepare RIs for 16 sites in FY10.
- Conduct RA operations for nine remediation systems in FY10.

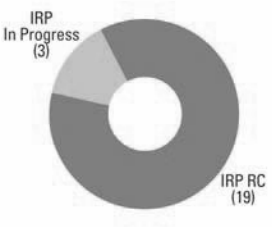
MMRP

- Complete SI at one site in FY09.

Gentile Air Force Station
Defense Electronics Supply Center, Dayton

BRAC 1993

FFID:	OH597152435700	**Funding to Date:**	$ 10.8 million
Location (Size):	Kettering, Ohio (164 acres)	**Est. CTC (Comp Year):**	$ 1.5 million (FY 2028)
Mission:	Provided logistical support to the military services by supplying electrical and electronic material	**IRP Sites (Final RIP/RC):**	22 (FY2002)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	N/A	**Five-Year Review Status:**	Completed and planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-34
Contaminants:	Solvents, pile runoff (VOCs and SVOCs), metals, residual POLs		
Media Affected:	Groundwater and Soil		



Progress To Date

Gentile Air Force Station (AFS) provided logistical support to the military services by supplying electrical and electronic material. In July 1993, the BRAC Commission recommended closure of the Defense Electronics Supply Center (Gentile AFS) and relocation of its mission to the Defense Construction Supply Center in Columbus, Ohio. The installation closed in December 1996. Sites identified at the installation include underground storage tanks; areas of past industrial operations; and landfills (LFs) containing construction debris, hardfill, waste oil, solvents, asbestos, low-level radioactive waste, and a subsurface material suspected to be paint thinner. Releases from these sites have contaminated soil and groundwater. In FY93, the installation's BRAC cleanup team (BCT) developed a BRAC cleanup plan for investigating sites and areas of concern. A Restoration Advisory Board (RAB) was formed in FY94, and it adjourned in FY05. DLA's involvement in environmental restoration at the installation was terminated at the end of FY98 by a memorandum of agreement with the Air Force Real Property Agency. The Air Force completed the first 5-year review in FY04. In FY08, the installation updated the administrative record.

Twelve sites were closed between FY97 and FY01 with No Further Remedial Action Planned (NFRAP) Decision Documents (DDs). Another 18 sites have conditional NFRAP DDs where future use is limited to commercial or industrial use. Ten sites are included in 2 Installation Restoration Program (IRP) Remedial Action (RA) DDs (September 2000 and July 2002), which determined that institutional controls are needed at all ten sites to restrict exposure to potential contamination. To date, one Record of Decision has been signed. All property at the installation has been transferred. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Gentile AFS for FY04 through FY07 is detailed below.

In FY04, the first 5-year review was completed and received EPA concurrence. The operating properly and successfully demonstration for LF 008 and Spill Site (SS) 035 was finalized and approved by EPA. Property transfer documents were finalized for Parcel E. The Agency for Toxic Substances and Disease Registry completed a public health assessment and determined there were no public health hazards. RA operations (RA-O) at LF 008, SSs 028 and 035, and Site WP 026 continued. The Air Force conducted an inventory of MMRP sites. No MMRP sites were identified at this installation.

In FY05, the Air Force transferred the remaining 26-acre Parcel E to the local redevelopment authority. RA-O at LF 008, SSs 028 and 035, and Site WP 026 continued under a new performance-based contract. The RAB was formally adjourned.

In FY06, RA-O groundwater monitoring activities continued at SSs 028 and 035, and Site WP 026. Remediation goals were met at LF 008 and the BCT signed a No Further Action DD. An aqueous solution of food grade vegetable oil and simple sugars was added to the groundwater at each of the sites to serve as a long-term electron donor and accelerate site closure. The Air Force completed planning and regulatory agency coordination required to decommission all obsolete monitoring wells.

In FY07, the installation continued RA-O groundwater sampling activities at SSs 028 035, and Site WP 026. The BCT concurred with a groundwater monitoring optimization program by signing a statement of basis for a reduction in groundwater sampling for SSs 028 and 035, and Site WP 026. The installation finalized an updated land use controls/institutional controls map. The installation also decommissioned obsolete monitoring wells. The BCT met once.

FY08 IRP Progress

Gentile AFS conducted RA-O groundwater sampling activities at SSs 028 and 035, and Site WP 026. The Air Force updated the administrative record, and the BCT met once. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Gentile Air Force Station are grouped below according to program category.

IRP

- Complete the second 5-year review report in FY09.
- Continue RA-O groundwater sampling activites at SS 028, SS 035, and Site WP 026 in FY09-FY10.
- Decommission obsolete monitoring wells in FY09-FY10.

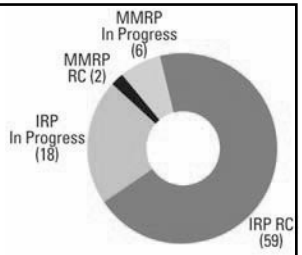
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

George Air Force Base

NPL/BRAC 1988

FFID:	CA957002445300	**Est. CTC (Comp Year):**	$ 40.3 million (FY 2038)
Location (Size):	Victorville, California (5,062 acres)	**IRP Sites (Final RIP/RC):**	77 (FY2011)
Mission:	Provided tactical fighter operations support	**MMRP Sites (Final RIP/RC):**	8 (FY2010)
HRS Score:	33.62; placed on NPL in February 1990	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in October 1990	**IRP/MMRP Status Table:**	Refer to page M-6-30
Contaminants:	POLs, VOCs, lead, SVOCs, metals, radioactive materials		
Media Affected:	Groundwater, Surface Water, Soil		
Funding to Date:	$ 112.8 million		



Progress To Date

George Air Force Base (AFB) provided tactical fighter operations support. The 1988 BRAC Commission recommended closure of George AFB; the installation closed in December 1992. EPA placed the installation on the NPL in February 1990, and the Air Force signed a federal facility agreement (FFA) in October 1990. Environmental studies conducted at George AFB have identified the following site types: landfills (LFs), petroleum spill sites (SS), underground storage tanks (USTs), waste storage and disposal units, and fire training areas. In FY92, the installation formed a BRAC cleanup team (BCT) and converted its technical review committee to a Restoration Advisory Board (RAB). The installation completed 5-year reviews in FY01 and FY06.

Sites have been grouped into five operable units (OUs). OU 2 (the fuels and pesticide sites) has been removed from CERCLA. Interim actions at the installation have included removal of more than 80 USTs and contaminated soil, and cleanup and closure of a hazardous waste storage yard. To date, Records of Decision (RODs) have been signed for OUs 1 and 3. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at George AFB for FY04 through FY07 is detailed below.

In FY04, George AFB completed the hydrogeologic conceptual site model (CSM) for the groundwater in OU 1. The installation completed aquifer testing and is using the information to update the CSM. The installation converted three monitoring wells to extraction wells to enhance the cleanup systems for the OU 1 treatment system. At OU 2, the Air Force continued to remove over 20,000 pounds of petroleum vapor per month and averaged over 1,000 gallons of free product per month. At OU 3, the Air Force continued to operate several soil cleanup systems. In addition, LF monitoring and cap maintenance continued. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation shut down the bioventing system at Site WP 017. The remedial equipment was decommissioned and removed from the former site. The installation continued operating the treatment systems at OUs 1, 2, and 3, and continued LF monitoring and cap maintenance. The Air Force established OU 4, which included eight areas of concern. The OU 1 groundwater treatment system remained in standby mode while groundwater fate and transport modeling was conducted. The Air Force initiated preparation of the second 5-year review. The OU 2 fuel plume was removed from the interagency agreement (IAG); remediation continued under the State corrective action program. The Air Force began evaluating requirements at MMRP sites. The BCT met frequently, and the RAB held an annual meeting.

In FY06, the installation continued groundwater modeling for OU 1. The installation also conducted preliminary fate and transport scenarios. Additionally, OU 5 was identified, which consisted of two volatile organic compound (VOC) sources found in the soil. Soil vapor extraction (SVE) systems were installed as interim remedies at both sites. Free-product recovery and SVE continued at the non-CERCLA fuel site. The installation completed a 5-year review. The Air Force submitted the proposed plan (PP) for the OU 4 ROD to regulators. The installation cleared and closed the explosive ordnance disposal Proficiency Training Area.

In FY07, the installation continued to operate SVE systems and monitor groundwater. Two new SVE systems were installed at the former burn pit (Site 082) and an aircraft maintenance hangar, Building 676 (SS 083). The OU 1 groundwater model was calibrated, and a free product recovery system was operated to remove jet fuel at non-CERCLA fuel sites. The Air Force Real Property Agency awarded the contract to develop the focused feasibility study (FFS) and finalize the ROD for OU 4. The Air Force submitted documentation to close the former 40 mm Grenade Range.

FY08 IRP Progress

George AFB completed no further response action planned documentation for closing five soil sites formerly in OU 4, transfered the three remaining OU 4 sites to the OU 5 ROD, and administratively closed OU 4. The installation continued to fill data gaps for one non-CERCLA fuel site by performing a fuel plume delineation at Site ST 067b and began development of a corrective action plan (CAP) 2. The Air Force used an updated groundwater model for OU 1 to develop a ROD amendment and predictive cleanup scenarios. Regulators and the Air Force agreed to write an updated comprehensive feasibility study (FS) to support an updated PP for OU 1. The installation continued to operate SVE and free-product recovery systems, and groundwater monitoring. The Air Force completed and obtained regulatory approval for an explanation of significant differences documentation for Site FT 019a. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues changed the requirement for the FFS and ROD for OU4, and delayed the identification of a long-term remedy to prepare a ROD amendment for OU 1. Administrative issues delayed the development of CAP 3 for the non-CERCLA pesticide site. Technical issues delayed the installation of new monitoring wells at the pesticide site.

FY08 MMRP Progress

The Air Force completed closure documentation for several MMRP sites.

Contracting issues delayed closure of the remaining MMRP sites.

Plan of Action

Plan of action items for George Air Force Base are grouped below according to program category.

IRP

- Install new monitoring wells at the pesticide site in FY09.
- Contiue a non-CERCLA CAP for the fuel storage tank farm, and start CAPs for flightline sites and dieldrin in groundwater in FY09.
- Begin comprehensive FS, PP, and ROD amendment for OU 1 in FY09.
- Continue to monitor and sample OU 1 wells and update the groundwater model to support the FS in FY09.
- Develop OU 3 Site OT 069 long-term management plan modifications in FY09-FY10.

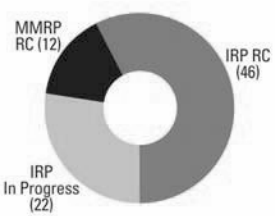
MMRP

- Complete closure documentation for remaining MMRP sites in FY09.

Griffiss Air Force Base

NPL/BRAC 1993/BRAC 1995

FFID:	NY257002445100	**Funding to Date:**	$ 145.2 million
Location (Size):	Rome, New York (3,638 acres)	**Est. CTC (Comp Year):**	$ 26.9 million (FY 2049)
Mission:	Supported bomber and tanker operations	**IRP Sites (Final RIP/RC):**	68 (FY2010)
HRS Score:	34.20; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	12 (FY2004)
IAG Status:	FFA signed in June 1990	**Five-Year Review Status:**	Completed and planned
Contaminants:	Heavy metals, PCBs, grease, degreasers, caustic cleaners, dyes, penetrants, VOCs, TCE, UXO, SVOCs, radioactive materials, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-118
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The mission of Griffiss Air Force Base (AFB) was to support bomber and tanker aircraft operations. EPA placed the installation on the NPL in 1987, and the Air Force signed a federal facility agreement (FFA) in June 1990. The 1993 BRAC Commission recommended realignment of Griffiss AFB and, in 1995, the BRAC Commission recommended further realignment of the installation. Following the realignment actions, the Air Force retained 136 acres for Rome Laboratory and Air National Guard Northeast Air Defense Sector facilities. Sites identified at the installation include landfills (LFs), underground storage tanks (USTs), fire training areas, disposal pits, and spill areas. Possible off-site groundwater contamination was also identified. Interim actions conducted at the facility between FY86 and FY91 include modification of a landfill cap and removal of contaminated soil and USTs from a tank farm, various disposal pits, and the area adjacent to an aircraft nosedock. In FY95, the installation completed an Environmental Baseline Survey and, in FY96, the installation completed an environmental impact statement. Griffiss AFB formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) in FY95. The BRAC cleanup plan was completed the same year. The installation received technical assistance for public participation funding in FY99. The installation completed the first 5-year review in FY05.

Environmental studies identified sites at Griffiss AFB. To date, the installation has signed 26 Records of Decision (RODs). The proposed plan (PP) for LF 1 and five No Further Action/Institutional Control RODs were also completed. RODs have been issued for all LFs. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. In FY07, Griffiss AFB obtained closure for 12 MMRP sites. The cleanup progress at Griffiss AFB for FY04 through FY07 is detailed below.

In FY04, the installation completed the LFs 2/3 (LF 002) and 001 covers, initiated remediation of the final LF, and completed the treatability study for four trichloroethylene (TCE) plumes. The installation executed the RODs for two creeks and awarded the remediation contract. The installation also issued the remedial investigation and feasibility study results for Area of Concern 9 (SS 062). The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation awarded the long-term monitoring and long-term operation performance-based contract (PBC). The installation completed three RODs and the first 5-year review. In addition, the installation commenced remediation of Three Mile Creek (SD 031) and submitted PPs for six additional sites. The Air Force began evaluating requirements at MMRP sites at this installation. The RAB continued meeting semiannually and the BCT continued meeting at least quarterly.

In FY06, the installation issued a PBC for the remediation of the TCE plumes and four petroleum-contaminated groundwater sites. Griffiss AFB completed the remediation of LF 6 and Three Mile Creek. The installation completed remediation activities at all MMRP sites.

In FY07, the Air Force awarded a 3-year PBC for the completion of the petroleum landfarming operation. The installation completed screening sampling on identified soil vapor intrusion (SVI) sites. The Small Arms Range ROD was completed, and regulator concurrence on the PPs for three of the four chlorinated plume sites was received. Griffiss AFB obtained closure for 12 MMRP sites.

FY08 IRP Progress

Griffiss AFB initiated remedy installation at three chlorinated plume sites. The installation conducted additional soil vapor sampling and obtained concurrence on the path forward for the majority of the sites. The Air Force awarded a project for soil vapor remedy evaluation and installation. The installation started fieldwork for the new landfarming project and continued remediation at four petroleum-contaminated sites. The Air Force issued a revised PP for LF 1. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues associated with SVI and land use control management delayed the processing of six PPs, and the completion of RODs for the three chlorinated plume sites.

One public meeting, two RAB meetings, and four BCT meetings were held.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Griffiss Air Force Base are grouped below according to program category.

IRP

- Finalize six PPs in FY09.
- Finalize RODs for three chlorinated plume sites in FY10.
- Award contract for remediation of a fourth chlorinated plume site in FY09-FY10.
- Issue PP and ROD for the SVI sites in FY09-FY10.

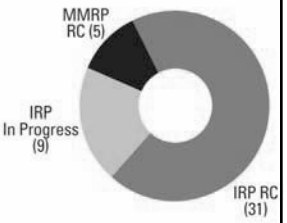
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Grissom Air Force Base
Grissom Air Reserve Base

BRAC 1991

FFID:	IN557212447200	**Media Affected:**	Groundwater and Soil
Location (Size):	Peru, Indiana (2,722 acres)	**Funding to Date:**	$ 22.5 million
Mission:	Supports tanker aircraft operations of the 434th Air Refueling Wing; formerly supported bomber aircraft operations	**Est. CTC (Comp Year):**	$ 22.1 million (FY 2042)
HRS Score:	N/A	**IRP Sites (Final RIP/RC):**	40 (FY2011)
IAG Status:	N/A	**MMRP Sites (Final RIP/RC):**	5 (FY2002)
Contaminants:	Household and industrial waste, radioactive contamination, spent solvents, metals, fuels, SVOCs, lead, waste oils, asbestos, VOCs, explosives, propellants	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-6-78



Progress To Date

Grissom Air Force Base (AFB) was established as Bunker Hill Naval Air Station in 1942 and became an Air Force installation in 1954. In July 1991, the BRAC Commission recommended realignment of the installation. Following realignment in September 1994, 1,400 acres were retained by the Air Force as Grissom Air Reserve Base. As of FY07, the remaining 1,322 acres have been transferred primarily to the local redevelopment authority, the State of Indiana, and several private entities. BRAC funds the environmental restoration of the excess property. BRAC sites include a small arms firing range, a munitions burn/burial area, a grenade training range, a firing-in butt, oil-water separators, underground storage tanks (USTs), a buried B-58 aircraft, fire training areas, landfills (LFs), and various maintenance shops and spill sites (SSs). In FY94, the installation completed a basewide Environmental Baseline Survey (EBS); subsequently, supplemental EBSs (SEBSs) were developed for specific parcels. Also in FY94, the installation formed a BRAC cleanup team and prepared a BRAC cleanup plan. In FY95, the installation formed a Restoration Advisory Board (RAB). The Air Force completed the first 5-year review in FY06.

Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites have been identified at Grissom AFB. Records of Decision (RODs) have been signed for Fire Protection Training Areas (FPTAs) 1 and 2 (FTs 001 and 002), the polychlorinated biphenyls (PCBs) site (SS 037), LFs 003 and 004, an abandoned UST site (ST 009), and Building 190 (SS 190). Cleanup at the central heat plant (CHP) (SS 049) was completed and closed under the State Voluntary Remediation Program. Areas of concern (AOCs) have also been addressed and resolved. The Air Force has transferred all Grissom AFB property. In FY04, the Air Force conducted an inventory of MMRP sites. The cleanup progress at Grissom AFB for FY04 through FY07 is detailed below.

In FY04, the investigation of the CHP and a supplemental investigation of the closed-in-place USTs at Building 747 were completed. The Air Force completed a supplemental remedial action (RA) at Building 407 (AOC 4) and the first round of post supplemental RA groundwater samples were non-detect for the contaminant of concern. An investigation at Building 190 (SS 190) resulted in the discovery of previously undocumented groundwater contamination south of the building. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified on the BRAC portion of the installation.

In FY05, the Air Force completed the demonstration that natural attenuation had remediated the petroleum groundwater contamination at the flightline gas station and at Building 14. The corrective action plan for Buildings 14, 407, and 424 was satisfied. The Air Force completed RA fieldwork for Building 747 and the groundwater remedial investigation for Building 190 (SS 190). The FPTAs groundwater monitoring plan was optimized to reduce long-term groundwater monitoring costs to the Air Force. The Air Force transferred 94 acres to the Grissom Redevelopment Authority and began evaluating requirements at identified MMRP sites.

In FY06, the Air Force closed former leaking UST sites with no further action and decommissioned monitoring wells at Buildings 14, 407, 424, and 747. The Air Force completed the feasibility study for Building 190 (SS 190) and submitted a draft ROD to regulators. The first 5-year review and the CHP RA work plan were completed. The RAB met semiannually. The installation continued to evaluate requirements at MMRP sites.

In FY07, the installation completed the ROD for Building 190 (SS 190) and continued groundwater monitoring. The Air Force also developed the SEBS, finding of suitability to transfer, and deed for Parcels C1, D1, and the CHP parcel. The installation transfered Parcels C1, D1 and the CHP parcel, which completed whole base transfer.

FY08 IRP Progress

Grissom AFB prepared documentation for participation in the regional performance-based contract (PBC). The Air Force included management of land use controls/institutional controls in long-term management contracts. The Air Force submitted the CHP remediation completion report, and the State of Indiana issued the certificate of completion. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues changed the requirement to develop a groundwater monitoring plan for Building 190 (SS 190). Per an agreement with the State, the Air Force will sample groundwater at Building 190 (SS 190) and the FPTAs (FTs 001 and 002) once during the year prior to the performance of the 5-year reviews.

The RAB was briefed for a final time on the environmental remediation program.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Grissom Air Force Base are grouped below according to program category.

IRP

- Complete one round of groundwater sampling at FPTAs (FTs 001 and 002) and Building 190 (SS 190) in FY09.
- Award Northeast PBC in FY09.

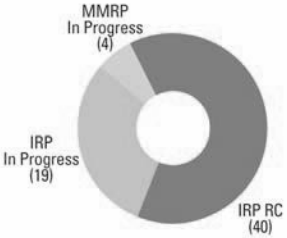
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Guam Apra Harbor Complex

BRAC 1995

FFID:	GU917002753200, GU917002758300, GU917002758500, and GU917002757600	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Apra Harbor, Guam (15,306 acres)	**Funding to Date:**	$ 153.4 million
Mission:	Operated facilities; provided services and materials; issued weapons and ordnance in support of operating forces of the Navy; provided services for Guam Naval Activities	**Est. CTC (Comp Year):**	$ 56.7 million (FY 2028)
HRS Score:	N/A	**IRP Sites (Final RIP/RC):**	59 (FY2014)
IAG Status:	IAG signed in FY93	**MMRP Sites (Final RIP/RC):**	4 (FY2018)
Contaminants:	PCBs, POLs, pesticides, heavy metals, VOCs, SVOCs	**Five-Year Review Status:**	Planned
		IRP/MMRP Status Table:	Refer to pages M-6-62 and M-7-16



Progress To Date

Guam Apra Harbor Complex consists of Navy commands in the Apra Harbor area and the former Naval Magazine area southeast of the harbor. The BRAC Commission recommended four of the commands (Guam Naval Activities [NAVACTS], Naval Fleet and Industrial Supply Center, Naval Ship Repair Facility [NSRF], and Public Works Center) for realignment or closure in 1995. NSRF ceased operations in September 1997. Operations that contributed to contamination included support of naval operating forces and shore activities, photographic and printing shops, a dry cleaning plant, power plants and boilers, pest control operations, and chemical and medical laboratories. Wastes were stored and disposed of in landfills and wastewater treatment plants. The complex completed a joint community relations plan in FY92. The installation signed an interagency agreement (IAG) in FY93. An information repository was established in FY94. The complex converted its technical review committee to a Restoration Advisory Board in FY95.

To date, the installation has achieved response complete (RC) at 44 sites. The Navy transferred 2,725 acres to the Government of Guam in FY00 and decided to retain NSRF. In FY03, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. To date, the installation has signed No Further Action (NFA) Decision Documents (DDs) for five sites. The cleanup progress at Guam Apra Harbor Complex for FY04 through FY07 is detailed below.

In FY04, the installation completed a NFA DD for NAVACTS Area of Concern (AOC) 2, and held a proposed plan (PP) public meeting for AOCs 1 and 3. The installation also negotiated restricted land use for Site 28 with regulators.

In FY05, Guam Apra Harbor Complex completed NFA DDs for NAVACTS Site 28. A public meeting and two BRAC cleanup team (BCT) meetings were held. The BCT reviewed the PP, and EPA and Guam EPA (GEPA) attended the Navy public meeting to provide cooperative regulator support. The Navy worked closely with EPA and GEPA to resolve land use control (LUC) and institutional control language for the DD.

In FY06, Guam Apra Harbor Complex continued to resolve LUC language issues concerning transferred parcels.

In FY07, Guam Apra Harbor Complex reached resolution on LUC language issues concerning transferred parcels.

FY08 IRP Progress

Guam Apra Harbor Complex implemented a resolution on LUC language issues in the DD and LUC work plan (LUCWP) for NAVACTS Site 28 (Old WESTPAC Area). The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the completion of the DD and LUCWP for NAVACTS Site 28.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Guam Apra Harbor Complex are grouped below according to program category.

IRP

- Finalize DD and LUCWP for NAVACTS Site 28 (Old WESTPAC Area) in FY09.

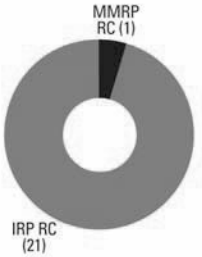
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Hamilton Army Airfield

BRAC 1988

FFID:	CA921402303800	**Funding to Date:**	$ 37.0 million
Location (Size):	Novato, California (669 acres)	**Est. CTC (Comp Year):**	$ 0.5 million (FY 2006)
Mission:	Conducted Reserve training	**IRP Sites (Final RIP/RC):**	21 (FY2006)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	1 (FY2003)
IAG Status:	N/A	**Five-Year Review Status:**	Planned
Contaminants:	Metals, VOCs, SVOCs, fuel hydrocarbons, PCBs, PAHs, POLs, pesticides	**IRP/MMRP Status Table:**	Refer to page M-8-7
Media Affected:	Groundwater, Surface Water, Soil		



Progress To Date

In December 1988, the BRAC Commission recommended closure of Hamilton Army Airfield, as well as relocation of the airfield's mission. The installation has eight areas of concern: a former petroleum/oil/lubricant (POL) hill area, a hospital complex, five out parcels (A2, A3, A4, A5, and A6), and the main airfield parcel. Investigations at the main airfield parcel addressed tidal wetlands, a perimeter drainage ditch, underground storage tanks, burn pits, aboveground storage tanks, on-shore and off-shore fuel lines, a former sewage treatment plant, a pump station, an aircraft maintenance and storage facility, the east levee construction debris disposal site, a POL area, and a revetment area. The main contaminants of concern are metals, polyaromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs). In FY94, the installation formed a BRAC cleanup team and a Restoration Advisory Board.

In FY96, the Army transferred Out Parcels A2, A3, A5, and A6 to the City of Novato. In FY03, the Army completed an inventory of Military Munitions Response Program (MMRP) sites. In FY03, the Army transferred the hospital parcel to the City of Novato, Out Parcel A4 to a developer, and the Main Airfield Parcel to the State of California. In FY04, the Army transferred POL Hill and the levee parcels to the City of Novato, thereby completing all property transfers for this installation. The Army completed two Records of Decision in FY03. The cleanup progress at Hamilton Army Airfield for FY04 through FY07 is detailed below.

In FY04, the installation completed the finding of suitability to transfer for the levee parcel. The Army transferred the POL Hill and levee parcels.

In FY05, Hamilton Army Airfield completed the remedial design (RD) and remedial action (RA) for the coastal salt marsh sites. The installation completed the remaining RD and RAs for inboard sites, except the target range. The Army conducted sampling that indicated that the skeet range was complete and did not require an RA.

In FY06, Hamilton Army Airfield completed the last RD and RA for the removal of soils from the target range. The installation removed monitoring wells from POL Hill. All actions have been completed with the exception of long-term management. The Army performed yearly biological monitoring in the coastal salt marsh. The installation also completed close-out documentation for sites POL Hill, East Fort Baker, and the revetments.

In FY07, Hamilton Army Airfield completed biological monitoring and a report on the revegetation of the endangered species habitat at the coastal salt marsh sites.

FY08 IRP Progress

Hamilton Army Airfield closed the BRAC office, and the Army shipped all BRAC documentation to the Army Environmental Command. Hamilton Army Airfield completed the last expected vegetation survey and the final monitoring effort for the coastal salt marsh. This is the last narrative for this installation; all sites have achieved response complete (RC). The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Scheduling issues delayed the completion of the closeout reports for the DDT sites and testing ranges.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Hamilton Army Airfield are grouped below according to program category.

IRP

- Complete 5-year review in FY09.
- Complete closeout documentation for all sites in FY09-FY10.

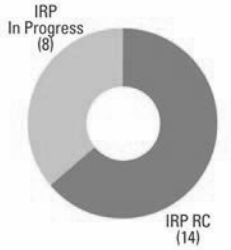
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Hanscom Air Force Base

NPL/BRAC 2005 Realignment

FFID:	MA157172442400	**Est. CTC (Comp Year):**	$ 10.8 million (FY 2020)
Location (Size):	Bedford, Massachusetts (826 acres)	**IRP Sites (Final RIP/RC):**	22 (FY2020)
Mission:	Support Headuarters Electronic Systems Center	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	50.00; placed on NPL in May 1994	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA under negotiation	**IRP/MMRP Status Table:**	Refer to page M-6-93
Contaminants:	VOCs, chlorinated solvents, gasoline, jet fuel, metals, PCBs		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 38.2 million		



Progress To Date

Hanscom Air Force Base (AFB) supports the Air Force Electronic Systems Center. In 2005, the BRAC Commission recommended Hanscom AFB for realignment. EPA placed Hanscom Field/Hanscom AFB on the NPL in May 1994. The NPL site designation includes Hanscom AFB and former portions of the installation leased from the Commonwealth of Massachusetts between 1942 and 1974. The leased property included the flightline and airfield areas of the installation that are now L.G. Hanscom Field, a civilian airport. Operations at Hanscom AFB have involved generation, use, and disposal of numerous hazardous substances. Possible sources of contamination investigated include a former industrial wastewater treatment system, a former filter bed/landfill (LF) area, a jet fuel residue and tank sludge area, two LFs, three former fire training areas, a paint waste disposal area, a mercury spill area, former aviation fuel handling and storage facilities, underground storage tanks, and fuel spill areas. In FY95, the installation converted its technical review committee to a Restoration Advisory Board. The first CERCLA 5-year review was completed for Operable Unit (OU) 2 remedy in FY97. The second CERCLA 5-year review was completed for the Hanscom Field/Hanscom AFB site in FY02. In FY02, a separate 5-year review was also completed for two Massachusetts Contingency Plan (MCP) (non-CERCLA/petroleum) sites. In FY07, the third CERCLA 5-year review for the Hanscom Field/Hanscom AFB NPL site was completed. A 5-year review was also completed in FY07 for the two MCP sites.

To date, 14 sites have been closed with remedy in place (RIP) at the 8 remaining sites. Records of Decision (RODs) have been signed for OUs 1 and 3 (Installation Restoration Program [IRP] Sites 6 and 21). The cleanup progress at Hanscom AFB for FY04 through FY07 is detailed below.

In FY04, the installation continued remedial action operations (RA-O) at OUs 1, 2, and 3 (IRP Sites 6 and 21), the Army and Air Force Exchange Service (AAFES) service station, and base motor pool sites.

In FY05, the installation continued RA-O at OUs 1, 2, and 3 (IRP Sites 6 and 21), the AAFES service station, and base motor pool sites. The Air Force updated its Military Munitions Response program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, Hanscom AFB continued RA-O at OUs 1, 2, and 3 (IRP Sites 6 and 21), the AAFES service station, and base motor pool sites.

In FY07, the installation continued RA-O at OUs 1, 2, and 3 (IRP Sites 6 and 21), AAFES service station, and base motor pool sites. An interim ROD for OU 1 was converted to a final ROD. This is the last ROD required for the Hanscom Field/Hanscom AFB NPL site. The third 5-year review for the Hanscom Field/Hanscom AFB NPL site was completed. This review concluded that all remedies were protective of human health and the environment. Hanscom AFB also completed a 5-year review for the two MCP sites, which recommended continued monitoring. The Air Force initiated an MMRP comprehensive site evaluation (CSE) Phase I.

FY08 IRP Progress

Hanscom AFB continued RA-O at OUs 1, 2, and 3 (IRP Sites 6 and 21), AAFES service station, and base motor pool sites. The installation continued to evaluate the arsenic plume. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Hanscom AFB held one RAB meeting. Regulators and the community were satisfied with cleanup progress.

FY08 MMRP Progress

Administrative issues delayed the completion of the CSE Phase I.

Plan of Action

Plan of action items for Hanscom Air Force Base are grouped below according to program category.

IRP

- Continue RA-O at OUs 1, 2, and 3 (IRP Sites 6 and 21), AAFES service station, and base motor pool sites in FY09-FY10.
- Continue accelerated cleanup at Site 13 in FY09-FY10.
- Continue to coordinate with regulators on land use controls for OU 1 in FY09-FY10.
- Continue LF cap maintenance at OU 2 in FY09-FY10.

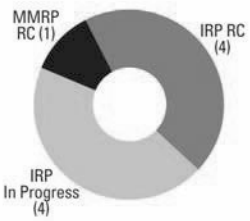
MMRP

- Complete CSE Phase I in FY09.

Hastings Groundwater Contamination Site

NPL

FFID:	NE79799F041100	**Funding to Date:**	$ 91.6 million
Location (Size):	Hastings, Nebraska (48,753 acres)	**Est. CTC (Comp Year):**	$ 48.9 million (FY 2013)
Mission:	Produce, load, and store ammunition	**IRP Sites (Final RIP/RC):**	8 (FY2013)
HRS Score:	42.24; placed on NPL in June 1986	**MMRP Sites (Final RIP/RC):**	1 (FY2002)
IAG Status:	IAG signed in 1998	**Five-Year Review Status:**	Planned
Contaminants:	UXO, VOCs, PAHs, heavy metals, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-104
Media Affected:	Groundwater and Soil		



Progress To Date

Operations at the Blaine Naval Ammunition Depot (NAD) subsite contributed to groundwater and soil contamination at the Hastings Groundwater Contamination Site. The U.S. Army Corps of Engineers (USACE) designated five operable units (OUs) at the property: three OUs for the 2,900-acre Hastings East Industrial Park area, which includes soil (OU 4), the vadose zone (OU 8), and groundwater (OU 14); an OU for the naval yard dump, the explosives disposal area, and the bomb and mine complex (OU 16); and an OU for a 44,500-acre area of the former NAD not included in the other OUs (OU 15). EPA placed the property on the NPL in June 1986, and the Army and EPA signed an interagency agreement (IAG) in FY98. USACE formed a Restoration Advisory Board (RAB) at this property in FY99. USACE completed a 5-year review in FY02.

To date, EPA has signed two Records of Decision (RODs), one for removal of explosives and metal-contaminated surface soil, and a second for removal of carcinogenic polyaromatic hydrocarbons (cPAH)-contaminated surface soil. The Army approved a Military Munitions Response Program (MMRP) project in FY96. The cleanup progress for the Hastings Groundwater Contamination Site for FY04 through FY07 is detailed below.

In FY04, USACE completed the explanation of significant differences, which modified the cPAH ROD to include remediation of the non-residential properties. They completed the remedial design for the cPAH-contaminated soils at the non-residential properties and initiated the remedial action (RA). USACE completed the groundwater feasibility study (FS) and continued groundwater modeling optimization. USACE supported the Department of Justice (DOJ) with litigation against a potentially responsible party (PRP). Operation of the soil vapor extraction system at Area 10 (OU 15) continued. USACE completed the munitions and explosives of concern (MEC) recurring review report and site visit.

In FY05, USACE completed remediation of cPAH-contaminated soils at the non-residential properties. Additionally, USACE completed the installation of wells for aquifer pumping tests. Test data will be used to enhance modeling efforts and facilitate design of groundwater extraction systems. USACE continued technical and legal support to DOJ in the ongoing litigation and made progress toward settlement with a PRP. The property completed the MEC recurring review report and submitted it for regulatory review.

In FY06, USACE conducted additional groundwater modeling and continued coordination with the groundwater remediation stakeholders. Details regarding the proposed beneficial reuse of contaminated water from the future groundwater remedy by the Hastings power plant were defined. State regulators provided discharge limits for the remedy surface water disposal. USACE initiated development of the groundwater FS addendum and proposed plan (PP). USACE also conducted pre-design efforts for the groundwater RA, including completion of aquifer testing and preliminary pipeline design. USACE supported DOJ in settlement efforts. Regulators approved the MEC recurring review report.

In FY07, USACE completed the removal action to address the lead contamination identified at OU 16 and submitted the final FS to regulators. USACE continued to evaluate groundwater remediation options and support pre-design assessments. USACE initiated the second 5-year review for the site and submitted the draft report for regulatory review. USACE completed preliminary RA design efforts. USACE evaluated recommendations included in the MEC recurring review report.

FY08 IRP Progress

USACE finalized the FS report addendum for sitewide groundwater. USACE completed the PP identifying the preferred alternative to remediate groundwater, and made the document available for public review. USACE conducted a public meeting for the PP. Additionally, USACE submitted the final OU 15 baseline risk assessment, draft ROD, and OU 16 focused FS (FFS) for regulatory review. The PRP settlement was approved. USACE awarded the design/construction contract for groundwater remediation. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Regulatory issues delayed the final approval of the ROD and OU 16 FFS.

The RAB held quarterly meetings.

FY08 MMRP Progress

The recommendations from the recurring review report were determined to be protective; no actions were recommended.

Plan of Action

Plan of action items for Hastings Groundwater Contamination Site are grouped below according to program category.

IRP

- Obtain final payment of DOJ negotiated PRP settlement in FY09.
- Acquire approval of the groundwater remediation ROD in FY09.
- Complete the OU 16 FFS in FY09.
- Submit OU 15 PP for regulatory review in FY09.
- Begin the design/construction contract for the groundwater remediation in FY09-FY10.
- Complete 5-year review in FY09-FY10.

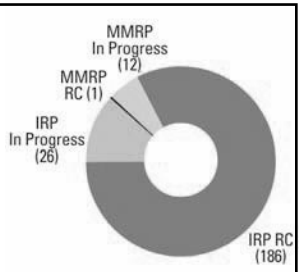
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Hill Air Force Base

NPL/BRAC 2005 Realignment

FFID:	UT857172435000	**Funding to Date:**	$ 296.0 million
Location (Size):	Ogden, Utah (6,698 acres)	**Est. CTC (Comp Year):**	$ 363.9 million (FY 2027)
Mission:	Provide logistics support for weapons systems	**IRP Sites (Final RIP/RC):**	212 (FY2012)
HRS Score:	49.94; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	13 (FY2016)
IAG Status:	FFA signed in April 1991; IAG signed in September 2006	**Five-Year Review Status:**	Completed and planned
Contaminants:	Solvents (TCE, PCE, TCA, 1,2 DCA, DCE), metals, petroleum products, PCBs, VOCs, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-6-162
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The mission of Hill Air Force Base (AFB) is to provide logistics support for weapons systems, host two fighter wings, and operate the Utah Test and Training Range (UTTR). EPA placed the installation on the NPL in July 1987. The Air Force signed a federal facility agreement (FFA) in April 1991 for Hill AFB. The Air Force also signed an IAG in September 2006 covering the Utah Test and Training Range (UTTR) (about 150 miles west of Hill AFB) and the Little Mountain Test Annex (15 miles northwest of the base). In 2005, the BRAC Commission recommended Hill AFB for realignment. Site types at Hill AFB include disposal pits, landfills, surface impoundments, underground storage tanks, fire training areas, firing ranges, discharge and wastewater ponds, a contaminated building, a munitions dump, and spill sites. Contaminants include solvents (primarily trichloroethylene [TCE]), fuels, acids, bases, and plating solutions. The installation formed a Restoration Advisory Board (RAB) in FY95. The installation completed 5-year reviews in FY98, FY03, and FY08.

To date, the installation has signed Records of Decision (RODs) for nine operable units (OUs). The cleanup progress at Hill AFB for FY04 through FY07 is detailed below.

In FY04, Hill AFB completed a remedial investigation (RI) and a feasibility study at the two sites composing OU 5 and an engineering evaluation/cost analysis and removal action at two sites in OU 9. The installation also completed response actions at 32 areas of concern (AOCs) and closed 7 AOCs. The Air Force continued to make significant progress towards an innovative cleanup agreement for the UTTR. The installation also developed geospatial-based land use controls, a lease tracking database, and geographic information system tools to facilitate data analysis. The installation continued partnering with regulatory agencies and the RAB. Hill AFB hosted quarterly RAB meetings, two RAB work group meetings, and five RAB training tours and site visits. The installation conducted five public information sessions and eight presentations to city councils from communities around the base.

In FY05, Hill AFB achieved remedy in place (RIP) at four sites and response complete (RC) at three sites, completed the study phase for four sites, closed one site, and reduced the risk at OU 9. Other notable activities included signing a ROD for OU 8, installing a groundwater extraction well system to prevent further spread of the plume at OU 8, implementing a bio-polishing technology test at OU 2, and constructing an in situ treatment system at OU 12. The Air Force began the preliminary assessments (PAs) for all Military Munitions Response Program (MMRP) sites. The RAB held four quarterly meetings, three working group meetings, and five training sessions. The installation held four public meetings and made 11 presentations to city councils and planning boards representing cities adjacent to the base.

In FY06, Hill AFB achieved RIP at two sites and RC at 27 AOCs at the UTTR. The Air Force signed the ROD for OU 5. The installation implemented a performance-monitoring program to evaluate and manage remedial system operations to ensure their effectiveness in meeting remedial cleanup objectives. The Air Force completed the proposed plan (PP) for OU 9 and continued progress on the PP for OU 12. Hill AFB successfully recycled 400 tons of iron bomb dummy unit practice bombs into material suitable for use in a permeable reactive barrier to treat TCE-contaminated groundwater at the installation. Hill AFB initiated site inspection (SI) activities at its MMRP sites. The RAB held four quarterly meetings, two working group meetings, and six training sessions. The installation participated in six city council meetings, held five public meetings, and held meetings with five local city mayors to discuss cleanup activities affecting surrounding communities.

In FY07, Hill AFB achieved RIP at one site and RC at two AOCs at the UTTR. The installation discovered polychlorinated biphenyl (PCB) contamination in soils in an on-site military housing area and initiated a removal action. The Air Force submitted RODs for OUs 9 and 12 to the regulatory agencies for review. The Air Force initiated the third 5-year review. The installation completed PA work for all previously identified MMRP sites and eight sites (formerly FUDS) that were added to the inventory.

FY08 IRP Progress

The Air Force finalized and signed the ROD for OU 12. Hill AFB completed the third 5-year review; no significant deficiencies were identified. The installation also completed removal of PCB-contaminated soils at a base housing area and received regulatory concurrence. The installation began remedial action construction (RA-C) at OU 1 and continued RIs at four OUs. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed the completion of the RA-C at OU 12.

Hill AFB RAB held four quarterly meetings, three working group meetings, and four training sessions. The installation participated in five city council meetings and held three public information meetings.

FY08 MMRP Progress

Hill AFB initiated SI fieldwork at all MMRP sites.

Plan of Action

Plan of action items for Hill Air Force Base are grouped below according to program category.

IRP

- Complete RA-C at OUs 1 and 12 in FY09.
- Submit RODs for OUs 9, 10, 11, A, and NR1 for regulatory review in FY10.
- Complete RA at OU 2 in FY10.

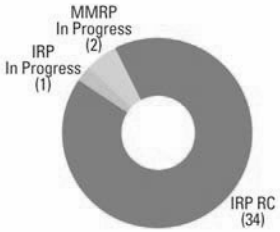
MMRP

- Complete SI fieldwork for all MMRP sites in FY09.
- Complete surface clearance in FY09.
- Initiate RI fieldwork at sites requiring further characterization in FY10.

Homestead Air Force Base
Homestead Air Reserve Base

NPL/BRAC 1993/BRAC 2005 Realignment

FFID:	FL457212403700	**Funding to Date:**	$ 32.3 million
Location (Size):	Homestead, Florida (2,938 acres)	**Est. CTC (Comp Year):**	$ 28.3 million (FY 2038)
Mission:	Houses the 482rd Reserve Fighter Wing and is host to several other government agencies	**IRP Sites (Final RIP/RC):**	35 (FY2006)
		MMRP Sites (Final RIP/RC):	2 (FY2016)
HRS Score:	42.24; placed on NPL in August 1990	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in February 1991	**IRP/MMRP Status Table:**	Refer to page M-6-53
Contaminants:	Pesticides, solvents, VOCs, PCBs, heavy metals, jet fuel, PAHs, cyanide		
Media Affected:	Groundwater, Sediment, Soil		



Progress To Date

Homestead Air Force Base (AFB) was established as an Army Air Force airfield in 1942 and became an Air Force installation in 1955. In July 1993, the BRAC Commission recommended realignment of the installation. Following realignment in March 1994, 1,952 acres, including the airfield, were retained by the Air Force as Homestead Air Reserve Base (ARB), and 10 acres were retained by the Army. The remaining 976 acres have been transferred primarily to the local redevelopment authority and other Federal agencies. The 2005 BRAC Commission recommended the installation for further realignment. EPA placed the installation on the NPL in August 1990, and the Air Force signed a federal facility agreement (FFA) in February 1991. Sites identified at the installation include the JP-4 jet fuel leak area, a landfill, fire protection training areas, various spill sites, underground storage tanks (USTs), aboveground storage tanks, and oil-water separators. Interim actions have included removal of USTs and contaminated soil, groundwater extraction and treatment, and removal of oil-water separators. The Homestead AFB environmental restoration program is funded under the Environmental Restoration Account for sites on the ARB property and under the BRAC Account for sites on the BRAC property. The installation formed a Restoration Advisory Board (RAB) in FY94, which was chartered in FY96. The installation also formed a BRAC cleanup team (BCT). The Air Force Real Property Agency (AFRPA) completed a 5-year review for sites on the BRAC property in FY03, and the Air Force Reserve Command (AFRC) completed a 5-year review for sites on the ARB property in FY05.

In FY94, a basewide Environmental Baseline Survey identified potentially contaminated sites. By FY95, 400 sites had been closed, and the remaining sites were consolidated into 5 major fuel areas and 30 operable units (OUs). Records of Decision (RODs) have been signed for OUs 1 through 7, 11, 12, 15, 18, 20, 21, and 25 through 31. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Homestead AFB for FY04 through FY07 is detailed below.

In FY04, the installation completed the canal remediation at OU 11. The sampling schedule for the long-term management (LTM) sites was negotiated, and OU 22 was moved from the CERCLA program to the State's petroleum program. LTM of two BRAC sites (OU 11 [aquatic portion] and OU 18) was transferred to AFRC. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified on the AFRC property, but no sites were identified on the BRAC property.

In FY05, the AFRC completed a 5-year review of sites on the ARB property and obtained formal regulatory concurrence. AFRPA obtained EPA approval of an operating properly and successfully demonstration for OU 26. The Air Force updated the solid waste management unit inventory to reflect current ownership for renewal of the RCRA Hazardous and Solid Waste Amendments (HSWA) permit. The BCT and RAB continued to meet semiannually.

In FY06, the RCRA HSWA permit renewal with the State was finalized. Final RODs were completed and signed for four AFRC Installation Restoration Program (IRP) sites (OUs 12, 15, 25, and 27) and four BRAC IRP sites (OUs 20, 21, 30, and 31). The ROD for the terrestrial portion of OU 11 was also signed, which designated responsibilities outlined therein to the AFRC. AFRPA transferred the remaining 24 acres to Miami-Dade County. The AFRC completed an MMRP pilot comprehensive site evaluation (CSE) of a former practice grenade range (GR 047). The BCT and RAB continued to meet semiannually.

In FY07, the installation continued remedial action operations (RA-O) and LTM at AFRC and BRAC sites as required by individual RODs, including groundwater monitoring and land use control/institutional control inspections. AFRPA transferred LTM of the terrestrial portion of OU 11 to AFRC. The AFRC completed fieldwork for a follow-up expanded site inspection (SI) to the initial CSE work on the former grenade range. A limited site assessment (SA) and lead-contaminated soil removal was also completed at the former small arms firing range.

FY08 IRP Progress

Homestead AFB continued RA-O and LTM at AFRC and BRAC sites. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

Regulatory issues delayed the finalization of the expanded SI report for the former grenade range.

Plan of Action

Plan of action items for Homestead Air Force Base are grouped below according to program category.

IRP

- Continue RA-O and LTM at AFRC and BRAC sites in FY09-FY10.

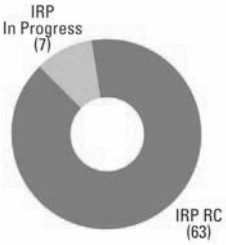
MMRP

- Finalize the expanded SI report for the former grenade range in FY09.
- Perform follow-up SA work at the former practice grenade, and former small arms firing ranges in FY09.

Hunter's Point Annex-Treasure Island Naval Station

NPL/BRAC 1991

FFID:	CA917002278400	**Funding to Date:**	$ 518.2 million
Location (Size):	San Francisco, California (934 acres)	**Est. CTC (Comp Year):**	$ 615.4 million (FY 2015)
Mission:	Repaired and maintained ships	**IRP Sites (Final RIP/RC):**	70 (FY2015)
HRS Score:	48.77; placed on NPL in November 1989	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in September 1990 and revised in January 1992	**Five-Year Review Status:**	Completed, underway, and planned
Contaminants:	Heavy metals, PCBs, petroleum hydrocarbons, VOCs, SVOCs, radioactive materials, explosives and propellants	**IRP/MMRP Status Table:**	Refer to page M-6-28
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In July 1991, the BRAC Commission recommended closure of Hunter's Point Annex-Treasure Island Naval Station (NS). The station ceased operations in April 1994, and is now in caretaker status under the responsibility of Naval Facilities Engineering Command, Southwest. Parts of the installation have been leased to private parties. Site types include landfills and land disposal areas, containing primarily heavy metals and volatile organic compounds (VOCs), and radioactive materials, primarily cesium and radium. EPA placed the installation on the NPL in November 1989 and signed a federal facility agreement (FFA) with the Navy in September 1990, which was revised in January 1992. A BRAC cleanup team (BCT) was formed in FY94. The installation's technical review committee was converted to a Restoration Advisory Board. The installation's FY89 community relations plan was revised in FY97 and in FY04. The BCT updates the site management plan every quarter.

The installation completed a No Further Action (NFA) Record of Decision (ROD) at Parcel A and conveyed the parcel to the San Francisco Redevelopment Agency (SFRA). The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at Hunter's Point Annex-Treasure Island NS for FY04 through FY07 is detailed below.

In FY04, the installation finalized the finding of suitability to transfer Parcel A. The BCT reached consensus to amend the existing ROD with a Technology Memo in Support of a ROD Amendment (TMSRA) at Parcel B. The installation achieved VOC contaminant reduction through zero-valent iron (ZVI) in situ treatments under a treatability study (TS) in Parcel C. The Navy completed a removal action in Parcel D, through which contaminated soil was removed and soil stockpiles were sampled and removed. Parcel E was divided, with Parcel E2 created as a new operable unit comprising the industrial landfill and adjacent areas. The installation began work on a remedial investigation (RI) and feasibility study (FS) for Parcel E2. Two data gaps investigations were performed and summarized in a validation study report for the remainder of Parcel E. The Navy identified a major source of polychlorinated biphenyls (PCBs) contamination. In addition, the basewide historical radiological assessment (HRA) was finalized, identifying 91 radium-impacted areas.

In FY05, the installation conveyed Parcel A to the SFRA. The installation finalized the risk assessment methodologies with the regulatory agencies and the SFRA, which enabled the TMSRA and FS to proceed. The Navy treated additional sites on Parcels B and C with ZVI or bioremediation. The installation began removal actions along the bay shoreline in Parcels E and E2 to remove radioactive contaminants and PCBs. In addition, the installation completed TMSRA on Parcel B and issued a new proposed plan (PP) to support a ROD amendment. The installation completed FSs on Parcels C, D, and F, and an RI/FS on Parcel E2. The FSs for Parcels C and D were prepared in accordance with requirements in the conveyance agreement. The installation finalized the validation study for Parcel F and initiated the FS. The installation completed three removal actions on Parcel E. The Navy also conducted radiological surveys identified in the HRA.

In FY06, Hunter's Point Annex-Treasure Island NS completed four removal actions on Parcels E and E2. The Navy continued radiological surveys identified in the HRA. The installation completed methane and VOC migration investigations to support the transfer of Parcel B. The installation continued TSs using ZVI and bioremediation. The Navy completed removal actions at the Metal Reef, Metal Slag, and PCB sites. Approximately 15 percent of the radiological waste disposed at Site IR 02 was removed, and the installation determined that additional engineering controls are necessary. The Navy revised the basewide radiological action memo and began removal actions at Parcel B.

In FY07, Hunter's Point Annex-Treasure Island NS completed a time-critical removal action (TCRA) on Parcel B to investigate and remove radioisotopes in the sanitary sewer and storm drain system (Site IR 50). The installation completed the removal action at Site IR 02 (Parcel E). The Navy issued FS radiological addenda on Parcels B and D; and FSs on Parcels C, D, E2, and F. The installation issued a draft RI on Parcel E. The Navy resolved outstanding issues with regulators and issued a draft final TMSRA on Parcel B, and determined that the unsound wooden piers would not be removed.

FY08 IRP Progress

Hunter's Point Annex-Treasure Island NS finalized a TMSRA on Parcel B, and issued a new PP to support a ROD amendment. The installation finalized the FS and associated radiological addenda on Parcels C and D. The Navy obtained radiological free-release clearances on Buildings 813 and 819. The installation completed the TCRA at Site 26 and the closeout at Metal Reef, Metal Slag, and PCB sites. The Navy also completed radiological surveys on high priority structures in Parcels B and D.

Regulatory issues delayed the completion of the FS and associated radiological addenda on Parcels E2 and F.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Hunter's Point Annex-Treasure Island Naval Station are grouped below according to program category.

IRP

- Complete Parcel D groundwater ZVI TS for Sites 9, 33, and 71, and Parcel E for Site 36 in FY09.
- Finalize the FS and associated radiological addendum for Parcels E2 and F in FY09-FY10.
- Complete NFA ROD for Parcel D, and radiological data gaps investigation for Parcel F in FY09-FY10.
- Issue PP and draft ROD for Parcel C, and TCRAs for Sites UC 1 and UC 2 in FY09-FY10.
- Complete RD for Parcel B Sites 7 and 18, and complete the radiological TCRAs and RD for Parcels B and G in FY09-FY10.

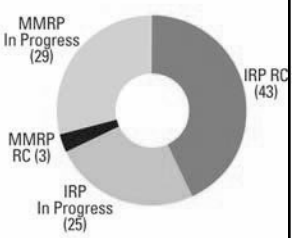
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Indian Head Naval Surface Warfare Center

NPL/BRAC 2005 Realignment

FFID:	MD317002410900	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Indian Head, Maryland (3,423 acres)	**Funding to Date:**	$ 50.8 million
Mission:	Provide services in energetics through engineering, operational support, manufacturing technology; conduct research, development, and testing of energetic and ordnance device	**Est. CTC (Comp Year):**	$ 55.3 million (FY 2019)
		IRP Sites (Final RIP/RC):	68 (FY2014)
HRS Score:	50.00; placed on NPL in February 1995	**MMRP Sites (Final RIP/RC):**	32 (FY2016)
IAG Status:	FFA signed in December 2000.	**Five-Year Review Status:**	Completed and planned
Contaminants:	Propellants, explosives, acids, paints, solvents, heavy metals, radioactive material, TCE, wastewater, VOCs, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-6-90



Progress To Date

Naval Support Facility, Indian Head (NSF-IH) provides services in energetics for all warfare centers, including engineering, fleet and operational support, manufacturing technology, limited production, and industrial base support. It produces and handles complex chemicals to accomplish this mission. Lead, silver, and mercury are the primary contaminants of concern. A technical review committee was formed in FY93 and converted to a Restoration Advisory Board in FY95. The installation was placed on the NPL in February 1995. A federal facility agreement (FFA) was completed in FY01. In 2005, the BRAC Commission recommended NSF-IH for realignment. The installation prepared a community relations plan and established an information repository. The site management plan has been developed and updated. In FY98, the administrative record was converted to an electronic format, which is updated periodically. The IH Installation Restoration partnering team meets approximately 10 times a year to facilitate agreements between the Navy and regulators. NSF-IH completed a 5-year review for Sites 12 and 42 in FY07.

Records of Decision (RODs) have been completed for eight sites and No Further Action (NFA) RODs, or equivalent decision documents (DDs) for 28 sites. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at NSF-IH for FY04 through FY07 is detailed below.

In FY04, the installation completed remedial investigations (RIs) for Sites 6, 11, 13, 17, 21, 25, 28, 39, 45, and 47. NSF-IH began long-term monitoring at Site 12, and completed an RI of the Lab Area, which includes Sites 15, 16, 49, 50, 53, 54, and 55. It also completed the Mattawoman Creek ecological risk assessment, a feasibility study (FS), and remedial design for Site 42. The Navy completed RODs for Sites 12, 13, and 25, and signed NFA DDs for Sites 5, 40, and Solid Waste Management Unit (SWMU) 74. The installation improved techniques by using desktop evaluations for several sites to reach decisions for NFA. The installation completed the draft final preliminary assessment (PA) reports for the IH main facility and Stump Neck Annex MMRP sites.

In FY05, NSF-IH completed baseline ecological risk assessments (BERAs) for Sites 11, 17, and 47, and initiated removal actions at Sites 17 and 42. The installation also initiated site screening process (SSP) investigations for Sites 2, 3, 4, 7, 8, 9, 18, 19, 20, 23, 24, 26, 27, 33, 36, 38, 43, 46, 48, and SWMUs 14 and 30. The installation completed site-screening investigation fieldwork for Sites 2, 4, 7, 18, 23, 36, 38, and 43. The installation signed NFA DDs for Sites 3, 9, 20, 33, 39, 45, 46, 48, 58, 59, and 61, and RODs for Sites 39, 42, and 45. NSF-IH completed PAs, site recommendations, site prioritization, and cost analysis documents for MMRP sites.

In FY06, NSF-IH completed removal or remedial actions (RAs) at Sites 17, 42, and 57. The installation completed engineering evaluations and cost analyses for Sites 6 and 28, and an FS for Site 57. The Navy completed BERAs for Sites 28, 47, and the Lab Area. The installation also initiated a bench-scale study for Site 47. The installation completed SSP reports for Sites 2, 4, 7, 18, and 23, and signed a ROD for Site 42. The Navy also signed NFA DDs for Sites 2, 4, 7, 18, 23, 26, 56, the Wetland Area Adjacent to Site 45, and SWMU 30. The installation restarted removal actions at Unexploded Ordnance (UXO) 32, and completed Phase I (identification, demilitarization, and disposal of scrap munitions items).

In FY07, NSF-IH completed an FS for Site 11 and completed a BERA for Site 6. The installation completed SSP investigations for Sites 1, 8, 19, 26, 27, 36, and SWMUs 14 and 30. The Navy signed NFA DDs for Sites 24 and 26, and completed the Site 57 ROD. NSF-IH also completed a 5-year review for Sites 12 and 42, and a bench-scale test for Site 47.

FY08 IRP Progress

NSF-IH completed SSP reports for Sites 36 and 38. The installation completed FSs for Sites 17 and 47.

Regulatory issues delayed the FSs for Site 17 and 47, and RODs for Sites 11 and 21. Technical issues delayed the removal action at Site 28. Contractual issues delayed field investigations at Sites 8 and 43. Administrative issues delayed removal actions at Site 6.

FY08 MMRP Progress

Regulatory issues delayed fieldwork and sampling for 16 MMRP sites at the Stump Neck Annex. Regulatory issues also delayed the removal action at UXO 32.

Plan of Action

Plan of action items for Indian Head Naval Surface Warfare Center are grouped below according to program category.

IRP

- Complete RAs at Sites 11, 17, 21, and 57 in FY09.
- Complete field investigations for Sites 8 and 43 in FY09.
- Complete FSs for Sites 17 and 47 in FY09.

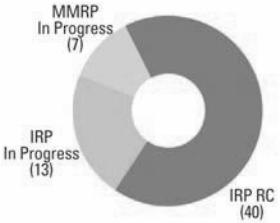
MMRP

- Complete work plan for eight MMRP sites and four water ranges at the main installation in FY09.
- Complete fieldwork and sampling for 16 MMRP sites at Stump Neck Annex in FY09.
- Complete the removal action at UXO 32 in FY09.

Iowa Army Ammunition Plant

NPL

FFID:	IA721382044500	**Funding to Date:**	$ 99.1 million
Location (Size):	Middletown, Iowa (19,011 acres)	**Est. CTC (Comp Year):**	$ 26.3 million (FY 2038)
Mission:	Load, assemble, and pack munitions	**IRP Sites (Final RIP/RC):**	53 (FY2011)
HRS Score:	29.73; placed on NPL in August 1990	**MMRP Sites (Final RIP/RC):**	7 (FY2013)
IAG Status:	IAG signed in September 1990	**Five-Year Review Status:**	Completed and planned
Contaminants:	Explosives, low-level radioactive materials, heavy metals, VOCs, SVOCs, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-79
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In 1941, the Army constructed the Iowa Army Ammunition Plant (AAP) to load, assemble, and pack various conventional ammunition and fuzing systems. During operations, industrial process wastewater and by-products were disposed at the installation. Site types include surface impoundments, production areas, landfills, and a fire-training pit. Soil and groundwater contamination resulted primarily from disposal of explosives and heavy metal-containing wastes directly onto the soil. The installation also identified small amounts of contamination by volatile organic compounds (VOCs). The installation has three operable units (OUs): soil (OU 1), groundwater (OU 3), and overall (OU 4). EPA placed Iowa AAP on the NPL in August 1990, and the installation signed an interagency agreement (IAG) in December 1990. Restoration activities through FY00 included closing one cell in the inert landfill, removing aboveground treatment tanks, removing lead-contaminated soil from a production line, and cleaning up an abandoned coal storage yard. The Army excavated and incinerated pesticide-contaminated soil off site, excavated explosives-contaminated sumps, removed contaminated soil, and capped five landfill cells. The installation funded a project connecting local residences to a public water supply. Contaminated soil was removed from around production buildings at Lines 5A/5B and the West Burn Pads Area. Evaluations related to past Atomic Energy Commission activities have been conducted. The installation formed a Restoration Advisory Board (RAB) in FY97. The Army completed a 5-year review in FY05.

Environmental studies have identified 52 Installation Restoration Program (IRP) sites at the installation. Of those sites, 42 require further action. To date, the installation has completed two interim Records of Decision (RODs) and one final ROD to address soil contamination. In FY02, Congress designated the installation for inclusion into the Formerly Utilized Sites Remedial Action Program (FUSRAP) to address impacts from former Atomic Energy Commission industrial activities. Funds were provided to conduct an aerial radiological survey. Three Atomic Energy Commission sites have been accepted into FUSRAP. In FY04, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Iowa AAP for FY04 through FY07 is detailed below.

In FY04, the Army awarded a performance-based contract to address the entire IRP effort at Iowa AAP. The Army resolved the formal dispute with EPA. The installation removed soil contaminated with VOCs from the former fuel station and received a no further action (NFA) certificate from the State of Iowa. The Army completed the Phase IV soil removal at Line 9. The installation determined that Lines 4A/B, Line 8, and the Roundhouse Polychlorinated Biphenyls Site (PCBs) required NFA during Phase IV soil efforts. The Army released the proposed plan (PP) for off-post groundwater for public review and also submitted the draft ROD to regulators. The Army completed the closed, transferred, and transferring range and sites inventory and identified MMRP sites at this installation. The installation's RAB received training on hydrogeology, radiological contaminants, and ecological risk assessments (ERAs).

In FY05, the installation completed the remedial design (RD) for OU 1 and supplemental remedial investigation (RI) sampling for OU 4. Additionally, the installation conducted the off-site groundwater pilot study and began the on-site groundwater treatability study (TS). The Army completed the first 5-year review. The installation's RAB received training on endangered species, well monitoring, and the CERCLA process. The RAB also reviewed project activities.

In FY06, Iowa AAP continued soil treatment at Site IAAP 020 and completed the on-site groundwater TS. The baseline ERA was also completed. The Army implemented Bush Creek point source controls. The RAB reviewed project activities and provided stakeholder input. Iowa AAP initiated site inspections (SIs) at three MMRP sites.

In FY07, Iowa AAP completed the soil removal at OU 1, the feasibility study and PP for the OU 4 Inert Disposal Area, an explanation of significant differences (ESD) for the deletion of radiological contaminants from the OU 1 soils interim ROD, and a comprehensive watersheds evaluation work plan. Iowa AAP completed an SI and historical records review for seven MMRP sites. All sites proceeded to the RI in accordance with the statement of dispute resolution. The installation submitted the draft MMRP RI work plan.

FY08 IRP Progress

Iowa AAP completed the ESD, merging soil actions from OU 4 with those in OU 1. The installation completed removals for these additional soil actions. The Army completed and signed the interim ROD for closure of the inert disposal area under OU 4. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues.

Regulatory issues delayed the OU 4 RI and the RD for OU 3 off-site groundwater. Technical issues delayed the treatment of OUs 1 and 4 soils.

The installation held four RAB meetings to receive advice and conduct training. Iowa AAP held one on-site tour of restoration sites.

FY08 MMRP Progress

Iowa AAP continued the RI of seven sites; the geophysical investigation continued.

Plan of Action

Plan of action items for Iowa Army Ammunition Plant are grouped below according to program category.

IRP

- Complete OU 1 remedial action report in FY09.
- Complete RD for OU 3 off-site groundwater in FY09.
- Complete treatment of OUs 1 and 4 Soils in FY10.
- Complete OU 4 RI in FY10.

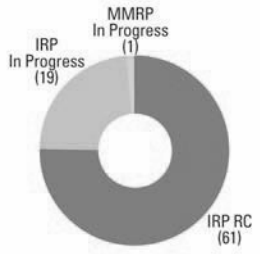
MMRP

- Continue RI of seven sites in FY09.

Jacksonville Naval Air Station

NPL/BRAC 2005 Realignment

FFID:	FL417002441200	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Jacksonville, Florida (3,820 acres)	**Funding to Date:**	$ 94.6 million
Mission:	Maintain and operate facilities; provide services and materials to support aviation activities and aircraft overhaul operations	**Est. CTC (Comp Year):**	$ 17.2 million (FY 2021)
HRS Score:	31.02; placed on NPL in November 1989	**IRP Sites (Final RIP/RC):**	80 (FY2014)
IAG Status:	FFA signed in October 1990	**MMRP Sites (Final RIP/RC):**	1 (FY2016)
Contaminants:	Waste solvents, caustics, cyanide, heavy metals, POLs, low-level radioactive wastes, oils, paints, PCBs, pesticides, phenols, radioisotopes, VOCs, SVOCs, explosives, propellants	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-6-52



Progress To Date

Jacksonville Naval Air Station (NAS) maintains and operates facilities and provides services and materials to support aviation activities and aircraft overhaul operations. EPA placed the installation on the NPL in November 1989, and the installation signed a federal facility agreement (FFA) in October 1990. In 2005, the BRAC Commission recommended Jacksonville NAS for realignment. The installation 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. Typical operations have generated solvents, sludge (from on-site treatment plants), and low-level radioactive waste, which have migrated into nearby soil and local groundwater supplies. The installation's technical review committee, which formed in FY88, was converted to a Restoration Advisory Board in FY95. In FY91, the installation completed its community relations plan and established an administrative record and information repository. The installation completed 5-year reviews in FY01 and FY05.

To date, the installation has completed Records of Decision (RODs) for Operable Units (OUs) 2 and 3, and Point Sources of Contamination (PSCs) 11, 16, 21, 46, 51, and 52. The installation also completed a no further action (NFA) designation for Underground Storage Tanks (USTs) 13 and 17. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Jacksonville NAS for FY04 through FY07 is detailed below.

In FY04, the installation completed a remedial investigation and feasibility study for PSCs 11 and 52 (Areas A and E). The installation completed the treatability studies (TSs) for Petroleum-Contaminated Areas (PCAs) 4, 14, and 16. The 5-year review progressed. The installation added and approved a site for the MMRP.

In FY05, Jacksonville NAS completed RODs for PSCs 46 and 51. The installation completed the 5-year review and completed optimizations of PSCs 11 (Building 780), 26, and 48 (Building 106). The installation continued remedial actions (RAs) at PSC 46 and continued a TS at PSC 47. The installation received NFA status on PCA 14. Jacksonville NAS developed the cost-to-complete (CTC) cleanup for the identified MMRP site.

In FY06, Jacksonville NAS completed the ROD for PSC 11 Area A. The installation also completed a proposed plan for PSCs 11 and 52. The installation initiated site assessments for seven potential MMRP sites. A draft final preliminary assessment report was also issued by the Navy.

In FY07, Jacksonville NAS completed and received regulatory approval for the TS at PSC 47, and completed the remedial investigation and feasibility study. The Navy completed the ROD for PSC 52 and received regulator approval. The installation continued the groundwater plume assessment at OU 3, and also continued natural attenuation (NA) and long-term management (LTM). Jacksonville NAS initiated the site inspection (SI) for MMRP unexploded ordnance (UXO) Site 1. The installation received approval to begin the SI phase at all MMRP sites.

FY08 IRP Progress

Jacksonville NAS completed and received regulatory approval for the ROD at PSC 47. The installation continued the groundwater plume assessment at OU 3, and continued NA and LTM. The Navy began excavation of contaminated soils at OU 8.

Technical issues delayed the interim RA at PSCs 46 and 47. Regulatory issues delayed site assessment reports and RA plans for USTs 4 and 25. Technical issues delayed excavation of contaminated soils at PCA 16 and PSC 46.

FY08 MMRP Progress

Jacksonville NAS developed a uniform federal policy quality assurance plan to complete the explosives safety submission (ESS) for the MMRP site.

Regulatory issues delayed completion of the SI for MMRP sites.

Plan of Action

Plan of action items for Jacksonville Naval Air Station are grouped below according to program category.

IRP

- Continue groundwater plume assessment at OU 3 in FY09.
- Continue LTM and RA operations at OU 1, PSC 15, and PSC 47 in FY09-FY10.

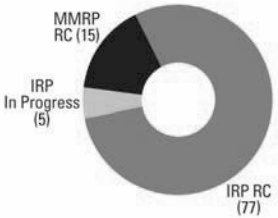
MMRP

- Draft and implement the ESS for OU 8 in FY09.
- Complete SI at UXO 1 in FY09-FY10.

Jefferson Proving Ground

BRAC 1988

FFID:	IN521382045400	**Funding to Date:**	$ 28.4 million
Location (Size):	Madison, Indiana (55,270 acres)	**Est. CTC (Comp Year):**	$ 4.2 million (FY 2035)
Mission:	Performed production acceptance testing of ammunition, weapons, and their components	**IRP Sites (Final RIP/RC):**	82 (FY2005)
		MMRP Sites (Final RIP/RC):	15 (FY2003)
HRS Score:	N/A	**Five-Year Review Status:**	Planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-18
Contaminants:	Solvents, petroleum products, VOCs, PCBs, heavy metals, depleted uranium, UXO		
Media Affected:	Groundwater and Soil		



Progress To Date

In December 1988, the BRAC Commission recommended closure of Jefferson Proving Ground (PG) and relocation of its mission to Yuma Proving Ground in Arizona. The installation closed on September 30, 1995. The 50,774 acres north of the firing line, included in the 1995 BRAC program, is contaminated with unexploded ordnance (UXO). The Army plans to retain the site indefinitely for use as a wildlife sanctuary and other government uses. The sites south of the firing line, identified during environmental studies, included landfill and disposal areas, hazardous waste storage areas, fire training areas, underground storage tanks (USTs), and buildings with asbestos-containing materials. Contaminants at the installation include depleted uranium, heavy metals, UXO, solvents, polychlorinated biphenyls (PCBs), volatile organic compounds (VOCs), and petroleum hydrocarbons. Interim remedial actions have included a landfill cap, removal of USTs, and excavation of contaminated soil. In FY94, the installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB). During FY96, the installation issued an updated community relations plan. The Army procured a technical assistance for public participation contract to support the RAB in FY99.

To date, the Army has transferred the Defense Reutilization and Marketing Office Parcel area, the Airfield Parcel, the Western Wooded Parcel, the Northeast Parcel, and the central cantonment area (total of approximately 1,200 acres). The Army has signed one Record of Decision (ROD). In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Jefferson PG for FY04 through FY07 is detailed below.

In FY04, the installation completed the proposed plan (PP) for the area south of the firing line. The installation drafted a ROD for the area south of the firing line and provided it for public review and comment. The Army signed a letter of assignment for the transfer of the Western Wooded Parcel to Jefferson County through the National Park Service.

In FY05, the installation requested Nuclear Regulatory Commission (NRC) concurrence to begin 5-year site characterization of the depleted uranium area. Additionally, the installation completed the ROD and achieved remedy in place (RIP) for areas south of the firing line. The installation began the long-term groundwater monitoring of sites covered under the ROD.

In FY06, Jefferson PG received a license amendment from the NRC granting a 5-year period to perform a site characterization of the depleted uranium area. The Army, NRC, and a local environmental group discussed concerns about the depleted uranium area. The installation transferred the Northeast Parcel.

In FY07, Jefferson PG obtained EPA approval of the Open Burn Unit restoration PP and completed soil restoration fieldwork. The NRC Atomic Safety and Licensing Board held an administrative hearing to address local environmental issues. The installation continued 5-year site characterization of the depleted uranium area to support the restricted release license terminination plan.

FY08 IRP Progress

Jefferson PG obtained EPA Region V approval of the Subpart X construction completion report for the Open Burn Unit. The installation continued the 5-year depleted uranium area site characterization. The NRC held an administrative law hearing and received a final decision from the NRC Atomic Safety and Licensing Board panel, which concluded that the Army 5-year site characterization field sampling plan was adequate.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Jefferson Proving Ground are grouped below according to program category.

IRP

- Continue 5-year depleted uranium site characterization in FY09-FY10.

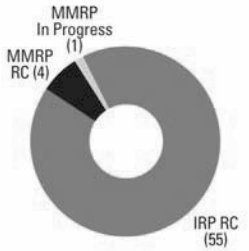
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Joliet Army Ammunition Plant
LAP Area and Manufacturing Area

NPL

FFID:	IL521382046000	**Media Affected:**	Groundwater and Soil
Location (Size):	Wilmington, Illinois (1,730 acres)	**Funding to Date:**	$ 125.6 million
Mission:	Manufacture, load, assemble, and pack munitions and explosives	**Est. CTC (Comp Year):**	$ 11.3 million (FY 2014)
HRS Score:	35.23 (Loading, Assembling, and Packing Area); placed on NPL in March 1989; 32.08 (Manufacturing Area); placed on NPL in July 1987	**IRP Sites (Final RIP/RC):**	55 (FY2008)
		MMRP Sites (Final RIP/RC):	5 (FY2014)
IAG Status:	IAG signed in June 1989	**Five-Year Review Status:**	Completed and planned
Contaminants:	Explosives, heavy metals, VOCs, PCBs, SVOCs, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-75



Progress To Date

The Army constructed Joliet Army Ammunition Plant (AAP) in the early 1940s. It was then one of the largest munitions and explosives manufacturers in the Midwest. Installation operations included manufacturing explosives, and loading, assembling, and packing (LAP) munitions for shipment. EPA placed the 9,159-acre Manufacturing Area and the 14,385-acre LAP Area on the NPL in July 1987 and March 1989, respectively. The installation consolidated all sites into two operable units (OUs), one for groundwater contamination and another for soil contamination. The installation signed an interagency agreement (IAG) in June 1989. In FY95, the installation formed a Restoration Advisory Board. In FY04, the installation completed 5-year reviews for Soil and Groundwater OUs.

Environmental studies conducted between FY78 and FY88 identified sites at Joliet AAP. The Army has transferred nearly 22,000 acres, including 15,000 acres to the U.S. Forest Service, almost 2,820 acres to the State of Illinois for industrial park reuse, 2,630 acres to U.S. Department of Agriculture (USDA), 982 acres to U.S. Department of Veterans Affairs, and 455 acres to Will County, Illinois. The Army also completed an installationwide Record of Decision (ROD) in FY99. The most significant cleanup activities completed through FY01 were excavation and treatment of many thousand tons of contaminated soil. The Army initiated the ROD for future USDA lands in FY02. The cleanup progress at Joliet AAP for FY04 through FY07 is detailed below.

In FY04, the installation completed 5-year reviews for Soil and Groundwater OUs. The Army transferred 305 acres to the State of Illinois; the remaining balance of land is slated for the Island City Industrial Park. The installation completed a feasibility study, proposed plan, and ROD for lands transferred to USDA and initiated a transfer of 2,440 acres to USDA. The installation excavated and bioremediated an additional 36,000 tons of explosives-contaminated soil. Additionally, the installation initiated the site inspections (SIs) for Military Munitions Response Program (MMRP) sites.

In FY05, Joliet AAP completed remedial action (RA) in the TNT Area. The Army transferred 304 acres of Deer Run Industrial Park to the State of Illinois and 2,630 acres to USDA. The Army began RA for future USDA lands. The Army initiated a performance-based contract (PBC) for landfills and groundwater. The installation completed an SI of MMRP sites. The PBC addressing landfills and groundwater also includes optional line items to conduct post-SI actions at the four MMRP sites.

In FY06, Joliet AAP completed cleanup and developed documentation to transfer 235 acres to the State of Illinois. The installation also completed cleanup and developed documentation to transfer 580 acres to USDA. Joliet AAP completed RA at Sites L1, L4, L7, L8, L9, L10, M2, and M9 and continued the long-term management (LTM) program for groundwater. The installation initiated the remedial design for three MMRP sites and implemented RA for one MMRP site.

In FY07, Joliet AAP completed excavation of all contaminated soil located in the Soil OU. The Army completed bioremediation of all explosives-contaminated soils (276,000 tons). The installation continued LTM at Groundwater OU. The Army implemented construction of three landfill caps. The installation completed RAs at all MMRP sites and identified one new MMRP site.

FY08 IRP Progress

Joliet AAP completed RAs at Soil OU sites and initiated LTM. The installation completed the final three landfill caps and initiated LTM for landfills. Joliet AAP continued LTM at Groundwater OU sites. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed transfer of the remaining acreage to the USDA and State of Illinois.

FY08 MMRP Progress

Joliet AAP initiated an SI at the new MMRP site and began preparation of a decision document to close three cleared sites.

Plan of Action

Plan of action items for Joliet Army Ammunition Plant are grouped below according to program category.

IRP

- Complete acreage transfers to USDA and State of Illinois in FY09.
- Implement LTM for groundwater, landfills, and site institutional controls in FY09.
- Complete 5-year reviews for Soil and Groundwater OUs in FY09.

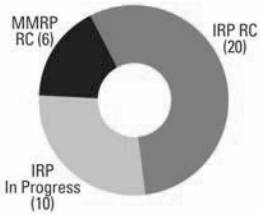
MMRP

- Complete ROD to close three sites in FY09.
- Conduct SI fieldwork for extended buffer site in FY09-FY10.

K.I. Sawyer Air Force Base

BRAC 1993

FFID:	MI557002476000	**Funding to Date:**	$ 59.3 million
Location (Size):	Gwinn, Michigan (4,953 acres)	**Est. CTC (Comp Year):**	$ 24.9 million (FY 2038)
Mission:	Conducted long-range bombardment and air refueling operations	**IRP Sites (Final RIP/RC):**	30 (FY2006)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	6 (FY1999)
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	POLs, pesticides, heavy metals, solvents, SVOCs, VOCs	**IRP/MMRP Status Table:**	Refer to page M-6-96
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In July 1993, the BRAC Commission recommended closure of K.I. Sawyer Air Force Base (AFB), deactivation of the 410th Wing, and transfer of the base's mission. In September 1995, the installation closed. Environmental studies have been in progress at the installation since FY84. Sites identified through environmental studies conducted at the installation include landfills (LFs), fire training (FT) areas, underground storage tanks (USTs), aboveground storage tank spill sites, drainage pits, and a drainage pond (DP). The primary contaminants affecting soil and groundwater are petroleum hydrocarbons, trichloroethylene (TCE), tetrachloroethylene (PCE), vinyl chloride, and heavy metals. In 1994, a BRAC cleanup team (BCT) and Restoration Advisory Board (RAB) were formed, and the installation received technical assistance for public participation (TAPP) for work performed in FY99. TAPP funding was used for the technical review of documents for FT 006, LF 001, and Site ST 004 . The installation completed its first 5-year review in FY06.

Installation Restoration Program (IRP) sites have required additional investigation at the installation. Interim remedial actions (RAs) have included removal of USTs, removal and cleanup of contaminated soil, installation of groundwater extraction wells, construction and operation of a groundwater treatment plant, removal of fuel from groundwater at the former petroleum/oil/lubricant (POL) storage area (ST 004), and installation of bioventing systems. To date, no further action closure documents have been completed for 21 sites. In FY03, the installation transferred 93 acres to the County of Marquette. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. In FY07, all remaining property was transfered. The cleanup progress at K.I. Sawyer AFB for FY04 through FY07 is detailed below.

In FY04, the installation completed the RA construction at Site OT 013 and the modification of the Site ST 004 interceptor trench. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed closure sampling for the soil vapor extraction (SVE) system at FT 006 in anticipation of system shutdown and decommissioning. The closeout sampling protocol was also initiated at DP 002. The installation developed a shutdown plan at Site OT 013. Groundwater monitoring continued at various sites. Transfer of the remaining property at K.I. Sawyer was completed; only the property at the Defense Fuels Supply Point (DFSP) at Escanaba (Site OT 013, 40 acres) remained to be transferred. The Air Force began evaluating requirements at MMRP sites at this installation. The installation also initiated the first 5-year review. The RAB held an annual meeting.

In FY06, the installation completed optimization of basewide groundwater monitoring, thus reducing the frequency and number of wells sampled. The Air Force continued to verify that the rebound of contaminants will not occur with the treatment system shutdown at DP 002 through limited groundwater sampling. K.I. Sawyer AFB continued working toward completion of RAs at the DFSP (Site OT 013) and combined Escanaba Areas 1 and 2 for purposes of property transfer. The installation completed its first 5-year review. The Air Force continued monitoring and routinely inspecting sites, and completed optimization of basewide groundwater monitoring. The installation evaluated requirements at MMRP sites. The RAB held an annual meeting.

In FY07, the installation transferred the Escanaba DFSP property to the Hannah Indian Community.

FY08 IRP Progress

K.I. Sawyer AFB continued long-term management of IRP sites. The installation dismantled and removed the SVE system at FT 006. The Air Force prepared documentation to support the regional performance-based contract (PBC). The BCT agreed to optimization of the treatment system at Site ST 004, and agreed to remove soil at Site OT 013 for areas not responding to biosparging or SVE. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative and technical issues delayed the optimization of the treatment system at Site ST 004. Administrative and contractual issues delayed refreshing the baswide groundwater optimization and optimization of routine inspections.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for K.I. Sawyer Air Force Base are grouped below according to program category.

IRP

- Complete soil removal at Site OT 013 and prepare the treatment system to remain in place for long-term inactivity in FY09.
- Complete installation of the optimization at Site ST 004 in FY09.
- Award Northeast PBC in FY09.
- Refresh the basewide groundwater optimization and optimize routine inspections.
- Prepare for second 5-year review in FY10.

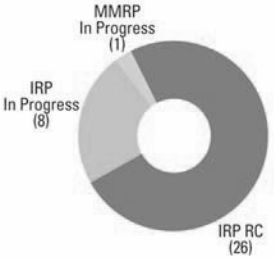
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Kansas Army Ammunition Plant

BRAC 2005 Closure

FFID:	KS721382046700	**Funding to Date:**	$ 38.9 million
Location (Size):	Labette County, Kansas (13,727 acres)	**Est. CTC (Comp Year):**	$ 14.7 million (FY 2031)
Mission:	Produce munitions and maintain replenishment production capability	**IRP Sites (Final RIP/RC):**	34 (FY2009)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	1 (FY2011)
IAG Status:	N/A	**Five-Year Review Status:**	Planned
Contaminants:	Explosives, metals, dioxins, furans, VOCs, SVOCs, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-80
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The 2005 BRAC Commission recommended Kansas Army Ammunition Plant (AAP) for closure. The Army established Kansas AAP in 1941 as part of the pre-World War II build-up. The original construction consisted of three load lines, four component areas, an ammonium nitrate area, five explosive storage areas, an inert storage area, and a maintenance and administration area. The RCRA Part B permit, issued in August 1989, identified 25 solid waste management units (SWMUs) requiring investigation for possible contamination. Areas of investigation include production areas, landfills, open burning cages, open burning pads, an open detonation area, and miscellaneous maintenance and support areas. Primary contaminants of concern in the production and open burning areas are explosives and metals. The Army has detected explosives in groundwater in some production areas. The greatest hazards in the production areas were generally highest near the sumps and production facilities. The Army detected some contamination at all landfill areas. Two closed landfill areas contained volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals in surface soils and groundwater. The Phase I RCRA facility investigations of contaminated sites began in FY92 and were completed in FY98. The human health risk assessment and ecological risk assessment were approved in FY99.

The installation completed a corrective measures study (CMS) that identified some sites for no further action and five sites for corrective actions. The Army has completed removal actions for explosives contamination and metals-contaminated soils at the 900 Area, 1000 Area, 1100 Area, and open burn areas. The cleanup progress at Kansas AAP for FY04 through FY07 is detailed below.

In FY04, the installation completed remedial actions for soil at Sites KAAP 10, 20, 21, 22, and 41 using excavation and thermal treatment of explosives-contaminated soil and solidification/stabilization of metals-contaminated soil. The installation also initiated further investigations of Sites KAAP 17 and 19 Groundwater.

In FY05, the BRAC Commission recommended Kansas AAP for closure. Kansas AAP completed the Closure/Post-Closure Plan for the 700 Area Groundwater. Kansas AAP also completed an installationwide CMS for groundwater and landfill covers, and remedial investigations (RIs) at Site KAAP 43.

In FY06, the installation presented a sitewide Statement of Basis to the public. The Army initiated an environmental condition of property (ECP) report in response to the BRAC 2005 recommendation for closure of the installation.

In FY07, Kansas AAP completed the ECP and CERFA reports. The installation upgraded the landfill covers at Sites KAAP 03, 04, and 05. The Army continued groundwater long-term management (LTM).

FY08 IRP Progress

Kansas AAP continued installationwide groundwater LTM. The Army also removed three SWMUs (300, 500, and 800) from the LTM program in agreement with EPA and the Kansas Department of Health and Environment. Kansas AAP completed an environmental assessment to support land transfer.

Technical issues delayed completion of the 1200 Area soil removal project.

FY08 MMRP Progress

The Army awarded a contract for the site inspection (SI) at the Old Ammunition Storage Area.

Kansas AAP determined the need for an expanded SI at the Old Ammunition Storage Area, which delayed completion of the RI.

Plan of Action

Plan of action items for Kansas Army Ammunition Plant are grouped below according to program category.

IRP

- Complete 1200 Area soil removal project in FY09.
- Complete tetrachloroethylene (PCE) investigation at 1100 Area in FY09-FY10.
- Close hazardous waste storage igloos, explosive waste incinerator, and the pistol range in FY09-FY10.

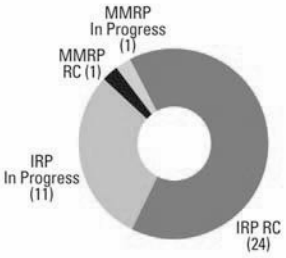
MMRP

- Complete the Old Ammunition Storage Area expanded SI in FY09.

Kelly Air Force Base

BRAC 1995

FFID:	TX657172433300	**Est. CTC (Comp Year):**	$ 54.3 million (FY 2023)
Location (Size):	San Antonio, Texas (3,997 acres)	**IRP Sites (Final RIP/RC):**	35 (FY2006)
Mission:	Provided depot-level aircraft and engine repair	**MMRP Sites (Final RIP/RC):**	2 (FY2008)
HRS Score:	N/A	**Five-Year Review Status:**	Completed and planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-6-153
Contaminants:	Metals, VOCs, SVOCs		
Media Affected:	Groundwater, Surface Water, Soil		
Funding to Date:	$ 276.8 million		



Progress To Date

In July 1995, the BRAC Commission recommended closure and realignment of Kelly Air Force Base (AFB). The Defense Distribution Depot, San Antonio, closed in July 2001, and the airfield and all associated support activities were realigned to Lackland AFB, Texas. Sites identified at the installation include landfills, spill sites (SS), former fire training areas, low-level radioactive waste sites, underground storage tanks, aircraft maintenance areas, sludge lagoons, and sludge-spreading beds. The installation formed a Restoration Advisory Board (RAB) in FY94. In FY96, a BRAC cleanup team (BCT) was formed and the first BRAC cleanup plan was issued. In FY99, the installation received technical assistance for public participation funding that allowed the RAB to review the basewide groundwater assessment and the Agency for Toxic Substances and Disease Registry public health assessment. In FY04, the installation updated the community relations plan (CRP). The installation completed a 5-year review in FY06.

Investigations of the installation identified Installation Restoration Program (IRP) sites, which were separated into five zones. Two range sites have also been identified. To date, the installation has transferred approximately 1,445 acres to the local redevelopment authority (LRA). In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Kelly AFB for FY04 through FY07 is detailed below.

In FY04, the installation transferred 107 acres to the LRA. The Air Force installed Zone 5 and began construction of Zone 4 off-base shallow groundwater remedies. The installation also completed the demolition and cleanup of the former industrial wastewater treatment plant (IWTP) and began construction of the final IRP groundwater and soil remedies in Zone 2. Additionally, the installation completed installation of final IRP groundwater remedies in Zone 3. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation. The CRP was updated to indicate the status of remediation efforts and identify ongoing opportunities for community involvement.

In FY05, the Air Force completed installation of the Zone 4 off-base shallow groundwater remedies. The installation submitted the closure report for the former IWTP. Discussions between the installation and regulators continued on the ecological risk report for Leon Creek. The installation completed construction of the final IRP groundwater and soil remedies in Zone 2. The Air Force began evaluating requirements at MMRP sites at this installation. The RAB continued to meet quarterly; the BCT continued to meet once a month.

In FY06, the installation continued long-term management (LTM) and operations of remedial systems. The Air Force submitted a Class 3 modification to the RCRA compliance plan to regulators for approval of final remedies for Zones 4 and 5 sites, including remedies for the off-base shallow groundwater. Regulators approved the Tier 2/Tier 3 ecological risk assessment and the Zones 2 and 3 corrective measures. The installation completed the first 5-year review and submitted it to regulators. Regulators approved closure of 10 IRP sites in Zone 2. The Air Force transferred approximately 106 acres to the LRA. The Air Force developed a sampling plan for soils, associated with the small arms firing range. The RAB met quarterly. Five BCT meetings were held.

In FY07, the installation continued LTM and operations of 16 remedial systems. The Air Force submitted a Class 3 modification to the RCRA compliance plan to regulators for approval of final remedies for Zones 2 and 3 sites. Installation of soil remedies at four Zone 3 sites was completed. Regulators approved the Class 3 modification to the RCRA compliance plan for final remedies for Zones 4 and 5 sites. Site D 10 was closed. The former small arms firing range (Building 3430) was demolished, and soil samples were taken to prepare a closure report. The RAB and BCT each met quarterly.

FY08 IRP Progress

Kelly AFB submitted the RCRA permit renewal application to the regulators. The Air Force completed the finding of suitability to transfer, operating properly and successfully demonstration, and transferred 1,017 acres of Zones 4 and 5 sites to the LRA. The installation completed the planned soil remedies for Zone 3. The installation continued LTM and operations of 24 remedial systems (including permeable reactive barriers). The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the completion of Class 3 modifications to the RCRA compliance plan, delaying approval for final remedies for Zones 2 and 3.

The RAB and BCT each met three times.

FY08 MMRP Progress

The installation completed regulatory closure of the indoor small arms firing range (ORX 00008).

Plan of Action

Plan of action items for Kelly Air Force Base are grouped below according to program category.

IRP

- Excavate SS 040 in FY09.
- Submit required information in support of the RCRA permit renewal in FY09.
- Coordinate with state regulators to complete Class 3 modifications to the RCRA compliance plan to get approval for final remedies for Zones 2 and 3 sites in FY09.
- Continue compliance with the Texas Commission on Environmental Quality permit and compliance plan in FY09-FY10.
- Continue operations and maintenance on soil and groundwater treatment systems in FY09-FY10.

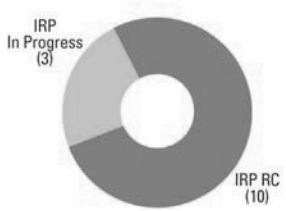
MMRP

- Obtain Air Force closure of the small arms firing range in FY09.

Keyport Naval Undersea Warfare Center

NPL

FFID:	WA017002341900	**Funding to Date:**	$ 34.2 million
Location (Size):	Keyport, Washington (340 acres)	**Est. CTC (Comp Year):**	$ 9.1 million (FY 2036)
Mission:	Test, prove, overhaul, and issue torpedoes	**IRP Sites (Final RIP/RC):**	13 (FY2007)
HRS Score:	32.61; placed on NPL in October 1989	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in FY90	**Five-Year Review Status:**	Completed and planned
Contaminants:	VOCs, heavy metals, petroleum hydrocarbons, herbicides, fuel, PCBs, pesticides, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-7-43
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In September 1995, the BRAC Commission recommended realignment of Keyport Naval Undersea Warfare Center (NUWC). The center's responsibility for maintaining combat system consoles and its general industrial workload were moved to Puget Sound Naval Shipyard. Operations at the installation, including plating, torpedo refurbishing, and disposal, contributed to contamination at the property. Environmental investigations at the installation have identified sites such as underground storage tanks, sumps, spill sites, a landfill, and an underground trench. A technical review committee was formed in FY89 and converted to a Restoration Advisory Board in FY95. EPA placed the installation on the NPL in October 1989, and the Navy signed a federal facility agreement (FFA) in FY90. A community relations plan was completed in FY90 and updated in FY00. The installation completed 5-year reviews in FY00 and FY05.

The installation completed a Record of Decision for Operable Units (OUs) 1 and 2. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Keyport NUWC for FY04 through FY07 is detailed below.

In FY04, the installation continued remedial action operation (RA-O) at OU 1 and long-term management (LTM) at OUs 1 and 2, and initiated the second 5-year review.

In FY05, Keyport NUWC continued RA-O at OU 1 and LTM at OUs 1 and 2. The installation initiated an optimization study of OU 1 and completed the second 5-year review. Additionally, the installation resolved sediment issues.

In FY06, Keyport NUWC continued RA-O at OU 1 and LTM at OUs 1 and 2. The installation also completed an optimization study of OU 1.

In FY07, Keyport NUWC continued RA-O at OU 1. The installation also continued LTM at OUs 1 and 2.

FY08 IRP Progress

Keyport NUWC continued RA-O at OU 1 and LTM at OUs 1 and 2.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Keyport Naval Undersea Warfare Center are grouped below according to program category.

IRP

- Continue RA-O at OU 1 and LTM at OUs 1 and 2 in FY09.
- Complete 5-year review in FY10.

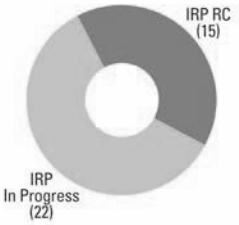
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Lake City Army Ammunition Plant
Northwest Lagoon

NPL

FFID:	MO721382048900	**Funding to Date:**	$ 143.4 million
Location (Size):	Independence, Missouri (3,935 acres)	**Est. CTC (Comp Year):**	$ 71.3 million (FY 2038)
Mission:	Manufacture, store, and test small-arms munitions	**IRP Sites (Final RIP/RC):**	37 (FY2009)
HRS Score:	33.62; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	IAG signed in September 1989	**Five-Year Review Status:**	Completed and planned
Contaminants:	Explosives, heavy metals, solvents, VOCs, POLs, SVOCs, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-101
Media Affected:	Groundwater, Surface Water, Soil		



Progress To Date

Operations at the Lake City Army Ammunition Plant (AAP), a government-owned, contractor-operated facility, include the manufacture, storage, and testing of small arms munitions. Principal site types at the installation include abandoned disposal pits, sumps, firing ranges, old lagoons, old dumps, and closed RCRA lagoons, and burning grounds. Sampling at seven representative areas identified groundwater contaminated with volatile organic compounds (VOCs), explosives, and heavy metals. EPA placed Lake City AAP on the NPL in July 1987, and EPA and the Army signed an interagency agreement (IAG) in September 1989. The installation formed a Restoration Advisory Board (RAB) in FY97. The Army completed a 5-year review in FY05.

To date, the Army completed five Records of Decision (RODs). Environmental studies identified sites at Lake City AAP. In FY04, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites and identified no sites. The cleanup progress at Lake City AAP for FY04 through FY07 is detailed below.

In FY04, the installation continued operation of the pump-and-treat system to contain contaminated groundwater and executed a transition plan from using a total environmental restoration contract to using a performance-based contract (PBC). The PBC contractor completed work plans for completing characterization activities in all operable units (OUs). Lake City AAP began sampling activities in Area 18 and completed sampling to validate the public health risk assessment for the active firing range. The installation began an Installationwide Operable Units (IWOU) remedial investigation (RI) and feasibility study (FS). Lake City AAP completed a new groundwater model and developed a groundwater management strategy. The installation prepared a draft engineering evaluation and cost analysis (EE/CA) for the non-time critical removal action for five "housekeeping" sites. The Army completed the closed, transferred, or transferring ranges and sites inventory and identified one closed MMRP site. The installation hosted four RAB meetings and one RAB workshop.

In FY05, Lake City AAP completed RI activities and removal actions at three of the five "housekeeping" sites. The installation executed pilot tests in Area 18 and Northeast Corner OU (NECOU). The installation also updated the sitewide groundwater model and monitoring plan. Two additional offsite wells were constructed and sampled. The Army completed the characterization of an EE/CA for the inactive sumps. Additionally, pump-and-treat operations continued. The Army completed its first 5-year review at Lake City AAP.

In FY06, the installation continued to operate the pump-and-treat system to contain contaminated groundwater. The Army completed RI activities and FSs for the NECOU, IWOU, and Area 18 OU.

In FY07, Lake City AAP continued operation of the pump-and-treat system to contain contaminated groundwater. The installation completed the removal actions at Area 31 and inactive sumps. Lake City AAP signed the RODs for NECOU and Area 18. The Army initiated the remedy in place (RIP).

FY08 IRP Progress

Lake City AAP implemented remedies and completed decision documents for IWOU, NECOU and Area 18 OU. The installation also began operation of the in situ reductive zones, monitoring for all three OUs, and remedial action (RA) for Area 10. The Army and regulatory agencies agreed that an RI/FS would not be required. Lake City AAP completed the IWOU ROD.

Technical issues delayed executing the Area 10 RA. Administrative issues delayed finalizing land use control (LUC) plans.

FY08 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Lake City Army Ammunition Plant are grouped below according to program category.

IRP

- Complete RA and ROD at Area 10 in FY09.
- Implement LUC plan in FY09.
- Conduct 5-year review in FY10.

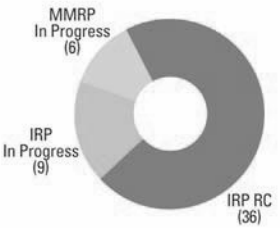
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Lakehurst Naval Air Engineering Station

NPL

FFID:	NJ217002727400	**Est. CTC (Comp Year):**	$ 57.4 million (FY 2055)
Location (Size):	Lakehurst, New Jersey (7,382 acres)	**IRP Sites (Final RIP/RC):**	45 (FY2000)
Mission:	Perform technology development and engineering	**MMRP Sites (Final RIP/RC):**	6 (FY2020)
HRS Score:	50.53; placed on NPL in July 1987	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in October 1989	**IRP/MMRP Status Table:**	Refer to page M-6-110
Contaminants:	PCBs, solvents, TCE, waste oils, fuels, VOCs, SVOCs, metals		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 60.6 million		



Progress To Date

Historical operations at Lakehurst Naval Air Engineering Station (NAES) involved handling, storage, and onsite disposal of hazardous substances. EPA placed the installation on the NPL in July 1987, and the Navy signed a federal facility agreement (FFA) in October 1989. In FY01 and FY06, the installation completed 5-year reviews.

To date, the installation completed Records of Decision for all sites. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Lakehurst NAES for FY04 through FY07 is detailed below.

In FY04, the installation obtained a no further action determination for Site 28, which was included in the construction completion report for Lakehurst NAES. The installation also completed nano-scale particle treatment of higher level groundwater contamination in Areas I and J (in addition to natural restoration) to demonstrate that all remedies are operating properly and successfully, and continued with the NPL construction completion process. Lakehurst NAES added a sparge well and thermal oxidizer to the existing soil vapor treatment system at Site 13 and reduced sampling requirements for three existing pump-and-treat systems. The installation completed the draft final preliminary assessments (PAs) for four MMRP sites.

In FY05, Lakehurst NAES conducted treatability testing of in situ chemical oxidation for treatment of groundwater at Site 16. The installation continued operation and maintenance (O&M), monitoring, data interpretation, and reporting for three pump-and-treat systems, four soil vapor extraction (SVE)/bioventing/sparge systems, six spray irrigation systems, and one natural restoration site. Lakehurst NAES distributed draft final PAs to regulators for review and comment. The installation conducted data collection and a site visit, and prepared a PA for the Lakehurst Proving Grounds.

In FY06, Lakehurst NAES completed a 5-year review of the remaining sites. The facility expanded the bimetallic nanoscale particle treatment of groundwater in Areas I and J, and completed a specification for the expansion of treatment systems at Sites 10, 13, 16, 17, and 32. The installation continued O&M, monitoring, data interpretation, and reporting for three pump-and-treat systems, four SVE/bioventing/sparge systems, six spray aeration systems, and one natural restoration site. The Navy distributed final PAs for Lakehurst Proving Ground and small range sites to regulators for review and comment.

In FY07, Lakehurst NAES conducted sub-slab sampling of buildings in Areas B, H, and K to determine the potential for vapor intrusion, and installed an additional recovery well in Area B to accelerate recovery and treatment of contaminated groundwater. The installation abandoned recovery and monitoring wells at Site 28. The Navy updated the quality assurance plan for remaining sites, and expanded treatment systems at Sites 10, 13, and 17. Lakehurst NAES initiated the characterization of Lakehurst Proving Ground through completing PAs and awarding site inspections (SI) for all MMRP sites.

FY08 IRP Progress

Lakehurst NAES conducted an investigation and recovery of free-phase product at Site 32. The installation completed an additional soil and groundwater investigation for Site 42. The Navy expanded treatment systems at Sites 10, 13, 16, and 17 to accelerate remediation of groundwater contamination.

FY08 MMRP Progress

Lakehurst NAES completed the draft work plan for small range unexploded ordnance (UXO) Sites 2, 4, 5, and 6. The installation conducted a conceptual site model and data quality objectives review for UXO Sites 1 and 3, including stakeholder review and participation.

Regulatory issues delayed SI fieldwork.

Plan of Action

Plan of action items for Lakehurst Naval Air Engineering Station are grouped below according to program category.

IRP

- Install additional groundwater treatment system at Site 42 in FY09.
- Expand treatment systems at Sites 10, 13, 16, 17, and 32 to accelerate groundwater remediation in FY09.
- Revise groundwater contaminant fate and transport model, and prepare updated 5-year review progress report for Areas I and J in FY09-FY10.
- Conduct additional sub-slab and indoor vapor intrusion sampling in Areas B and K in FY09-FY10.
- Move air sparge and vapor extraction system from Site 10 to Site 42 in FY09-FY10.

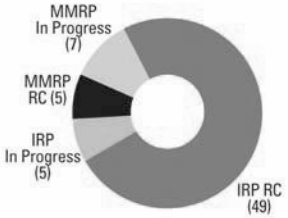
MMRP

- Initiate fieldwork for small ranges (UXO Sites 2, 4, 5, and 6) in FY09.
- Conduct SI fieldwork in FY09.
- Complete SIs for small ranges (UXO Sites 2, 4, 5, and 6) in FY10.

Langley Air Force Base

NPL/BRAC 2005 Realignment

FFID:	VA357212447700	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Hampton, Virginia (3,152 acres)	**Funding to Date:**	$ 78.7 million
Mission:	Hosted many organizations, including Air Combat Command Headquarters and 480th Reconnaissance Wing	**Est. CTC (Comp Year):**	$ 10.4 million (FY 2018)
HRS Score:	50.00; placed on NPL in May 1994	**IRP Sites (Final RIP/RC):**	54 (FY2010)
IAG Status:	NASA signed a FFA in October 1993; Air Force FFA under negotiation	**MMRP Sites (Final RIP/RC):**	12 (FY2018)
Contaminants:	Pesticides, PCBs, solvents, heavy metals, petroleum products, SVOCs, radioactive materials, VOCs, PAHs, BTEX	**Five-Year Review Status:**	A 5-year review is not required for this installation.
		IRP/MMRP Status Table:	Refer to page M-6-170



Progress To Date

Langley Air Force Base (AFB) has been an airfield and an aeronautical research center since 1917 and is the home base of the 1st Fighter Wing and Headquarters Air Combat Command. The installation and the adjacent NASA Langley Research Center were jointly placed on the NPL in May 1994. NASA's restoration program is funded and managed separate from the Langley AFB program. In 2005, the BRAC Commission recommended Langley AFB for realignment. Sites at this installation include landfills (LFs), underground storage tanks, a bulk fuel distribution system, and storm sewers. Investigations have determined that contaminants are migrating into Tabbs Creek, Back River, and ultimately the Chesapeake Bay. The installation formed a Restoration Advisory Board in FY94.

To date, six bilateral Records of Decision (RODs) and two unilateral RODs have been signed. The cleanup progress at Langley AFB for FY04 through FY07 is detailed below.

In FY04, the Air Force continued long-term monitoring for LFs 05, 07, 12 and 18, and Site FT 41. The installation also completed site inspections (SIs) for three areas of concern (AOCs), a feasibility study (FS) for three sites, and remedial action construction (RA-C) for one site.

In FY05, Langley AFB awarded a 5-year basewide guaranteed fixed price performance-based contract (PBC). The contract includes FSs to site closure for LFs 17 and 70; and Sites OT 25, SS 63, and WP 08, and long-term management (LTM) at LFs 05, 07, 12, and 18; Sites FT 41, OT 64, and SS 61. The installation also developed an NPL deletion strategy as part of the PBC. Langley AFB began RA at LFs 10 (western lobe) and 11, and changed the remedy at LF 01 due to proximity to the airfield and numerous buried utilities. The Defense and State Memorandum of Agreement with the Commonwealth of Virginia was updated and identified levels of effort by the State through June 2012 in support of the Installation Restoration Program (IRP). The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, Langley AFB completed interim RAs for Sites OT 06A and SS 61. The installation amended FSs for LF 17 and Site OT 25, and completed one FS for Site SS 63. The Air Force issued a revised proposed plan and ROD amendment for LF 01 and completed RA-C at LFs 01, 11, and 22. Langley AFB continued LTM at LFs 05, 07, 12, and 18; and Sites FT 41, and SS 61. The installation completed the RA at LF 11, completed FSs at LF 17 and Site OT 25, and drafted RODs and PPs for LF 17; Sites OT 25 and SS 63/Back River Sediments. The installation continued PAs at all identified MMRP sites.

In FY07, Langley AFB completed the RA-C (soil cover) for LF 10. The installation completed a No Further Action (NFA) Decision Document (DD) for AOC 69 and the SI for AOC 70. The installation drafted a ROD for LF 15, and another ROD for LFs 01, 05, 07, and 18, and Site FT 41. The Air Force included LF 11 and Site OT 56 in the RODs under development. Langley AFB completed the MMRP Comprehensive Site Evaluation (CSE) Phase I and awarded the CSE Phase II.

FY08 IRP Progress

Langley AFB began RA-C at LF 17, Site OT 25, and the LTA Cove portion of SS 63. The installation completed an RA and RA-C report for Site WP 02. The Air Force finalized the Site OT 64 FS and Site WP 02 FS addendum, which the EPA accepted. Langley AFB initiated NFA DDs for AOCs 66, 67, and 68. The Air Force finalized and signed seven RODs in FY08: WP 14; LF17 soil cover; OT 25 soil removal; SS 63 SW Branch sediment removal; NFA RODs for Sites WP 08 and WP 02 soil removal; and a five-site ROD for LFs 01, 05, 18, and 22 and Site FT 41. Langley AFB initiated a four-site ROD for LFs 07, 10, 11, and 12. The Air Force completed a tidal effects survey for Site OT 64. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed the RA-C at the LTA Cove portion of Site SS 63. Regulatory issues delayed the Site OT 64 FS, and signature of the ROD for LFs 07, 10, 11, and 12.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Langley Air Force Base are grouped below according to program category.

IRP

- Complete RA-C at LF 17, Site OT 25, LTA Cove portion of Site SS 63, and the southwest Branch portion of SS 63 in FY09.
- Sign four-site ROD for LFs 07, 10, 11, and 12, and RODs for LF 15 and Site OT 56 in FY09.
- Finalize Site OT 64 FS in FY09.

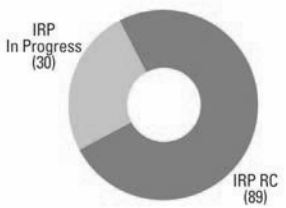
MMRP

- Complete CSE Phase II in FY09.

Letterkenny Army Depot

NPL/BRAC 1995

FFID:	PA321382050300	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Franklin County, Pennsylvania (18,683 acres)	**Funding to Date:**	$ 133.7 million
Mission:	Store, maintain, and decommission ammunition; rebuild and store vehicles; rebuild, store, and maintain missiles	**Est. CTC (Comp Year):**	$ 10.2 million (FY 2039)
HRS Score:	34.21 (Southeastern Area); placed on NPL in July 1987; 37.51 (Property Disposal Office); placed on NPL in March 1989	**IRP Sites (Final RIP/RC):**	119 (FY2011)
IAG Status:	IAG signed in February 1989	**MMRP Sites (Final RIP/RC):**	None
Contaminants:	VOCs, POLs, PCBs, heavy metals, explosives, asbestos, SVOCs, propellants	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-6-135



Progress To Date

Letterkenny Army Depot (AD) contains various contaminated sites resulting from its ammunition and vehicle maintenance missions. Sites include disposal lagoons and trenches, oil burn pits, an open burning and open detonation area, an explosives washout plant, two scrap yards, landfills, industrial wastewater treatment plant lagoons, and industrial wastewater sewer lines. EPA has placed two areas of Letterkenny AD on the NPL: the Southeastern (SE) Area in July 1987 and the Property Disposal Office (PDO) in March 1989. Both sites are on the southern part of the installation. The Army and EPA signed an interagency agreement (IAG) in February 1989. The installation has concentrated its remedial efforts on source removal methods, including excavation, low-temperature thermal treatment, and backfilling and capping of soil in the industrial wastewater treatment plant lagoons and the three K-Areas; emergency repairs to leaking industrial wastewater sewers; removal of the PDO fire training pit; and emergency removal of playground soil at the PDO area, and of sediment contaminated with polychlorinated biphenyls (PCBs) in the Rocky Spring springhouse. In FY96, the Army established a BRAC cleanup team, the community formed a local redevelopment authority, and the installation established a Restoration Advisory Board. The Army completed a 5-year review for the SE area NPL site in FY02 and FY08.

To date, the Army has signed eight Records of Decision (RODs) and transferred approximately 761 acres. Environmental studies have identified 44 Installation Restoration Program (IRP) sites. The cleanup progress at Letterkenny AD for FY04 through FY07 is detailed below.

In FY04, the Army transferred the Phase III BRAC property. The installation initiated the removal of lead contaminated soil at Old PDO Scrapyard. The installation continued groundwater sampling for PDO Operable Unit (OU) 2.

In FY05, the Army signed a ROD for SE OU 4. The installation submitted RODs for Phase IV and SE OU 10 for regulatory review.

In FY06, Letterkenny AD installed and sampled additional deep wells in SE OUs 3, 6, and 11 to address groundwater plume delineation issues. The Army and EPA signed a ROD and finding of suitability to transfer (FOST) for the Phase IV parcels. The Army and EPA also signed RODs for the SE OU 10 groundwater and SE OU 2 industrial wastewater sewers and associated contaminated soils. Work began in the Ammunition Area on the TNT Washout Plant and SE OU 12 Landfill (LF) 5 (Area G). The installation continued to address landfill issues at SE OU 9 LF 2 (Area J).

In FY07, Letterkenny AD continued work with the Ammo Area on the TNT Washout Plant and SE OU 12 LF 5 (Area G). The installation continued to address landfill issues at SE OU 9 LF 2 (Area J). The Army completed all environmental documentation for Phase IV parcels property transfer.

FY08 IRP Progress

Letterkenny AD entered into a performance-based contract (PBC), which identified 5 OUs consisting of 44 sites. The installation continued work at SE OUs 3A, 6, and 11, and PDO OU 4, and continued efforts to obtain a technical impracticability waiver. Letterkenny AD completed its second 5-year review on the SE Area NPL site. Letterkenny AD also completed the first of two scheduled rounds of off-post residential home vapor intrusion sampling at SE OU 6. Letterkenny AD continued ammunition work under the PBC at SE OU 12 LF 5 (Area G), the TNT Washout Plant and the Burning Ground 2. The installation completed the FOST for the Air Hill Parcel. Letterkenny AD continued to address landfill issues at SE OU 9 LF2 (Area J). The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed completion of the Phase IV parcels property transfer. Technical issues delayed all Phase V documents until FY09.

FY08 MMRP Progress

The Army has identified no Military Munitions Response Program (MMRP) sites at this installation.

Plan of Action

Plan of action items for Letterkenny Army Depot are grouped below according to program category.

IRP

- Complete Phase IV parcels property transfer in FY09.
- Complete feasibility study (FS), proposed plan, ROD, and FOST for Phase V parcels in FY09.
- Complete the focused FS and remedial design for the on- and off-post volatile organic compounds (VOCs)-contaminated groundwater at SE OUs 3A, 6, and 11 in FY09.
- Sign ROD for TNT Washout and SE OU 12 LF 5 (Area G) in FY09.
- Continue to address landfill legal issues at SE OU 9 LF2 (Area J) in FY09.

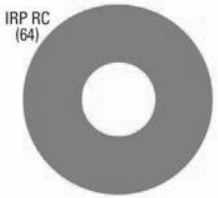
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Lexington Facility, Lexington-Blue Grass Army Depot

BRAC 1988

FFID:	KY421382050900	**Funding to Date:**	$ 28.5 million
Location (Size):	Lexington, Kentucky (780 acres)	**Est. CTC (Comp Year):**	$ 1.3 million (FY 2005)
Mission:	Conducted light industrial operations, including paint stripping, metal plating, etching, and anodizing	**IRP Sites (Final RIP/RC):**	64 (FY2005)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	N/A	**Five-Year Review Status:**	Completed
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-8-25
Contaminants:	VOCs, SVOCs, heavy metals, PCBs, pesticides, herbicides, asbestos		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In December 1988, the BRAC Commission recommended closure of the Lexington Facility, Lexington-Blue Grass Army Depot (AD). The Army performed a RCRA facility investigation (RFI) from October 1991 to February 1993 and remediated affected areas under an April 1994 RCRA corrective action order. In FY94, the installation formed a BRAC cleanup team. The Army leased the installation to the Commonwealth of Kentucky in FY94 and the installation closed as scheduled in FY95. For transfer, the Army divided Lexington-Blue Grass AD into two parcels: a 211-acre public benefit conveyance and a 564-acre economic development conveyance (EDC). Past studies at Lexington-Blue Grass AD identified Installation Restoration Program (IRP) sites that required further investigation. A RCRA facility assessment identified 30 solid waste management units (SWMUs) and 2 areas of concern (AOCs). Site types include: landfills (new, old, and industrial and sanitary waste disposal), industrial waste lagoons, industrial wastewater treatment plants, and groundwater. EPA and the Kentucky Department of Environmental Protection (KDEP) concurred on the Phase I RFI and corrective measures study (CMS) documents in FY97 by moving 16 of the unresolved SWMUs and AOCs, including groundwater, into Phase II RFI for further evaluation. Sampling data from the initial phase of the RFI showed contaminated groundwater, soil, and sediment at 29 sites. In FY98, Lexington-Blue Grass AD established a Restoration Advisory Board. The installation completed version III of the BRAC cleanup plan in FY99. In FY01, the Army completed the Phase IIB transfer of five buildings and railroad infrastructure without underlying land to the Commonwealth of Kentucky. In FY03, the Army completed the groundwater conceptual model for the public benefit conveyance and EDC. The installation completed statements of basis with state approval for 6 sites.

In FY04, the installation submitted the final Phase II RFI/CMS for soils and groundwater, and the groundwater CMS to EPA and KDEP. The installation submitted the deed of transfer for the public benefit conveyance to the Commonwealth of Kentucky. The installation submitted the final land use control (LUC) and corrective measures implementation plan to regulators. The Army, the University of Kentucky, KDEP, and EPA collaborated to resolve risk issues concerning the presence of arsenic in surface soils.

In FY05, the installation completed well abandonment and the final Phase II RFI/CMS resulting in a signed agreement order between the Army and KDEP incorporating post-transfer LUC restrictions. A public comment period on all interim remedial actions conducted over several years at Lexington-Blue Grass AD was completed and KDEP approved the interim actions as completed final actions. The RAB was adjourned in June 05.

In FY06, Lexington-Blue Grass AD completed and submitted the environmental covenant and LUCs between the Army and KDEP. The installation also submitted the draft EDC and public benefit conveyance deed for transfer to the Commonwealth of Kentucky for review. The Army continued groundwater and landfill monitoring, and identified final monitoring requirements.

In FY07, Lexington-Blue Grass AD completed the transfer of the EDC and public benefit conveyance to the Commonwealth of Kentucky. The Army continued groundwater and landfill monitoring. All LUCs were in compliance.

FY08 IRP Progress

Lexington-Blue Grass AD petitioned for and received a sampling reduction from KDEP. The Army completed landfill inspections and the fifth annual sampling of groundwater. The installation also performed annual LUC inspections; all LUCs were in compliance. This is the last narrative for this installation; all sites have achieved response complete (RC). The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Army has identified no Military Munitions Response Program (MMRP) sites at this installation.

Plan of Action

Plan of action items for Lexington Facility, Lexington-Blue Grass Army Depot are grouped below according to program category.

IRP

- Continue monitoring groundwater and landfills in FY09.
- Perform annual LUC inspections in FY09.

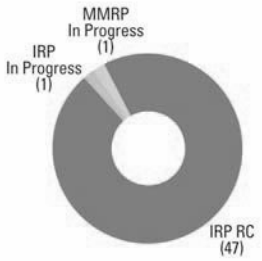
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Lone Star Army Ammunition Plant

NPL/BRAC 2005 Closure

FFID:	TX621382183100	**Est. CTC (Comp Year):**	$ 8.2 million (FY 2037)
Location (Size):	Texarkana, Texas (15,546 acres)	**IRP Sites (Final RIP/RC):**	48 (FY2006)
Mission:	Load, assemble, and pack ammunition	**MMRP Sites (Final RIP/RC):**	1 (FY2012)
HRS Score:	31.85; placed on NPL in July 1987	**Five-Year Review Status:**	Completed and planned
IAG Status:	IAG signed in September 1990	**IRP/MMRP Status Table:**	Refer to page M-7-39
Contaminants:	VOCs, petroleum, heavy metals, explosives		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 27.7 million		



Progress To Date

In May 2005, the BRAC Commission recommended closure of Lone Star Army Ammunition Plant (AAP). Lone Star AAP loads, assembles, and packs munitions. From 1943 to 1944 the Old Demolition Area (ODA), Site 17, was used to destroy faulty or nonstandard explosives. Environmental studies revealed explosives and metal contamination in the ODA. EPA placed the ODA on the NPL in 1987. RCRA sites investigated include surface impoundments, landfills, fuel storage areas, and load lines. Investigations revealed soil contamination with solvents, metals, and explosives at some sites and groundwater contamination at one site. The Army and EPA signed an interagency agreement (IAG) in 1990. In FY01 and FY06, the installation solicited interest in forming a Restoration Advisory Board (RAB), but interest was insufficient. The Army completed a 5-year review in FY06.

To date, one Record of Decision has been signed. In FY08, the Army identified one Military Munitions Response (MMRP) site. The cleanup progress at Lone Star AAP for FY04 through FY07 is detailed below.

In FY04, the installation continued long-term management (LTM) at Sites 17, 24, 33, and 34 and remedial action operations (RA-O) at Site 2. Remedial investigations (RIs) began at Sites 6, 9, and 101. The installation completed the remedial design and began the soil removal action at Site 20. The Army received state approval of no further action (NFA) for Sites 78, 79, and 80.

In FY05, Lone Star AAP completed an RI at Site 101 with NFA. The installation initiated LTM at Site 16 and continued LTM at Sites 17, 24, 33, and 34. RAs were completed at Sites 9, 16, and 20 and RA-O continued at Site 2. The installation initiated an RA at Site 6.

In FY06, Lone Star AAP performed a 5-year review of the ODA, which EPA approved. In response to the BRAC Commission's recommendation to close Lone Star AAP, the Army initiated an environmental condition of property (ECP) report and a CERFA report. The installation solicited community interest for a RAB; however, there was insufficient interest.

In FY07, Lone Star AAP submitted the final ECP and CERFA reports to the Texas Commission on Environmental Quality (TCEQ). The Army completed a final RA (soil removal) and an RA report for Site 6. The installation constructed a restrictive fence; submitted the RA report; and plugged and abandoned the five monitor wells at Site 24. The Army completed a metes and bounds survey for deed recordation purposes at Site 16. The installation continued groundwater monitoring at Sites 2, 17, 33, and 34. A total of 17 monitor wells were also plugged and abandoned at Sites 6, 17, and 101. The Army continued LTM at Sites 16, 17, 24, 33, and 34 and RA-O at Site 2.

FY08 IRP Progress

Lone Star AAP continued LTM at Sites 9, 17, 24, 33, and 34, and completed LTM at Site 16. The Army continued RA-O at Site 2. The installation continued groundwater and surface water monitoring at Sites 17 and 33, as well as groundwater monitoring at Sites 2 and 34. The installation also submitted the final draft RCRA facility assessment (RFA) to the TCEQ for review. The Army updated and submitted the final ODA closeout report to EPA for approval. Lone Star AAP uploaded 56 new sites into the Army Environmental Database based on findings of the ECP, RFA, and building assessment reports. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed completing the groundwater modeling study at Site 2.

FY08 MMRP Progress

The Army identified a new MMRP site, LSAAP-001-R-01 (Abandoned Pistol Range).

Plan of Action

Plan of action items for Lone Star Army Ammunition Plant are grouped below according to program category.

IRP

- Initiate RIs at two new sites (LSAAP-BA-02 and LSAAP-BA-09) in FY09.
- Receive regulatory approval to closeout ODA in FY09.
- Continue monitored natural attenuation at Site 2 in FY09.
- Initiate RIs at 13 new sites in FY10.
- Initiate RAs at two new sites (LSAAP-BA-07 and LSAAP-BC-44) in FY10.

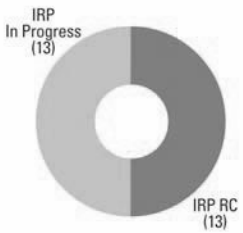
MMRP

- Begin RI at Site LSAAP-001-R-01 (Abandoned Pistol Range) in FY09.

Long Beach Naval Complex

BRAC 1991

FFID:	CA917002727200, CA917002755400, CA917002319000, and CA917002726700	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Long Beach, California (1,563 acres)	**Funding to Date:**	$ 66.3 million
Mission:	Supported logistics; worked with construction, dry docking, and outfitting of ships; performed manufacturing and test work	**Est. CTC (Comp Year):**	$ 6.3 million (FY 2017)
HRS Score:	N/A	**IRP Sites (Final RIP/RC):**	26 (FY2014)
IAG Status:	N/A	**MMRP Sites (Final RIP/RC):**	None
Contaminants:	Solvents, acids, blasting grit, paints, heavy metals, industrial liquid wastes, VOCs, SVOCs	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-7-6



Progress To Date

The Long Beach Naval Complex (NC) consists of the Long Beach Naval Shipyard (NSY), Naval Station (NS) Long Beach, and the Long Beach Naval Hospital (NAVHOSP). The Long Beach NC provided logistics support, construction, alteration, dry docking, and outfitting of ships and craft. The BRAC Commission recommended closure of the NAVHOSP, the NS, and associated housing areas in FY91; closure occurred in FY94. Closure of the NSY and associated housing areas was recommended in FY93 and occurred in FY97. NSY and NS operations that contributed to contamination include ship and vehicle repair and maintenance, utility maintenance and operation, support shops, storage of petroleum products and hazardous materials, laundry and dry cleaning, steam plant operations, and air compressor operations. Portions of housing areas associated with the NSY were used to dispose of ship wastes, drilling mud, and construction debris. In FY94, the Navy formed a BRAC cleanup team (BCT), which completed a BRAC cleanup plan. The BCT, composed of the Navy and regulators meets every other month. The joint NS and NSY technical review committee was converted to a Restoration Advisory Board (RAB). The Navy completed a 5-year review in FY05.

To date, the installation has completed Records of Decision (RODs) for Sites 1, 2, 3, 4, 5, 6A, 7 (sediments), 8, 9, 10, 11, 12, and 13. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation. The cleanup progress at Long Beach NC for FY04 through FY07 is detailed below.

In FY04, the installation began long-term management (LTM) operations at Sites 1, 2, and 14, but did not meet all remedial action (RA) objectives; additional monitoring was required. The installation completed the Site 7 feasibility studies (FSs), Sites 8 and 10 ROD and RA plan, and Sites 9, 12, and 13 proposed plans (PPs) on schedule. The installation initiated a PP for Site 7 and RODs for Sites 7, 9, 11, 12, and 13. The Navy completed the draft 5-year review for Sites 1 through 6A, 14, and Palos Verdes Operable Unit (OU) 1, and drafts of the Sites 9, 12, and 13 PPs. Regulatory agencies requested RODs for Site 14, Palos Verdes OU 1, and all areas of concern (AOCs) that require institutional controls (ICs). The RAB met quarterly and the BCT met monthly. The RAB Navy and community co-chairs attended the Navy-hosted RAB workshop in July 2004, and the Navy solicited new RAB membership.

In FY05, Long Beach NC initiated a radiological investigation work plan for Sites 1 and 2, and conducted LTM at Sites 1, 2, 11, 12, 13, 14, and Palos Verdes Housing OU 1. The Navy finalized the 5-year review for Sites 1 through 6A, 14, and Palos Verdes OU 1. The installation drafted the Site 7 FS addendum and finalized the Site 9 ROD/RAP. The Navy drafted the remedial design (RD) and RA work plans for Sites 8, 9, and 10; and completed the Site 16 expanded site inspection; and obtained clean closure. The installation conducted pre-closure groundwater sampling for Buildings 101 and 118 and initiated a screening level ecological risk assessment (SLERA) for Palos Verdes OU 1.

In FY06, Long Beach NC completed site closure for Buildings 101 and 118. The Navy finalized RODs for Sites 11, 12, and 13. The Navy also finalized the FS addendum and issued a draft final PP for Site 7. LTM operations continued at Sites 8 through 14. The installation conducted groundwater monitoring at Site 14. The RD/RA work plan for Sites 8, 9, and 10 and the RD/RA work plan for Sites 11, 12, and 13 were combined into one work plan. The installation began development of a strategy to achieve site closure for radiological concerns at Sites 1 and 2. The Navy issued a SLERA, and LTM was performed for Palos Verdes OU 1. Long Beach NC began an evaluation on the status of AOCs on Navy-owned property. The Navy met with regulators and determined that no further action (NFA) was required at Site 6B. The BCT met quarterly and the RAB met semiannually.

In FY07, Long Beach NC completed the technical memorandum detailing the closure strategy for radiological issues, and finalized the RA completion report for soil and groundwater at Sites 1 and 2. The Navy signed the Site 7 ROD for sediments in the Long Beach Harbor. The installation finalized the groundwater RD/RA work plan for Sites 8 through 13, and continued LTM at these sites and Site 14. The Navy received regulatory concurrence for NFA for groundwater at Site 10. The Navy completed groundwater monitoring, continued LTM, and finalized the SLERA at Palos Verdes OU 1. The installation worked with regulatory agencies to revise the site management and IC plan. Long Beach NC completed the closure status evaluation for 78 AOCs. The installation completed a groundwater optimization study for Site 14. The BCT met every other month, and the RAB met once.

FY08 IRP Progress

Long Beach NC developed a work plan to conduct a radiological survey, and began fieldwork at Sites 1 and 2. The Navy received regulatory concurrence to stop groundwater monitoring at Sites 1, 2, and 8. The installation decommissioned monitoring wells at Sites 3, 4, 5, 6A, and Palos Verdes OU 1. The Navy developed a revised strategy for groundwater monitoring at Sites 8, 9, 11, 12, and 13, and began implementation of the groundwater optimization study at Site 14. Long Beach NC issued a closure report to update the status of 15 AOCs in a 90-acre parcel scheduled for transfer. The Navy and the Department of Toxic Substance Control signed an NFA ROD for Palos Verdes OU 1. The installation continued LTM at Palos Verdes OU 1 and Sites 8, 9, 11, 12, 13, and 14. The Navy, upon reassessment of site risk, determined the OU 1 IC plan and the basewide IC ROD were no longer required. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Long Beach Naval Complex are grouped below according to program category.

IRP

- Complete radiological survey fieldwork and report for Sites 1 and 2 in FY09.
- Achieve regulatory agency concurrence for NFA for groundwater at Site 9 in FY09.
- Complete 5-year review in FY09.
- Continue LTM to achieve NFA for groundwater at Sites 11, 12, and 13, and complete Site 14 optimization study in FY09-FY10.

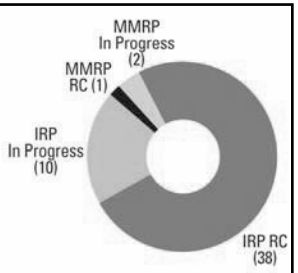
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Longhorn Army Ammunition Plant

NPL

FFID:	TX621382052900	**Funding to Date:**	$ 102.8 million
Location (Size):	Karnack, Texas (8,416 acres)	**Est. CTC (Comp Year):**	$ 16.8 million (FY 2040)
Mission:	Loaded, assembled, and packed pyrotechnic and illuminating signal munitions	**IRP Sites (Final RIP/RC):**	48 (FY2010)
HRS Score:	39.83; placed on NPL in August 1990	**MMRP Sites (Final RIP/RC):**	3 (FY2009)
IAG Status:	IAG signed in October 1991	**Five-Year Review Status:**	Completed
Contaminants:	Heavy metals, VOCs, perchlorate, explosives, SVOCs, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-151
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Longhorn Army Ammunition Plant (AAP) manufactured pyrotechnic and illuminating signal munitions and solid-propellant rocket motors. EPA placed the installation on the NPL in August 1990. The Army and EPA signed an interagency agreement (IAG) in October 1991. Identified sites include storage areas, landfills, open burning grounds, industrial areas, burial pits, sumps, and wastewater treatment plants. Longhorn AAP became inactive and excess to the Army's needs in July 1997. The Army awarded a technical assistance for public participation contract to determine the effects of on-post contamination on surface water entering Caddo Lake in FY99. The Army completed a 5-year review for Sites 12, 16, 18, and 24 in FY02 and FY08, in addition to the first 5-year review for Site 17 in FY08. The installation updated the community relations plan in FY03. In FY04, the installation formed a Restoration Advisory Board (RAB).

The installation divided the sites into five groups. Two Records of Decision (RODs) and two No Further Action (NFA) RODs have been completed. To date, the Army has transferred approximately 7,400 acres. In FY02, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Longhorn AAP for FY04 through FY07 is detailed below.

In FY04, the installation conducted a transition and partnering meeting with regulators, the U.S. Fish and Wildlife Service (FWS), and other Army personnel in anticipation of the change in installation managers from Army Material Command to the Army Headquarters BRAC Division, and a transfer meeting with the FWS, the General Services Administration, and others to facilitate property transfer. The Army prepared an environmental condition of property (ECP) report and participated in the development of an overarching transfer memorandum of agreement between FWS and the Army. In two separate actions, the Army transferred a total of approximately 5,800 acres to FWS as part of the Caddo Lake National Wildlife Refuge. The installation prepared a second ECP report to transfer a 125-acre tract of CERFA Category 1 land to the FWS. Longhorn AAP reviewed the environmental site assessment/Environmental Baseline Survey for the production area. The installation achieved response complete (RC) at Site LHAAP 045 without a remedial investigation (RI) and feasibility study (FS). The Army initiated site inspections (SIs) for three MMRP sites and reviewed historical record reports and site conceptual models for Sites LHAAP 001 R (South Test Area), 002 R (Static Test Area), and 003 R (Ground Signal Test Area). The installation held meetings with regulators and other stakeholders to familiarize them with the MMRP process and to generate input and approval. The installation conducted a site tour for regulators and stakeholders. Longhorn AAP provided unexploded ordnance, and munitions and explosives of concern recognition training to regulators, stakeholders, and interested public. The installation established a RAB.

In FY05, the installation awarded a performance-based contract (PBC) to address most of the remaining environmental restoration work. The Army completed two FSs for Sites LHAAP 12 and 67. The installation completed the installationwide ecological risk assessment (ERA) through Step 3 and submitted the report to the regulators. The ERA is now part of the PBC performance work statement. Additional sampling and evaluation at Site LHAAP 32 recommended NFA. The installation completed MMRP SIs for three sites and initiated an engineering evaluation and cost analysis (EE/CA) for each site. The RAB ratified its charter, elected a co-chair, and held quarterly meetings.

In FY06, the installation completed the FS for Site LHAAP 37 and drafted the proposed plans (PPs) for Sites LHAAP 8, 32, 37, 48, 53, and 67. Longhorn AAP signed the ROD for Site LHAAP 12 and prepared the remedial design (RD) with land use controls. The Army transferred 288 acres to FWS. The installation completed the fieldwork for the three EE/CAs for three MMRP sites.

In FY07, the installation transferred 639 acres to FWS. In addition, the RD addendum, ECP, and operating properly and successfully action for Site LHAAP 12 were finalized. The Army offered the 51-acre tract, including Site LHAAP 12, to FWS for transfer. Regulators approved PPs for Sites 8, 32, 37, 48, 53, and 67. The Army monitored natural attenuation evaluation and performed modeling and documented for several sites. The installation received regulatory approval for the optimization plan for the Groundwater Treatment Plant (Sites 18 and 24). The Army conducted additional investigations/data gaps at six PBC sites to support FSs. The installation completed the EE/CA for three MMRP sites and EPA concurred with the document. The recommended removal actions were presented in an action memorandum.

FY08 IRP Progress

Longhorn AAP completed the Baseline ERA, allowing work on decision documents, PPs, and FSs to move forward. The installation submitted the ROD for five sites (LHAAP 8, 37, 48, 53, and 67) under the Total Environmental Restoration Contract (TERC), and eight sites (LHAAP 6, 7, 51, 55, 60, 64, 66, and 68) under the PBC to regulators. The Army finalized the PP for Sites LHAAP 37 and 67. Longhorn AAP completed the second 5-year review of the interim remedies at Sites 16, 17, 18, and 24, and the final remedy at Site 12.

Regulatory issues delayed completing the ROD for 15 sites under the PBC and 6 sites under the TERC. Regulatory issues also delayed completing the FSs for eight sites under the PBC.

FY08 MMRP Progress

The Army signed the action memorandum and completed the removal actions at two MMRP sites. Longhorn AAP began fieldwork of surface clearance for approximately 160 acres and subsurface clearance for 11 acres.

Plan of Action

Plan of action items for Longhorn Army Ammunition Plant are grouped below according to program category.

IRP

- Complete ROD for 21 sites in FY09.
- Complete RD and remedial action for four sites in FY09-FY10.
- Achieve remedy in place (RIP) for two sites in FY09-FY10.
- Complete RI/FS for 12 sites in FY09-FY10.

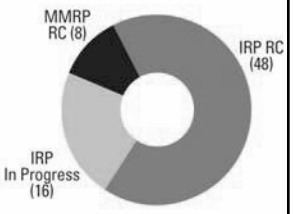
MMRP

- Complete removal actions at two sites in FY09-FY10.
- Complete PPs and RODs at three sites in FY09-FY10.

Loring Air Force Base

NPL/BRAC 1991

FFID:	ME157002452200	**Funding to Date:**	$ 139.2 million
Location (Size):	Limestone, Maine (9,472 acres)	**Est. CTC (Comp Year):**	$ 17.2 million (FY 2301)
Mission:	Supported B-52 bombers and KC-135 tankers	**IRP Sites (Final RIP/RC):**	64 (FY2001)
HRS Score:	34.49; placed on NPL in February 1990	**MMRP Sites (Final RIP/RC):**	8 (FY1999)
IAG Status:	FFA signed in April 1991; revision signed in 1994	**Five-Year Review Status:**	Completed and planned
Contaminants:	VOCs, POLs, spent solvents, PCBs, pesticides, heavy metals, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-87
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Loring Air Force Base (AFB) was established in 1952 to support bomber and tanker aircraft operations. Environmental studies began at the base in FY84. EPA placed the installation on the NPL in February 1990, and the Air Force signed a federal facility agreement (FFA) in April 1991, which was revised in 1994. In July 1991, the BRAC Commission recommended closure of the installation, and it closed in September 1994. The flightline and nose dock areas, where industrial shops and maintenance hangars were located, are the primary areas where wastes were released into soil and groundwater. Sites identified include spill areas, landfills, fire training areas, underground storage tanks, aboveground storage tanks, and low-level radioactive waste areas. In FY94, an Environmental Baseline Survey was completed. The installation formed both a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) in FY94. In FY98, the BCT updated and published the BRAC cleanup plan. The installation completed 5-year reviews in FY00 and FY05.

Sites at Loring AFB are grouped into 13 operable units. Interim remedial actions (RAs) were initiated in FY93 and included free-product removal at three sites, source removal at two sites, and treatability studies of bioventing and solvent extraction. To date, 12 Records of Decision have been signed, with the last 2 signed in FY99. The Air Force has transferred all property to the Loring Development Authority (LDA). In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Loring AFB for FY04 through FY07 is detailed below.

In FY04, the installation completed the operating properly and successfully determinations with EPA concurrence for all sites at Loring AFB. Treatment systems for soil cleanups continued to make progress toward remedial goals, and groundwater monitoring remedies remained protective of human health and the environment. The installation submitted property transfer documents for concurrence. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed the finding of suitability to transfer for all remaining property, which was transferred to the LDA. Operation and maintenance (O&M) continued for all remaining cleanup systems. The installation completed the second 5-year review. The Air Force began evaluating requirements at MMRP sites at this installation. RAB and BCT activities continued.

In FY06, the installation completed the RA at the Base Laundry. The Air Force continued to operate, monitor, and optimize remedies across the installation. The installation initiated the Fuel Tank Farm RA by excavating and landfarming approximating 15,000 cubic yards of soil. The Air Force completed explosives safety certification at all identified sites and continued to evaluate appropriate administrative requirements.

In FY07, the installation continued restoration of the Fuels Tank Farm by excavating and landfarming approximately 12,000 cubic yards of soil. The installation completed RA of the Fuels Tank Farm, although new contamination was identified. Loring AFB continued to operate and monitor remedies and institutional control compliance across the installation.

FY08 IRP Progress

Loring AFB excavated and landfarmed 30,000 cubic yards of fuel-contaminated soil at the nose dock area. The installation implemented optimization of the former jet engine test cell remedy by pneumaticly fracturing site soils and adding more biovent air injection wells. The Air Force assesed new contamination at the Fuels Tank Farm through a test pit program, and the BCT began developing a remedial strategy.

FY08 MMRP Progress

The Air Force completed administrative closure actions for all MMRP sites.

Plan of Action

Plan of action items for Loring Air Force Base are grouped below according to program category.

IRP

- Continue ongoing O&M and groundwater monitoring for base sites in FY09-FY10.
- Evaluate status of the Entomology Shop/Jet Engine Buildup Site in FY09-FY10.
- Initiate cleanup of recently identified contamination at Fuels Tank Farm in FY09-FY10.

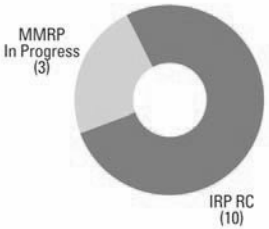
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Louisiana Army Ammunition Plant

NPL

FFID:	LA621382053300	**Funding to Date:**	$ 60.3 million
Location (Size):	Doyline, Louisiana (14,974 acres)	**Est. CTC (Comp Year):**	$ 2.4 million (FY 2012)
Mission:	Manufacture ammunition metal parts and maintain ammunition production facilities	**IRP Sites (Final RIP/RC):**	10 (FY2006)
		MMRP Sites (Final RIP/RC):	3 (FY2012)
HRS Score:	30.26; placed on NPL in March 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	IAG signed in 1989	**IRP/MMRP Status Table:**	Refer to page M-7-21
Contaminants:	TNT, RDX, HMX, oils, grease, degreasers, phosphates, solvents, metal plating sludges, acids, fly ash		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The Louisiana Army Ammunition Plant (AAP) manufactures ammunition parts for the Army. EPA placed the installation on the NPL in March 1989 and signed an interagency agreement (IAG) with the Army later that year. In FY05, the Army transferred Louisiana AAP to the Louisiana Army National Guard. Sites identified at the installation include lagoons, burning grounds, and landfills contaminated with explosives and plating wastes. Studies identified no off-site contamination; however, groundwater monitoring wells at the installation did reveal contamination with explosive compounds, such as TNT, RDX, and HMX. The potential for off-site migration of contaminants required groundwater monitoring beyond the northern and southern boundaries of the installation; the groundwater monitoring still continues. The Army conducted 5-year reviews for the interim remedial action at the Area P lagoons: one in FY94 that confirmed that the source of the contamination had been removed and another in FY00 that received EPA approval. The Army also completed a 5-year review in FY06.

The Army identified seven sites during a preliminary assessment and site inspection (SI) in FY78 and 13 additional sites in FY93 and FY94 (the Y-line etching facility, nine load-assemble-pack lines, and three test areas). Between FY89 and FY90, the installation incinerated almost 102,000 tons of explosives-contaminated soil and treated more than 53 million gallons of contaminated water. The Army identified two additional Military Munitions Response Program (MMRP) sites in FY03. The installation completed one Record of Decision (ROD) and one No Further Action ROD. The cleanup progress at Louisiana AAP for FY04 through FY07 is detailed below.

In FY04, the Army awarded a performance-based contract (PBC) for remaining environmental restoration sites. The installation completed the MMRP SI.

In FY05, the installation completed the remedial investigation (RI) for Sites 09 and 10. In accordance with Congressional directive, the Army transferred the installation to the Louisiana Army National Guard.

In FY06, the Army completed a 5-year review. The installation completed a draft groundwater feasibility study (FS) and ROD for soils Site 09. Louisiana AAP conducted public meetings to discuss proposed plans for soils and groundwater treatment. Louisiana AAP conducted a stakeholder briefing on the MMRP SI results.

In FY07, Louisiana AAP completed an FS and achieved remedy in place (RIP) and response complete (RC) for soils and groundwater.

FY08 IRP Progress

Louisiana AAP completed the PBC and received ROD approval. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed completion of long-term management (LTM) and long-term optimization (LTO).

FY08 MMRP Progress

Regulatory issues delayed completion of the RI/FS for three sites (Site BG 5, Central Proving Ground, and a small arms firing range).

Plan of Action

Plan of action items for Louisiana Army Ammunition Plant are grouped below according to program category.

IRP

- Complete LTM/LTO in FY09.
- Continue groundwater monitoring in FY09-FY10.

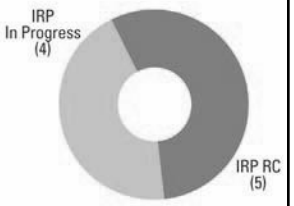
MMRP

- Complete RI/FS in FY09.

Louisville Naval Surface Warfare Center

BRAC 1995/BRAC 2005 Realignment

FFID:	KY417002417500	**Media Affected:**	Groundwater, Sediment, Soil
Location (Size):	Louisville, Kentucky (142 acres)	**Funding to Date:**	$ 19.2 million
Mission:	Overhauled repair, and manufacture weapon systems and components used on naval vessels	**Est. CTC (Comp Year):**	$ 0.5 million (FY 2019)
		IRP Sites (Final RIP/RC):	9 (FY2006)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	Chlorinated and nonchlorinated solvents, explosives, propellants, heavy metals, paint, pesticides, POLs, plating wastes, PCBs, VOCs, SVOCs, asbestos	**IRP/MMRP Status Table:**	Refer to page M-7-20



Progress To Date

In July 1995, the BRAC Commission recommended closure of the Louisville Naval Surface Warfare Center (NSWC). Operations contributing to contamination at this installation include machining, welding, draining of lubricating fluids, painting, electroplating, degreasing and cleaning of metals, and paint stripping. Site types include waste storage and disposal areas, manufacturing operations and disposal areas, and other miscellaneous support and maintenance activity areas. Contaminants have migrated into nearby soil, sediment, and groundwater. The Restoration Advisory Board (RAB) adjourned in FY04. The restoration program is conducted by a BRAC cleanup team, partnering efforts with the Navy, EPA Region IV, and the Kentucky Department of Environmental Protection (KDEP).

In 1996, 85 percent of the property was leased to the Louisville/Jefferson County Redevelopment Authority as the Navy's first private-in-place installation. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. Property was conveyed via early transfer in FY04. The cleanup progress at Louisville NSWC for FY04 through FY07 is detailed below.

In FY04, the installation completed all statements of basis and submitted a RCRA permit modification, incorporating all selected corrective measures for all sites. The installation submitted the permit modifications to state regulators for approval. Louisville NSWC also completed the early transfer to the Louisville/Jefferson County Redevelopment Authority, and initiated long-term management (LTM) of natural attenuation (NA) and land use controls (LUC) for all sites. The RAB voted to adjourn, with plans to reconvene if necessary, as all remedial decisions have been made.

In FY05, Louisville NSWC completed a RCRA Part B permit modification. This modification incorporated the final corrective action for all sites at Louisville NSWC, resulting in LTM of NA and monitoring of LUCs as remedies. The Navy continued LTM of NA and monitoring of LUCs.

In FY06, the Navy continued LTM of NA and LUC monitoring for all sites at Louisville NSWC.

In FY07, the Navy renewed the RCRA corrective action permit with KDEP.

FY08 IRP Progress

Louisville NSWC initiated planning for the 5-year review. The installation continued LTM of NA and LUC monitoring. This is the last narrative for this installation; all sites have achieved response complete (RC). The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Louisville Naval Surface Warfare Center are grouped below according to program category.

IRP

- Continue LTM of NA in FY09-FY10.
- Continue LUC monitoring in FY09-FY10.

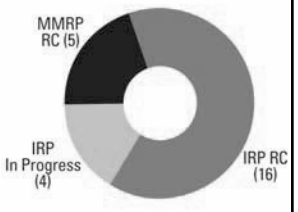
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Lowry Air Force Base

BRAC 1991

FFID:	CO857002413000	**Funding to Date:**	$ 102.2 million
Location (Size):	Denver, Colorado (1,866 acres)	**Est. CTC (Comp Year):**	$ 0.0 million (FY 2012)
Mission:	Served as Air Force technical training center	**IRP Sites (Final RIP/RC):**	20 (FY2012)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	5 (FY2007)
IAG Status:	IAG under negotiation	**Five-Year Review Status:**	Underway and planned
Contaminants:	General refuse, fly ash, coal, metals, fuels, VOCs, solvents, TCE, petroleum hydrocarbons, SVOCs, waste oil	**IRP/MMRP Status Table:**	Refer to page M-7-11
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Lowry Air Force Base (AFB) supported the 3400 Technical Training Wing. In 1991, the BRAC Commission recommended closure of all but 108 of the 1,866 acres at Lowry AFB (the Air Force retained 80 acres, as an additional 28 acres were subsequently closed). The base closed in September 1994. The Defense Finance and Accounting Service (DFAS) and the Air Force Reserve Personnel Center (AFRPC) remain at Lowry in cantonment areas, also known as Buckley Annex. The BRAC 2005 Commission recommended closure of DFAS and realignment of the AFRPC. Environmental sites at the former base include fire training areas, landfills (LFs), a fly ash disposal area, coal storage yards, and underground storage tanks. In FY94, an Environmental Baseline Survey was completed. The installation's Restoration Advisory Board (RAB) began receiving technical assistance for public participation funding in FY99.

The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites in FY04. The cleanup progress at the former Lowry AFB for FY04 through FY07 is detailed below.

In FY04, a polychlorinated biphenyls (PCBs) removal action at Building 402 and a basewide RCRA facility assessment (RFA) were conducted. Monitoring for radioactive parameters at the LF progressed on schedule. Investigations and remedial actions (RAs) at contaminated soil sites were completed. Groundwater monitoring was conducted at Building 606, and payments continued for the FY02 privatization agreement. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed the final RFA report and the PCBs removal action at Building 402. Quarterly monitoring for radioactive parameters at the LF continued. A previously abandoned septic tank near Dayton Street was investigated and removed. In addition, the installation completed several removal actions involving asbestos-containing materials discovered in soil. The Air Force incorporated RAs at remaining sites and new RFA areas into comprehensive agreement negotiations to privatize the remaining environmental cleanup and property transfer actions.

In FY06, the installation signed a comprehensive agreement to privatize the remaining Installation Restoration Program (IRP) and MMRP actions. Lowry AFB received no further action (NFA) documentation and concurrence from regulators to establish a foreign trade zone, pending completion of soil removal, confirmation sampling, and site restoration. The Air Force also received regulatory approval on the final reports for the LF cap construction. The installation completed the abandonment of two deep wells. Lowry AFB completed the follow-up investigations at suspected waste area PAA 2 and received NFA. The installation continued long-term management (LTM) at the LF and Building 606, investigation at Building 1432, abatement of asbestos in soil at various areas, and payments for the privatization cooperative agreements. The installation initiated the 5-year review. Lowry AFB completed Phase I and initiated Phase II of in situ chemical oxidation treatment of chlorinated solvents in groundwater and shut down two active remediation systems at Operable Unit (OU) 5. The installation completed a risk assessment simulation study to evaluate the human health risk associated with asbestos in soil at Filing 28. The installation submitted the final report on quarterly monitoring for radioactive parameters at the LF zone to regulators. The installation performed clearance and soil excavation at the outdoor firing range; the site requires NFA. The RAB met on a monthly basis.

In FY07, the installation continued monitoring and treatment of chlorinated solvents in groundwater, the investigation at Building 1432, and LTM at the LF and Building 606. The Air Force completed RA and NFA documentation for Buildings 777 and 898. The Air Force continued the privatization payments to the local redevelopment authority (LRA), and sampled and abated asbestos in soils at the Filing 28 Area and Parcel T. The installation continued to evaluate requirements at MMRP sites. The outdoor firing range was closed.

FY08 IRP Progress

Lowry AFB completed the 5-year review document and submitted the report for signature. The Air Force made the final specified privatization payment to the LRA. The installation continued to coordinate with regulators as needed. The Air Force's privatization contractor conducted an assessment of asbestos soil contamination and performed remediation activities to faciliate redevelopment. The installation continued periodic landfill maintenance and monitoring and received NFA for Buildings 606 and 898. The installation continued active groundwater remediation at OU 5. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The RAB and installation participated in remedial program status.

FY08 MMRP Progress

The Air Force continued to oversee MMRP site management. No sites required closure.

Plan of Action

Plan of action items for Lowry Air Force Base are grouped below according to program category.

IRP

- Obtain signature for the 5-year review and issue final report in FY09.
- Obtain State approval of RFA report and close existing compliance order in FY09.
- Continue OU 5 groundwater remediation in FY09-FY10.
- Continue LF maintenance and monitoring in FY09-FY10.
- Continue assessment of asbestos soil contamination and conduct remediation as required in FY09-FY10.
- Continue regulatory and RAB involvement in FY09-FY10.

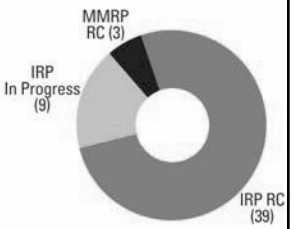
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

March Air Force Base
March Air Reserve Base

NPL/BRAC 1993/BRAC 2005 Realignment

FFID:	CA957212452700	**Est. CTC (Comp Year):**	$ 36.9 million (FY 2038)
Location (Size):	Riverside, California (6,606 acres)	**IRP Sites (Final RIP/RC):**	48 (FY2010)
Mission:	Maintain, repair, and refuel aircraft	**MMRP Sites (Final RIP/RC):**	3 (FY1999)
HRS Score:	31.94; placed on NPL in November 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in September 1990	**IRP/MMRP Status Table:**	Refer to page M-6-30
Contaminants:	VOCs, POLs, PCBs, SVOCs, metals, explosives, propellants		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 154.5 million		



Progress To Date

March Air Force Base (AFB) was established as an Army Air Service airfield in 1918 and became an Air Force installation in 1948. In July 1993, the BRAC Commission recommended realignment of the installation. Following realignment in April 1996, approximately 2,074 acres were retained by the Air Force as March Air Reserve Base (ARB), and several smaller parcels totaling 95 acres were retained by the Army and Navy. The remaining 4,439 acres have been transferred to the local redevelopment authority, and federal and local government agencies. In 2005, the BRAC Commission recommended the installation for further realignment. March AFB was placed on the NPL in November 1989, and the Air Force signed a federal facility agreement (FFA) in September 1990. Investigations have identified fire training areas, inactive landfills (LFs), underground storage tanks, an engine test cell, sludge drying beds at a sewage treatment plant, and various spill sites. The March AFB environmental restoration program is funded under the Environmental Restoration Account for sites on March ARB property and under the BRAC Account for sites on the remaining property. In FY99, a memorandum of agreement was signed between the Air Force Reserve Command (AFRC) and the Air Force Base Conversion Agency, which was renamed the Air Force Real Property Agency (AFRPA), for sharing environmental responsibility. In FY94, a base technical review committee was converted to a Restoration Advisory Board (RAB) to support cleanup efforts. The first 5-year review was completed in FY03.

Environmental studies have identified Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites at March AFB. IRP sites have been grouped into three operable units (OUs): OUs 1, 2, and 4. Records of Decision (RODs) have been signed for 25 AFRC IRP sites and 21 BRAC IRP sites. AFRPA has transferred all BRAC property. The cleanup progress at March AFB for FY04 through FY07 is detailed below.

In FY04, the Air Force finalized the OU 2 ROD and the OU 4 (formally known as the basewide OU) remedial investigation (RI) and feasibility study (FS), and proposed plan (PP). Fieldwork for the Weapon Storage Area (WSA) preliminary assessment (PA) and site inspection (SI) were completed, and the draft report was prepared. Remedial action operation (RA-O) activities at the LFs and Building 550 continued, as did the groundwater monitoring program. The RA plan for Sites 18 and 33 was approved. March ARB replaced the thermal oxidizer for the Site 2 soil vapor extraction (SVE) system with a carbon absorption unit. The thermal oxidizer was moved to Site 27, and an SVE system was started. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified on the BRAC portion of the installation.

In FY05, the Air Force finalized the OU 4 ROD and the ROD for OU 2 Sites 1, 11, 37, and 39. The AFRC began the Triad approach to resolve data gaps at Sites 8 and 36. AFRPA completed additional fieldwork and submitted the WSA PA/SI draft report. RA-O activities at two LFs and Building 550, and the groundwater monitoring program continued. AFRPA attained the remedy in place (RIP) milestone at the final BRAC IRP site and began evaluating requirements at MMRP sites. The RAB met on a quarterly basis.

In FY06, RA-O activities at two LFs and Building 550, and the groundwater monitoring program continued. AFRPA initiated a PA/SI at Area of Concern (AOC) 048, a potential source of groundwater contamination on the eastern boundary of the installation, and a reevaluation of the Site 4 LF remedy as a result of the rise in nearby groundwater. The AFRC completed fieldwork for Sites 8 and 36, and turned off the Site 2 treatment system. AFRPA completed MMRP requirement evaluations, and either administratively closed or determined, with regulatory concurrence, no further action (NFA) requirements for all MMRP sites. The RAB met twice.

In FY07, March AFB continued RA-O activities at two LFs and Building 550, as well as the groundwater monitoring program. AFRPA completed the PA/SI at AOC 048 (FT 007) and the Site 4 remedy evaluation. Two extraction wells and two monitoring wells were installed at Site ST 048 (Building 550). AFRPA also transferred the remaining BRAC property at March AFB. The AFRC completed closure documentation for Site 2, issued draft RI/FS reports for Sites 8 and 36, and shut down the Site 27 SVE system and took confirmation borings. A remedial process optimization study was completed on the expanded groundwater extraction and treatment system and groundwater monitoring program. AFRPA continued closure documentation for three MMRP sites.

FY08 IRP Progress

March AFB received an NFA determination for Sites 12 and 27. The installation completed the active remediation at Site 33. The Air Force continued RA-O activities at the LFs and Building 550, as well as the groundwater monitoring program. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed completion of RA-O activities at Building 550. Regulatory issues delayed completion of the Site 4 remedy modification decision document (DD) and draft design, and also delayed the approval of the second 5-year review.

FY08 MMRP Progress

March AFB prepared closure documentation for the three MMRP sites on BRAC property.

Plan of Action

Plan of action items for March Air Force Base are grouped below according to program category.

IRP

- Complete Building 550 RA-O activities in FY09.
- Complete Site 4 remedy modification DD and draft design, if required by regulators, in FY09.
- Complete the second 5-year review in FY09.
- Complete RI/FS at Sites 8 and 36 in FY09-FY10.
- Perform Pilot Study at Sites 8 and 36 in FY10.

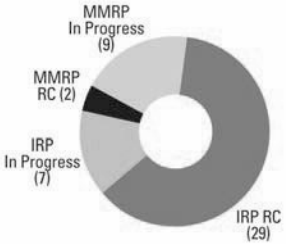
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Mare Island Naval Shipyard

BRAC 1993

FFID:	CA917002477500	**Media Affected:**	Surface Water, Sediment, Soil, Groundwater
Location (Size):	Vallejo, California (5,293 acres)	**Funding to Date:**	$ 208.4 million
Mission:	Maintained and repaired ships and provided logistical support for assigned ship and service craft	**Est. CTC (Comp Year):**	$ 47.5 million (FY 2012)
HRS Score:	N/A	**IRP Sites (Final RIP/RC):**	36 (FY2012)
IAG Status:	FFSRA signed in September 1992; renegotiated in July 2002	**MMRP Sites (Final RIP/RC):**	11 (FY2012)
Contaminants:	Heavy metals, VOCs, PCBs, pesticides, petroleum hydrocarbons, lead oxides, UXO, SVOCs, explosives, propellants	**Five-Year Review Status:**	Planned for future
		IRP/MMRP Status Table:	Refer to page M-6-24



Progress To Date

In July 1993, the BRAC Commission recommended closure of Mare Island Naval Shipyard (NSY) and relocation of the Combat Systems Technical School's Command Activity to Dam Neck, Virginia. The installation closed in FY96. Investigations of chemical and munitions contamination were initiated in FY80. Ordnance sites include dredge ponds, storage areas, and the production area. The Navy identified munitions of concern at four off-shore areas. The installation formed a technical review committee in FY90 and converted it to a Restoration Advisory Board (RAB) in FY94. An administrative record and information repository were established in FY90. The installation completed its community relations plan in FY92, which was updated in FY94 and again in FY01. The installation signed a federal facility site remediation agreement (FFSRA) in September 1992, which was renegotiated in July 2002 to address early transfers. The RAB received technical assistance for public participation in FY99, FY02, and FY03.

To date, the installation has transferred approximately 3,500 acres. The Navy has issued No Further Action (NFA) Records of Decision (RODs) for Installation Restoration Program (IRP) Site 22 and the H1/landfill area. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Mare Island NSY for FY04 through FY07 is detailed below.

In FY04, the installation continued negotiations with the local redevelopment authority (LRA) for environmental services cooperative agreements for potential early transfer parcels. The LRA continued developing proposals for various sites. The installation completed the removal action for the H1 groundwater.

In FY05, Mare Island NSY submitted the draft remedial investigation (RI) for Area F1. The installation also completed the planning documents and action memo (AM) for the non-time-critical removal action (NTCRA) at the Defense Reutilization Marketing Office (DRMO) site, and commenced cleanup work. Mare Island NSY resumed the TCRA at the Marine Corps Firing Range. The installation responded to munitions and explosives of concern (MEC) discoveries within excavated soils on the Eastern Early Transfer Parcel. MEC support was provided to screen items of concern (5 and 8 inch projectiles), which were disposed along an historic shoreline area and determined all to be inert. The installation also hosted a U.S. Army Corps of Engineers demonstration of the contained detonation chamber.

In FY06, Mare Island NSY completed the RI and feasibility study (FS), finalized the ROD, and commenced implementation of the final remedy for the H1/landfill area. Cleanup continued on the DRMO site and the Navy finalized the RI/FS and draft ROD for IRP Site 17. The installation submitted a draft finding of suitability to transfer for the elementary school site and Parcel XV B2. The installation also submitted the draft final RI for Area F1 and extended site inspection for the storm drain. The installation completed the Marine Corps Firing Range removal action, and began formulating an agreement on transferring MEC cleanup of early transfer parcels. The Navy began MEC validation surveys and investigations for off-shore and on-shore sites from the Production and Manufacturing Area (PMA) to the Western Magazine Area (WMA). The RAB continued to meet monthly. The BRAC cleanup team (BCT) continued to evaluate cleanup and develop the site management plan.

In FY07, Mare Island NSY continued implementation of the final remedy of the H1/landfill area. The installation completed the removal action and submitted a draft total petroleum hydrocarbon technical memorandum for the DRMO site. The installation initiated TCRAs at Area F2 (IRP Site 4), Horse Stables Area (HSA), Paint Waste Area (PWA), and Parcel XVI, and began discussions for early transfer for the remaining economic development conveyance (EDC) parcels. Mare Island NSY completed MEC validation surveys and investigations for off-shore and on-shore MEC sites at the PMA, South Shore Area (SSA), and WMA. The BCT continued to meet, evaluate cleanup, and develop the site management plan. The RAB met monthly and conducted a community tour.

FY08 IRP Progress

Mare Island NSY continued to explore options for an early transfer agreement for the remaining EDC parcels. The Navy finalized the completion report for CERCLA contaminants. The installation completed the Marine Corps firing range TCRA completion report and the revised final RI for Site IA A2. Mare Island NSY conducted sampling for the baseline ecological risk assessment at Site IA K. The installation also continued investigation of the DRMO petroleum and sampled groundwater at Site IA F1. The Navy closed the interior of the J-lines (pipelines connected to the former wastewater treatment plant) and received regulatory concurrence for NFA.

Technical issues delayed beginning the H1/landfill area closure, and delayed the TCRAs at Area F2, Parcel XVI PWA, HSA, and IRP Site 5. Administrative issues delayed the engineering evaluation and cost analysis (EE/CA) and action memorandum for IRP Site 17. Early transfer negotiations were terminated and focus was shifted to projects that meet the needs of the local reuse authority (City of Vallejo) and its developers.

The installation held regular BCT and RAB meetings, and held community events related to the RAB.

FY08 MMRP Progress

The Mare Island NS BCT continued to develop the strategy for the MEC NTCRA within the PMA and SSA. The installation finalized the geophysical investigation report for the onshore MEC sites at the PMA and SSA, and the DRMO NTCRA.

Plan of Action

Plan of action items for Mare Island Naval Shipyard are grouped below according to program category.

IRP

- Complete final remedy and closure for H1/landfill area in FY09.
- Complete TCRA at Area F2 (IRP Site 4), Parcel XVI PWA, HSA, and IRP Site 5 in FY09.
- Begin EE/CA, AM, and NTCRA for IRP Site 17 in FY09.
- Complete the total petroleum hydrocarbons technical memorandum at the DRMO site in FY09-FY10.

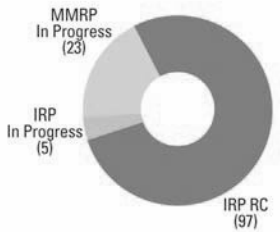
MMRP

- Submit the EE/CA and AM for the PMA and SSA, and obtain BCT concurrence in FY09.
- Complete the technical memorandum to detect MEC in FY09.

Marine Corps Base Quantico

NPL/BRAC 2005 Realignment

FFID:	VA317302472200	**Funding to Date:**	$ 66.2 million
Location (Size):	Quantico, Virginia (60,000 acres)	**Est. CTC (Comp Year):**	$ 33.1 million (FY 2019)
Mission:	Provide military training and support research, development, testing, and evaluation of military hardware	**IRP Sites (Final RIP/RC):**	102 (FY2012)
HRS Score:	50.00; placed on NPL in June 1994	**MMRP Sites (Final RIP/RC):**	23 (FY2017)
IAG Status:	FFAs signed in December 1991 and February 1999	**Five-Year Review Status:**	Completed and planned
Contaminants:	PCBs, pesticides, VOCs, SVOCs, phenols, heavy metals, petroleum hydrocarbons, arsenic, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-168
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Marine Corps Base (MCB) Quantico's mission is to support training for general combat by providing a varied background in tactical operations and performing research and development of Marine Corps equipment. Marine Corps Base (MCB) Quantico operated a municipal landfill throughout the 1970s. After the landfill closed, the area was used as a scrap yard. Sites at the installation include surface disposal areas, underground storage tanks, and disposal pits that contain contaminated soil, surface water, and sediment. Contamination at the old landfill area was the primary reason for the installation's placement on the NPL in June 1994. The installation signed a federal facility agreement (FFA) in December 1991 and February 1999. A technical review committee was formed in FY89. In 2005, the BRAC Commission recommended MCB Quantico for realignment. In FY92, the installation established three information repositories, each containing a copy of the administrative record. The installation completed a community relations plan in FY95, which was updated in FY03. The installation completed 5-year reviews for Site 4 in FY02 and FY08.

EPA has identified 303 areas of concern (AOCs) at MCB Quantico. The Navy currently recognizes Installation Restoration Program (IRP) sites and RCRA solid waste management units (SWMUs) at this installation. The remaining AOCs required further investigation to determine extent of contamination. In FY99, two SWMUs and seven AOCs were closed. The installation signed a No Further Action Record of Decision (ROD) for Sites 1 and 5 in FY00, and Site 17 in FY01. The installation also signed three RODs for Site 9 and Multi-Site (M13). The Navy completed an inventory of Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at MCB Quantico for FY04 through FY07 is detailed below.

In FY04, the installation completed Phase I of the interim remedial action (IRA) at the former rifle range (Site 20) and implemented Phase II. The installation also completed an additional IRA for the auto hobby shop (Site 34) resulting in site closure, and awarded IRAs for additional site work. The installation finalized the post-IRA study for contaminated sediments and submitted a draft feasibility study (FS) for review. Sampling work continued for the remainder of the Quantico watershed study site inspections (SIs) and remedial investigations. The installation completed environmental engineering and cost analyses (EE/CAs) for five sites.

In FY05, MCB Quantico completed an IRA at Site 20. The installation completed EE/CAs and IRAs for three sites. The installation issued a final SI for the Potomac River sediments.

In FY06, MCB Quantico completed IRAs at six sites and achieved remedy in place (RIP) at each site. The installation achieved closeout for six IRP sites. The installation also completed the draft final FS for the Quantico embayment sediments and draft RODs for Sites 4, 5, and 20. The Navy initiated a treatability study (TS) and IRA at one groundwater site. The installation awarded and initiated work on a basewide MMRP SI.

In FY07, MCB Quantico completed an IRA at Sites 9 and 95, and closed eight sites. The installation finalized two RODs for Sites 5 and 20. The Navy continued work on the embayment remedial design (RD), ROD, and RA contract. MCB Quantico continued to develop the SI work plans.

FY08 IRP Progress

MCB Quantico initiated a Phase I RA at Site 99/96. The installation signed three RODs for Sites 4, 95, and Multi-Site (8, 9, 10, 21, 32, 34, and 98). MCB Quantico completed a second 5-year review for Site 4.

Regulatory issues delayed the embayment RD and ROD. Technical issues delayed the embayment Phase I RA.

FY08 MMRP Progress

MCB Quantico continued SIs for MMRP sites.

Administrative issues delayed the completion of the MMRP work plan.

Plan of Action

Plan of action items for Marine Corps Base Quantico are grouped below according to program category.

IRP

- Sign individual RODs for Site 100, Chopawamsic Creek, and embayment in FY09.
- Continue Phase II RA for Site 99/96 in FY09.
- Award embayment Phase I RA in FY09.
- Finalize three proposed plans, three long-term management plans, two RDs (including embayment), and one TS work plan in FY09-FY10.

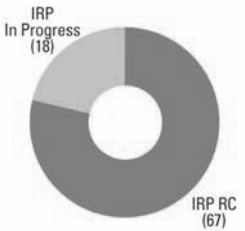
MMRP

- Complete MMRP work plan in FY09.
- Initiate fieldwork for MMRP sites in FY09-FY10.
- Complete Uniform Federal Policy Quality Assurance Plans for SI workplan and SI report in FY09-FY10.

Massachusetts Military Reservation
Otis ANGB and Camp Edwards

NPL

FFID:	MA157282448700	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Falmouth, Massachusetts (22,000 acres)	**Funding to Date:**	$ 668.9 million
Mission:	Provide Army and Air National Guard training and support the East Coast Air Defense and Coast Guard Air and Sea Rescue Units	**Est. CTC (Comp Year):**	$ 245.4 million (FY 2055)
		IRP Sites (Final RIP/RC):	85 (FY2009)
HRS Score:	45.93; placed on NPL in November 1989	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in July 1991; last amended in June 2002	**Five-Year Review Status:**	Completed and planned
Contaminants:	Waste solvents, VOCs, pesticides, metals, SVOCs, explosives, propellants, petroleum-related compounds, PAHs, phenols	**IRP/MMRP Status Table:**	Refer to page M-6-93



Progress To Date

Massachusetts Military Reservation (MMR) provides Army and Air National Guard training, and supports the East Coast Air Defense and Coast Guard Air and Sea Rescue Units. EPA placed the installation on the NPL in November 1989. The Air Force signed a federal facility agreement (FFA) in July 1991, which was last amended in June 2002. Sites at MMR include chemical and fuel spill sites, storm drains, landfills, and former firefighter training areas. Private and municipal wells near the installation were closed and replaced after off-base migration of groundwater contamination was detected. MMR formed a Restoration Advisory Board in January 1993. The installation completed 5-year reviews in FY97, FY03, and FY08.

To date, Records of Decision (RODs), interim RODs, or decision documents (DDs) have been signed for 84 sites, and 66 sites have been closed. The cleanup progress at MMR for FY04 through FY07 is detailed below.

In FY04, the installation completed engineering designs for off-base groundwater treatment systems for Sites CS 4, 20, and 21, and FS 29. Real estate support finalized or continued processing easements for 45 properties. MMR commenced soil removal at the CS 19 unexploded ordnance (UXO) disposal site; and continued the monitoring, operation, and optimization of eight groundwater treatment systems and two soil vapor extraction (SVE) systems. MMR also decommissioned three older groundwater treatment systems associated with the Sites CS 4, SD 5 South, and FS 1 groundwater plumes. Site CS 1 was approved for no further action (NFA). MMR acquired a direct push rig, and utilized direct push technology to fill data gaps in a timely and cost effective manner. The base continued community involvement (CI) efforts.

In FY05, MMR completed 90 percent of the construction for an off-base combined groundwater treatment system for Sites CS 4, 20, and 21, and FS 29. Real estate support finalized or continued processing easements for 70 properties. The MMR in-house geoprobe rig was used to complete 35 groundwater profile borings to 230 feet deep, install 11 piezometers, and complete 40 soil profile borings. The installation completed removal actions at two sites, completed Phase I and II removal actions at the CS 19 UXO disposal site, issued remedial action (RA) reports for five sites, closed three sites, decommissioned an SVE system, and obtained NFA for two groundwater sites. MMR continued monitoring, operation, and optimization of eight groundwater treatment systems and an SVE system. The Air Force updated its Military Munitions Response program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. The base CI team continued CI efforts.

In FY06, MMR completed construction on its largest groundwater remediation system, which treats over 4.7 million gallons per day from four sites. Construction was 80 percent complete on the Site LF 1 expansion and Site CS 23 groundwater treatment systems. MMR continued monitoring, operating, and optimizing 8 groundwater treatment systems with a combined capacity of over 17 million gallons per day. The installation completed two RODs, one interim ROD, and one DD resulting in a site closure determination for three sites, a response complete (RC) achievement for one site, and a remedy in place (RIP) achievement for one site. The installation obtained RC at Sites FS 25 and CS 14, and began RA-operations at Sites CS 4, 20, and 21, and FS 29. MMR completed the Phase III removal action at the CS 19 UXO disposal site, and obtained an NFA determination for the CS 13 groundwater site. The Air Force submitted a delisting package for 63 sites to EPA. The CI program continued.

In FY07, MMR completed construction of groundwater treatment systems and finalized RODs for Sites LF 1 and CS 23. The Air Force Center for Engineering and the Environment awarded a contract for a utility-class wind turbine to offset the large electricity requirement of the eight groundwater treatment systems. The installation installed an additional extraction well to address a previously uncaptured portion of the Site FS 28 groundwater plume. The new well and pipeline required six off-base easements and construction through a wetland/cranberry bog area. EPA published a notice of partial NPL delisting for 61 MMR sites. MMR implemented major optimizations of the Site FS 12 and Ashumet Valley groundwater treatment systems resulting in the shutdown or adjustment of numerous extraction wells. MMR initiated the third 5-year review. A historical records review identified two potential MMRP sites on leased property.

FY08 IRP Progress

MMR completed the third 5-year review. The installation initiated a new land use control program that addresses potential exposure to off-base contaminated groundwater. The installation also completed an explanation of significant differences for six groundwater sites and conducted a pilot test using in situ chemical oxidation for deep trichloroethylene (TCE)-contaminated groundwater. MMR continued the CS 19 source area removal action, including the removal and disposal of over 2,000 tons of soil. The Air Force began construction of a wind turbine to generate electricity to operate various MMR remedial systems. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed completion of RODs for Site CS 10 and the Ashumet Valley groundwater plumes.

The Plume Cleanup Team joined the Army's Impact Area Review Team to form the MMR Cleanup Team.

FY08 MMRP Progress

MMR evaluated two potential MMRP sites and determined them ineligible as they are on active range property.

Plan of Action

Plan of action items for Massachusetts Military Reservation are grouped below according to program category.

IRP

- Complete RODs for Ashumet Valley groundwater plumes and Site CS 10 in FY09.
- Achieve RIP for all sites in FY09.
- Complete construction and operate wind turbine in FY09.

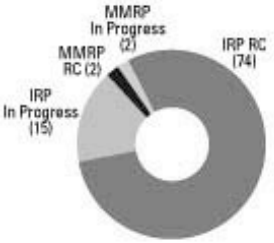
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Mather Air Force Base

NPL/BRAC 1988

FFID:	CA957002474300	**Funding to Date:**	$ 198.6 million
Location (Size):	Sacramento, California (5,718 acres)	**Est. CTC (Comp Year):**	$ 91.1 million (FY 2067)
Mission:	Provided navigation and electronic warfare officer training; housed SAC Bombing and Refueling Squadron	**IRP Sites (Final RIP/RC):**	89 (FY2006)
		MMRP Sites (Final RIP/RC):	4 (FY2009)
HRS Score:	28.90; placed on NPL in July 1987	**Five-Year Review Status:**	Completed and planned
IAG Status:	IAG signed in 1989	**IRP/MMRP Status Table:**	Refer to page M-6-30
Contaminants:	VOCs, SVOCs, metals, solvents, jet fuel, petroleum hydrocarbons, lead		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In July 1987, Mather Air Force Base (AFB) was placed on the NPL. The BRAC Commission recommended closure in December 1988, and the installation signed an interagency agreement (IAG) the following year. Before becoming inactive in FY93, the installation housed the 323rd Flying Training Wing, a Strategic Air Command (SAC) Wing, a Reserve air refueling group, and an Army National Guard aviation unit. Site types include landfills (LFs), underground storage tanks (USTs), fire training areas, a trichloroethylene (TCE) disposal site, a weapons storage area, wash rack areas, spill areas, and waste pits. In FY94, a Restoration Advisory Board (RAB) and a BRAC cleanup team (BCT) were formed. The installation completed 5-year reviews in FY00 and FY05.

Studies have identified Installation Restoration Program (IRP) sites at the installation, which were grouped into six operable units (OUs): OU 1, Aircraft Control and Warning Site; OU 2, Groundwater; OU 3, Soil; OU 4, LF; OU 5, Basewide; and OU 6, Supplemental Basewide. Interim actions included removing USTs and contaminated soil, supplying an alternate water supply for nearby residents, removing sludge from a former wastewater treatment plant, removing petroleum product by soil vapor extraction (SVE), and excavating pesticide contamination from drainage ditches. In FY01, removal actions at Sites 80 (ST 080), 85 (DD 085), 88 (SD 088), and 89 (OT 089) were completed except for reclamation and reporting. The installation also completed the draft remedial action report (RAR) for Sites 15 (SD 015) and 62 (OT 062). In FY03, RARs were completed for Sites 69 (OT 069) and 86 (FR 086). The installation also discovered additional buried debris and fuel contamination at Site 10C/68 (FT 010/ST 068). To date, Records of Decision (RODs) have been approved for OUs 1 through 6. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Mather AFB from FY04 through FY07 is detailed below.

In FY04, Mather AFB installed a new extraction well near the toe of the main base area plume (SAC area). One injection well was redeveloped and two extraction wells were replaced. A reduction of groundwater sampling frequency reduced operation and maintenance costs. The installation initiated the closure process for two CERCLA and two non-CERCLA sites. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation began operating the new extraction well near the toe of the main base plume (SAC area). Existing groundwater and SVE treatment systems continued to operate. The Air Force completed the second 5-year review report and obtained concurrence. The Air Force began evaluating requirements at MMRP sites at this installation. RAB and BCT activities continued.

In FY06, the installation continued to operate existing groundwater and SVE treatment systems. The Air Force continued to collect site information on the remaining 13 active SVE sites. The installation completed the final OU 6 ROD and attained the last remedy in place (RIP) milestone. Mather AFB began reinstallation of the groundwater remediation system at Site WP 007. The installation continued to evaluate requirements at MMRP sites. RAB and BCT activities continued.

In FY07, the Air Force continued to operate existing groundwater and SVE treatment systems. The installation reinstalled the groundwater remediation system at Site WP 007 and installed an additional monitoring well at the southwest lobe of the main base plume (SAC area) to assist in determining the location for a new extraction well. The Air Force began an MMRP investigation for closure of a practice grenade range.

FY08 IRP Progress

Mather AFB continued to operate existing groundwater and SVE treatment systems, and installed an additional extraction well at the southwest lobe of the main base plume (SAC area). The Air Force also installed 105 additional SVE monitoring and extraction wells, and 21 additional groundwater monitoring wells. The installation finalized the lead removal work plan at Site FT 010C. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed the lead removal excavation at Site FT 010C. Technical issues delayed the planned perched-water pump test at Site WP 007.

FY08 MMRP Progress

The Air Force completed the site inspection (SI) work plans for the remaining MMRP sites.

Contractual issues delayed the SI documentation at remaining MMRP sites.

Plan of Action

Plan of action items for Mather Air Force Base are grouped below according to program category.

IRP

- Complete lead excavation at Site FT 010C in FY09.
- Install and operate perched water pumping system at Site WP 007 in FY09.
- Satisfy data gaps identified by the capture zone analysis report regarding monitoring wells in FY09.
- Achieve EPA construction complete goal in FY09.

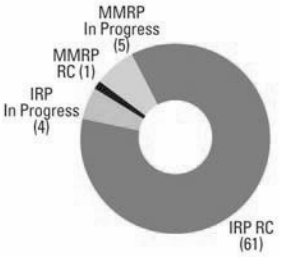
MMRP

- Complete SI documentation at remaining MMRP sites in FY09.

McChord Air Force Base

NPL/BRAC 2005 Realignment

FFID:	WA057182420000	**Media Affected:**	Groundwater and Soil
Location (Size):	Tacoma, Washington (4,616 acres)	**Funding to Date:**	$ 27.6 million
Mission:	Provide airlift services for troops, cargo, and equipment	**Est. CTC (Comp Year):**	$ 21.4 million (FY 2044)
HRS Score:	31.94 (Area D/American Lake Garden Tract); placed on NPL in September 1984; 42.24 (Washrack/Treatment Area); placed on NPL in July 1987 and delisted from NPL in September 1996	**IRP Sites (Final RIP/RC):**	65 (FY2004)
		MMRP Sites (Final RIP/RC):	6 (FY2015)
IAG Status:	FFA signed in August 1989; consent decree with State of Washington signed in February 1992	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-6-174
Contaminants:	VOCs, SVOCs, metals, radioactive waste		



Progress To Date

McChord Air Force Base (AFB) provides airlift services for troops, cargo, equipment, and mail. Sites at the installation include fire training areas, spill sites (SS), landfills (LFs), and waste pits. Two sites were placed on the NPL: the Area D/American Lake Garden Tract (ALGT) in September 1984, and the Washrack Treatment Area (WTA) in July 1987. The WTA was delisted in September 1996. The Air Force signed a federal facility agreement (FFA) in August 1989 and a consent decree with the State of Washington in February 1992. In 2005, the BRAC Commission recommended McChord AFB for realignment. McChord AFB assessed the local community's interest in forming a Restoration Advisory Board (RAB) in FY95, FY96, FY98, FY99, FY04, FY06, and FY08. Sufficient interest does not exist to form a RAB. The installation completed 5-year reviews for the WTA in FY99 and FY04, and for Area D/ALGT in FY00 and FY05.

Since 1982, 65 Installation Restoration Program (IRP) sites have been identified at this installation. All 65 sites were classified as remedy in place (RIP) by FY04. Six sites are currently listed on the state's hazardous sites list and are managed through long-term monitoring and natural attenuation (NA) monitoring. To date, 600 million gallons of groundwater have been treated and 52 pounds of trichloroethylene (TCE) have been recovered at Area D/ALGT. A Record of Decision (ROD) was signed for WTA. The cleanup progress at McChord AFB for FY04 through FY07 is detailed below.

In FY04, McChord AFB completed the remedial design and began the Phase I remedial action (RA) at SS 34N. Sodium permanganate was injected into the groundwater through a network of 32 wells to support TCE treatment. As part of the RA-construction, the installation developed and implemented a monitoring plan both on-and off-base to determine if and when a Phase II injection round at SS 34N. The second 5-year review for the delisted WTA was conducted and regulators concurred with the recommendation that this would be the final CERCLA review for this site. The installation distributed over 10,000 surveys within the surrounding communities, polling for RAB community interest. Two individuals expressed interest in RAB participation. However, a RAB was not formed.

In FY05, McChord AFB completed the second 5-year review and finalized an RA optimization study for Area D/ALGT. The installation monitored the progress of the SS 34N RA and optimized the Phase II execution strategy. The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

In FY06, McChord AFB pursued options for delisting Area D/ALGT from the NPL. The installation extended the monitoring of Phase I progress of SS 34N. McChord AFB continued to refine the Phase II execution strategy for SS 34N. McChord AFB continued PAs at all identified MMRP sites. Approximately 11,000 newsletters were distributed to residents surrounding the installation.

In FY07, McChord AFB continued SS 34N RA Phase II execution and optimization. Installationwide long-term monitoring and NA monitoring continued. The installation continued operation and maintenance for Area D/ALGT and redirected NPL delisting efforts for the site to optimization and plume reduction using bioremediation technology. The installation began dialogue with the state to delist LFs 01 and 02, and Sites DP 61 and WP 64. McChord AFB completed an MMRP Comprehensive Site Evaluation (CSE) Phase I.

FY08 IRP Progress

McChord AFB removed insecticide-contaminated soil from Site WP 64 and submitted a cleanup report to the State of Washington. The Air Force continued the SS 34N Phase II optimization. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed pursuing a ROD Amendment for the current pump-and-treat extraction system.

McChord AFB solicited the community's interest in forming a RAB; there wasn't sufficient interest.

FY08 MMRP Progress

McChord AFB initiated a CSE Phase II of identified MMRP sites.

Plan of Action

Plan of action items for McChord Air Force Base are grouped below according to program category.

IRP

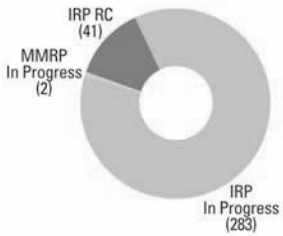
- Continue pump-and-treat operations at Area D/ALGT and prepare for planning phase of bioremediation in FY09.
- Continue SS 34N Phase II optimization in FY09.
- Submit delisting request for LFs 01 and 02, and Sites DP 61 and WP 64 in FY09.
- Initiate ROD Amendment for the pump-and-treat extraction system in FY09.

MMRP

- Complete CSE Phase II in FY09.
- Initiate lead cleanup at ranges in FY09-FY10.

McClellan Air Force Base

FFID:	CA957172433700	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Sacramento, California (3,452 acres)	**Funding to Date:**	$ 611.5 million
Mission:	Provided logistics support for aircraft, missile, space, and electronics programs	**Est. CTC (Comp Year):**	$ 383.5 million (FY 2067)
HRS Score:	57.93; placed on NPL in July 1987	**IRP Sites (Final RIP/RC):**	324 (FY2015)
IAG Status:	FFA signed in May 1990	**MMRP Sites (Final RIP/RC):**	2 (FY2011)
Contaminants:	Metals, cleaners and degreasers, paints, lubricants, photochemicals, phenols, SVOCs, solvents, PCBs, VOCs, radioactive material, explosives, propellants	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-6-31



Progress To Date

The mission of the former McClellan Air Force Base (AFB) was to provide support for aircraft, missile, space, and electronics programs. EPA placed the installation on the NPL in July 1987, and the Air Force signed a federal facility agreement (FFA) in May 1990. In 1995, the BRAC Commission recommended the closure of McClellan AFB. Environmental contamination at McClellan AFB has resulted from sumps associated with industrial operations, landfills (LFs), leaks from industrial waste lines, surface spills, and underground storage tanks. Studies detected groundwater contamination, leading to the closure of two on-base and three off-base drinking water wells. In addition to 373 acres of contaminated soil in the vadose zone, there are three large plumes, totaling over 660 acres, consisting primarily of trichloroethylene (TCE)-contaminated groundwater. The installation converted its technical review committee to a Restoration Advisory Board (RAB) in FY93. A BRAC cleanup team (BCT) has been formed at this installation. In FY04, the Air Force completed the first 5-year review for the Davis Site, which is located approximately 15 miles west of McClellan AFB, and the second 5-year review for the NPL portion of the base.

Sites at the installation are grouped into 11 operable units (OUs), including an installationwide groundwater OU. The Groundwater Record of Decision (ROD) has been signed. Two Soil RODs and one No Action ROD have been completed. One interim ROD remains in place but will be replaced by the 62-acre Privatization Parcel ROD. To date, the installation has transferred 530 acres. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at McClellan AFB for FY04 through FY07 is detailed below.

In FY04, the installation completed the local redevelopment authority (LRA) Initial Parcel (IP) 1 ROD and associated finding of suitability for early transfer (FOSET) and finding of suitability for transfer for 82 acres. A total of 154 acres were transferred by deed. The Air Force completed the interim ROD for groundwater Phase III off-base design and initiated the interim ROD for groundwater Phase III on-base design. The installation completed the second 5-year review for the NPL portion of the base and completed the first 5-year review for the Davis Site. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed construction of the Phase III groundwater system. The installation awarded the Davis Site a cleanup guaranteed firm-fixed price contract to achieve site closeout. The Air Force began evaluating requirements at MMRP sites. BCT activities and active RAB participation continued.

In FY06, the installation completed remedial actions (RAs) for two of the three action sites in the LRA IP 1 ROD. The installation continued to operate the biovent system at the third action site in the LRA IP 1 ROD. The Air Force completed the focused strategic sites feasibility study (FS) and proposed plan (PP). The installation completed the agreement on a new flow, fate, and transport model, minimizing the time required for cleanup. The installation streamlined the groundwater treatment system. The Air Force continued the soil vapor extraction (SVE) program, expanding the number of treatment systems from 14 to 16. The installation conducted verification sampling and completed initial negotiations with regulators to close a completed SVE site. McClellan AFB continued to evaluate MMRP requirements at two sites: the Former Skeet Range and a suspected discarded military munitions (DMM) LF site. BCT activities and active RAB participation continued.

In FY07, the Air Force continued to operate and maintain the groundwater pump-and-treat system, a biovent system, and multiple SVE systems. The final Volatile Organic Compound (VOC) Groundwater ROD was completed and signed by the Air Force and regulators. The Air Force completed a pilot project involving the early transfer of a 62-acre parcel with privatized cleanup of the nine Installation Restoration Program (IRP) sites on the parcel. An amendment to the May 1990 McClellan FFA was required. Regulators approved soil vapor cleanup standards, and the Air Force finalized deed covenant language to require monitoring of soil vapors. The Air Force continued its review of the former Skeet Range and DMM LF site. BCT activities and active RAB participation continued.

FY08 IRP Progress

McClellan AFB completed the non-VOC groundwater remedial investigation (RI) and FS. The Air Force completed the IP 2 ROD and obtained regulatory approval.

Regulatory issues delayed completion of the LRA IP 3, FS, PP, and ROD. Regulatory issues also delayed the non-VOC groundwater PP and ROD, and the focused strategic sites ROD. Contractual and regulatory issues delayed completion of FSs, PPs, and RODs for the Small Volume and Ecological Sites. Administrative issues delayed completion of the FOSET 1 privatization. Administrative and regulatory issues delayed the remedial design and RA for IP 2 and 3 action sites; these sites were added to the FOSET 1 privatized cleanup effort.

FY08 MMRP Progress

The installation initiated a historical records review (HRR).

Administrative issues delayed closure of the former Skeet Range and completion of the suspected DMM LF site intrusive field investigation. In turn, this delayed the evaluation of site closure alternatives.

Plan of Action

Plan of action items for McClellan Air Force Base are grouped below according to program category.

IRP

- Complete LRA IP 3 RI/FS documents and transfer responsibility for the PP/ROD to EPA in FY09.
- Complete RI/FSs, PPs, and RODs for the Small Volume and Ecological Sites in FY09.
- Complete FOSET 1 early transfer with privatized cleanup in FY09.
- Complete non-VOC groundwater PP and ROD amendment in FY09.
- Complete focused strategic sites ROD in FY09.

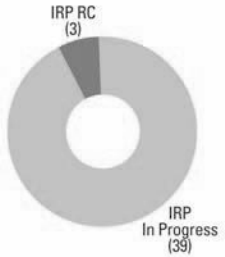
MMRP

- Complete suspected DMM landfill site intrusive field investigation and evaluate site closure alternatives in FY09.
- Conduct surface soils characterization and develop a work plan for cleanup at the former Skeet Range in FY09-FY10.

McGuire Air Force Base

NPL

FFID:	NJ257182401800	**Funding to Date:**	$ 70.3 million
Location (Size):	Burlington County, New Jersey (3,500 acres)	**Est. CTC (Comp Year):**	$ 120.8 million (FY 2032)
Mission:	Provide quick-response airlift capabilities for placing military forces into combat situations	**IRP Sites (Final RIP/RC):**	42 (FY2012)
HRS Score:	47.20; placed on NPL in October 1999	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA under negotiation	**Five-Year Review Status:**	Planned
Contaminants:	SVOCs, PAHs, BTEX, TPH, VOCs, metals, PCBs, TCE, pesticides, radioactive materials	**IRP/MMRP Status Table:**	Refer to page M-6-111
Media Affected:	Groundwater and Soil		



Progress To Date

McGuire Air Force Base (AFB) provides quick-response airlift capabilities for placing military forces into combat situations. EPA placed the installation on the NPL in October 1999. Sites include landfills (LFs), waste piles (WPs), fire training areas (FTAs), hazardous waste storage areas, and spill sites (SS). The installation formed a Restoration Advisory Board (RAB) in 1999.

To date, 42 Installation Restoration Program (IRP) sites have been identified at McGuire AFB, including 6 at the Boeing Michigan Aeronautical Research Center (BOMARC) facility, a remote location under McGuire AFB jurisdiction. In FY05, the Air Force updated its Military Munitions Response Program (MMRP) inventory. The cleanup progress at McGuire AFB for FY04 through FY07 is detailed below.

In FY04, the installation began the remedial investigation (RI) work plan development for LFs 02 and 03. In addition, the installation completed soil removal at the BOMARC missile accident site (RW 01) and interim remedial action Phase I soil removal at Fire Protection Training Area 3 (FT 13). McGuire AFB continued the RI study for the trichloroethylene (TCE) groundwater plume delineation and source investigation for Site OT 16 and for SS 24 at Building 2227. The installation held two RAB meetings, one Tier I/II partnering meeting, and one Tier III partnering meeting.

In FY05, McGuire AFB completed RI fieldwork for LF 03 and the RI for Building 2227 (SS 24). The installation initiated a comprehensive basewide conceptual site model (CSM), ecological study, and background study. The DOE led a survey at the BOMARC missile accident site (RW 01) and identified numerous discrete particles of contamination. McGuire AFB expanded the fence line around the BOMARC facility to contain some of the identified particles. No MMRP sites were identified at this installation during the inventory development. The installation held two RAB meetings, one Tier I/II partnering meeting, and one Tier I/II/III partnering meeting.

In FY06, McGuire AFB completed additional site surveys and initiated cleanup of the Class 1 area at the BOMARC missile accident site (RW 01). The Air Force continued work on the comprehensive basewide CSM and background study. The installation initiated RIs for the LF Operable Unit (OU) (LFs 02, 19, and 20, and WP 21) and Site ST 07. McGuire AFB completed the RI study for LF 03. Additionally, McGuire AFB continued the basewide ecological study, which included flyover surveys, a full basewide wetland delineation, and other key ecological components. McGuire AFB held one Tier I/II partnering meeting and two RAB meetings. The installation also initiated the RAB Journal. Two RAB mailings were distributed.

In FY07, McGuire AFB initiated RIs for 16 sites (4 OUs), completed fieldwork for 1 OU (SS 25/26), and submitted work plans for 2 OUs to regulators. The installation continued the RIs for LF OU (LFs 02, 19, and 20, and WP 21) and Site ST 07, and completed the RIs for Site OT 16 and SS 24. The work plan and fieldwork for Site ST 09 was completed and the RI was initiated. The installation completed the BOMARC facility and rapid site characterization projects for 11 sites. The Air Force initiated a modified comprehensive site evaluation (CSE) Phase I to identify MMRP sites at this installation.

FY08 IRP Progress

McGuire AFB awarded a performance-based contract (PBC) for 24 sites for the RI and feasibility study (FS) phase through remedy in place (RIP). The installation submitted RI reports for regulatory review at 11 sites. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed the RI report for LF 04. Contractual issues delayed completion of FSs at four sites and the site closure report for the BOMARC site (RW 01).

McGuire AFB held one RAB meeting.

FY08 MMRP Progress

Administrative issues delayed the completion of the modified CSE Phase I to determine if there are MMRP sites on the installation.

Plan of Action

Plan of action items for McGuire Air Force Base are grouped below according to program category.

IRP

- Complete RI/FS at 24 sites in the PBC project in FY09.
- Complete RI/FS at 14 sites in FY09.
- Complete site closure report and request no further action from the New Jersey Department of Environmental Protection for the BOMARC site (RW 01) in FY09.
- Conduct two RAB meetings in FY09.

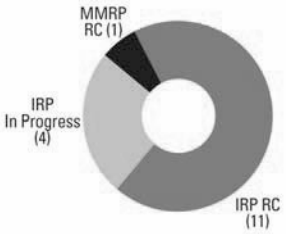
MMRP

- Complete Modified CSE Phase I in FY09.

Mechanicsburg Naval Inventory Control Point
Formerly Mechanicsburg Ships' Parts Control Center

NPL

FFID:	PA317002210400	**Funding to Date:**	$ 33.8 million
Location (Size):	Mechanicsburg, Pennsylvania (824 acres)	**Est. CTC (Comp Year):**	$ 9.9 million (FY 2025)
Mission:	Provide inventory management and supply support for weapons systems	**IRP Sites (Final RIP/RC):**	15 (FY2011)
HRS Score:	50.00; placed on NPL in May 1994	**MMRP Sites (Final RIP/RC):**	1 (FY2001)
IAG Status:	FFA signed in November 2005	**Five-Year Review Status:**	Completed, underway, and planned
Contaminants:	PCBs, heavy metals, pesticides, VOCs, SVOCs, dioxin	**IRP/MMRP Status Table:**	Refer to page M-7-36
Media Affected:	Groundwater, Sediment, Soil		



Progress To Date

Mechanicsburg Naval Inventory Control Point (NICP), currently Naval Support Activity Mechanicsburg, provides inventory management and supply support for weapons systems. Historical defense industrial and inventory disposal operations have caused contamination at this installation. EPA placed Mechanicsburg NICP on the NPL in May 1994, and the installation signed a federal facility agreement (FFA) in FY05. A technical review committee, formed in FY88, which was converted to a Restoration Advisory Board in FY95. The installation created an electronic administrative record and completed a community relations plan in FY99. The installation completed a 5-year review in FY04.

Environmental investigations conducted at Mechanicsburg NICP identified 15 Installation Restoration Program (IRP) sites. The installation completed Records of Decision (RODs) for Sites 1 and 3 (soil and groundwater), and a No Further Action (NFA) ROD for Site 11. In addition, NFA Decision Documents (DDs) were completed for Sites 2, 4, 7, 8 (groundwater), 11 through 15, and 49 lower priority areas of concern (AOCs). The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at Mechanicsburg NICP for FY04 through FY07 is detailed below.

In FY04, the installation completed the 5-year review and a site management plan. The installation completed the Site 3 proposed remedial action plan (PRAP) and pilot study. NFA DDs were completed for AOCs 36A and 38. A Site 9 feasibility study (FS) and fieldwork for a bioremediation pilot study were completed. The installation completed a time-critical action memorandum and soil removal for Site 5. Due to the additional soil contamination, Site 5 was reopened and the contractor performed a remedial investigation (RI).

In FY05, Mechanicsburg NICP signed an FFA. The installation completed a Site 3 ROD, and Site 5 RI work plan and fieldwork.

In FY06, Mechanicsburg NICP completed the RI/FS report and an engineering evaluation and cost analysis (EE/CA) for Site 5. The installation also completed an EE/CA for Site 11. The Navy completed the performance monitoring of the Site 3 chemical oxidation pilot study and issued the draft report.

In FY07, Mechanicsburg NICP completed an RI and drafted a focused FS for Site 8 (soil). The installation issued a sampling report for groundwater monitoring at Site 3, and evaluated the relevance of an explanation of significant differences (ESD) and FS addendum. The Navy collected sampling and analysis data for Site 9. The Navy also completed the PRAP, remedial action (RA), and NFA ROD for Site 11. Mechanicsburg NICP received regulatory concurrence for NFA at the former outdoor pistol range (AOC 47).

FY08 IRP Progress

Mechanicsburg NICP completed the RA and drafted the PRAP for Site 5. The installation initiated a second 5-year review. The Navy completed groundwater monitoring for Site 3 and drafted the FS addendum for Site 9. The Navy and regulators determined that an ESD, FS addendum, and ROD amendment for Site 3 were not required.

Contractual issues delayed completion of the RA for Site 5. Regulatory issues delayed completion of the PRAPs and RODs for Sites 8 and 9. Regulatory issues delayed the completion of the FS addendum for Site 9.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Mechanicsburg Naval Inventory Control Point are grouped below according to program category.

IRP

- Complete 5-year review in FY09.
- Complete PRAP and NFA ROD for Site 5 in FY09.
- Complete PRAP, ROD, and remedial design (RD) contract for Site 8 in FY09.
- Complete the FS addendum, PRAP, ROD, and RD contract for Site 9 in FY09.
- Continue annual groundwater monitoring at Site 3 in FY09-FY10.

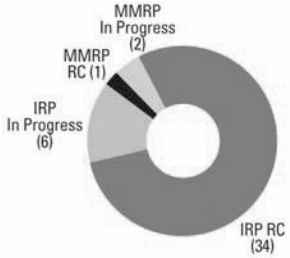
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Milan Army Ammunition Plant

NPL

FFID:	TN421382058200	**Funding to Date:**	$ 162.6 million
Location (Size):	Milan, Tennessee (22,357 acres)	**Est. CTC (Comp Year):**	$ 68.7 million (FY 2040)
Mission:	Load, assemble, pack, ship, and demilitarize explosive ordnance	**IRP Sites (Final RIP/RC):**	40 (FY2014)
HRS Score:	58.15; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	3 (FY2014)
IAG Status:	IAG signed in 1989	**Five-Year Review Status:**	Completed and planned
Contaminants:	Munitions-related wastes, SVOCs, metals, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-148
Media Affected:	Soil and Groundwater		



Progress To Date

The Milan Army Ammunition Plant (AAP) handles explosive ordnance. EPA placed the installation on the NPL in July 1987, and the Army and EPA signed an interagency agreement (IAG) in 1989. In FY91, the Army discovered the explosive compound RDX in the City of Milan's municipal water supply wells. In FY94, the installation formed a Restoration Advisory Board (RAB). The installation completed 5-year reviews in FY01 and FY05.

Since FY87, preliminary assessments (PAs) and site inspection (SI) activities conducted at Milan AAP identified 25 sites requiring further investigation. Subsequent studies expanded the number of sites to 39. The installation grouped the sites into five operable units (OUs). To date, the installation has signed six Records of Decision (RODs). In FY03, the Army completed an inventory of the closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The cleanup progress at Milan AAP for FY04 through FY07 is detailed below.

In FY04, the Army awarded a performance-based contract for the Installation Restoration Program (IRP) activities at Milan AAP. The installation signed an interim ROD for OU 5. The Army selected an interim ROD instead of a final ROD because it will address groundwater issues in the installationwide groundwater ROD. The installation continued operation of the OUs 1, 3, and 4 groundwater treatment systems. The Army conducted pilot studies of carbohydrates used to biologically degrade explosive compounds in groundwater. The installation completed a PA for the Military Munitions Response Program (MMRP) site and initiated the SI.

In FY05, the Army completed characterization of all explosives-contaminated soils within the Northern Industrial Areas of the facility. Milan AAP began injection of carbohydrates to determine treatment capability for a groundwater plume located within the OU 1 and OU 2 area. The installation produced a conceptual site model report to begin evaluating a remedy for groundwater treatment. In addition, the installation completed a 5-year review and found no deficiencies. The Army submitted an SI report for comments for the MMRP sites. The installation attended partnership training sessions with EPA, the Army, and the State, and established a charter to address issues that would allow expedited remediation of Milan AAP.

In FY06, Milan AAP completed soil characterization and excavation for all production lines. EPA Region IV indicated concerns about statistically-evaluated sampling procedures. The installation completed pre-design delineation of all off-site groundwater plumes. Additional delineation will be required during the design stage after three groundwater RODs are completed. The installation also developed and submitted a draft feasibility study (FS) for groundwater to the regulatory community. Comments were received from EPA and the State of Tennessee, which identified unresolved issues about remedial action (RA) objectives and preliminary remedial goals. A Tier II management was developed to facilitate the groundwater issues that have impeded the approval of the installationwide groundwater FS. Milan AAP also completed the SI report for the MMRP site. RAB members toured all groundwater treatment systems and bioremediation facilities.

In FY07, Milan AAP made progress with plans to implement a Soils interim ROD to address explosives-contaminated soils at the Northern Industrial Areas. EPA Region IV proposed that the MMRP be integrated into the IRP as a requirement to receive approval for the RA completion report (RACR) for the OU 5 site.

FY08 IRP Progress

Milan AAP submitted the RA completion report for OUs 3 and 4 Soils ROD to regulators. The installation developed a ROD modification for OU 4 Region 1, which includes the installation of four additional off-site groundwater extraction wells.

Regulatory issues delayed completing the FS for sitewide groundwater and delayed finalizing groundwater RODs for OUs 1 and 3 groundwater treatment sites. Regulatory issues also delayed developing a ROD modification for OU 4 Region 2. Technical issues delayed developing RA and site characterization for soils located at OU 5.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Milan Army Ammunition Plant are grouped below according to program category.

IRP

- Finalize RACR for OUs 3 and 4 Soils ROD in FY09.
- Complete FS sitewide groundwater monitoring plan in FY09.
- Optimize OU 4 groundwater treatment plant in FY09.
- Complete groundwater ROD for OUs 1 and 3 in FY09.
- Develop RA and site characterization for soils located at OU 5 in FY09.

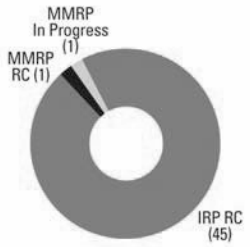
MMRP

- Generate the remedial investigation report in FY10.

Mississippi Army Ammunition Plant

BRAC 2005 Closure

FFID:	MS421382296600	**Funding to Date:**	$ 0.0 million
Location (Size):	Hancock County, Mississippi (4,214 acres)	**Est. CTC (Comp Year):**	$ 2.8 million (FY 2013)
Mission:	Managed, developed, tested, and manufactured the improved conventional munitions artillery	**IRP Sites (Final RIP/RC):**	45 (FY1990)
		MMRP Sites (Final RIP/RC):	2 (FY2013)
HRS Score:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-25
Contaminants:	Metals and solvents		
Media Affected:	Soil and Groundwater		



Progress To Date

In 2005, the BRAC Commission recommended Mississippi Army Ammunition Plant (AAP) for closure. Mississippi AAP is the only ammunition plant that the Army built after the Korean Conflict. The War Department used the property previously in the 1940s as a bombing and gunnery range. From 1969 to 1980, Edgewood Arsenal conducted pyrotechnic testing at the Kellar Test Range. In 1978, the Army obtained an irrevocable 50-year permit and leased 7,148 acres from NASA to construct and operate Mississippi AAP on the John C. Stennis Space Center. In 1980, the U.S. Army Munitions Production Base Modernization Agency moved the range activities to a more remote location to allow the Kellar Test Range to continue its operations. In 1990, DoD placed Mississippi AAP on inactive status, and the equipment and facilities were placed in layaway. Production ceased in FY92, and DoD made the plant available to the private sector to provide or produce commercial services and products through facility-use contracts. In 2005, the BRAC Commission recommended closure of Mississippi AAP.

To date, Mississippi AAP has executed four amendments to the 50-year permit with NASA, returning 2,934 acres to NASA. In FY03, the Army identified two Military Munitions Response Program (MMRP) sites: Kellar Test Range and Spin Launch Test Site. The cleanup progress at Mississippi AAP for FY04 through FY07 is detailed below.

In FY04, NASA installed fencing around the area where it discovered buried metallic objects.

In FY05, the BRAC Commission recommended closure of Mississippi AAP.

In FY06, the Army initiated an environmental condition of property (ECP) report. The report included a review of all operations at Mississippi AAP.

In FY07, the Army completed the ECP and CERFA reports and submitted them to EPA and Mississippi Department of Environmental Quality (MDEQ). The Army requested and received concurrence on the CERFA report identifying uncontaminated property at Mississippi AAP. The site inspection (SI) field sampling plan was developed and coordinated with EPA and MDEQ, based on data gaps identified in the ECP report. Comments were received and incorporated, and field sampling commenced.

FY08 IRP Progress

Mississippi AAP conducted no IRP actions. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

FY08 MMRP Progress

The installation completed SIs at two sites. The Kellar Test Range achieved response complete.

Plan of Action

Plan of action items for Mississippi Army Ammunition Plant are grouped below according to program category.

IRP

There are no IRP actions scheduled for FY09 or FY10.

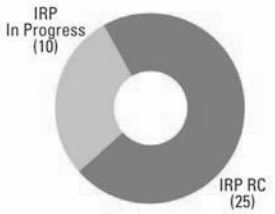
MMRP

- Conduct additional investigation at the Spin Launch Test Site in FY10.

Moffett Field Naval Air Station

NPL/BRAC 1991

FFID:	CA917002323800	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Sunnyvale, California (3,097 acres)	**Funding to Date:**	$ 147.0 million
Mission:	Served as host to 7th Infantry Division (Light); supports the Defense Language Institute Foreign Language Center, currently at the Presidio of Monterey, California	**Est. CTC (Comp Year):**	$ 74.0 million (FY 2021)
HRS Score:	42.24; placed on NPL in February 1987	**IRP Sites (Final RIP/RC):**	35 (FY2013)
IAG Status:	FFA signed in September 1990	**MMRP Sites (Final RIP/RC):**	None
Contaminants:	Pesticides, SVOCs, explosives, propellants, VOCs, petroleum hydrocarbons, heavy metals, solvents	**Five-Year Review Status:**	Completed, underway, and planned
		IRP/MMRP Status Table:	Refer to page M-6-25



Progress To Date

Moffett Field Naval Air Station (NAS) was headquarters of the Commander, Patrol Wings U.S. Pacific Fleet. At that time, Moffett Field NAS was the largest P-3 base in the world and was responsible for submarine patrol operations across the Pacific. EPA placed the installation on the NPL in July 1987. The Navy signed a federal facility agreement (FFA) in FY90, amended it in FY94, and revised it in FY01. In July 1991, the BRAC Commission recommended closure of the installation. The installation was closed on July 1, 1994 and transferred to NASA. The Naval Air Manor property was transferred to a neighboring city. The associated Moffett Community Housing (MCH) was transferred to the Army. Sites at the installation include landfills (LFs), underground storage tanks (USTs), a burn pit, ditches, holding ponds, wetland sediments, French drains, maintenance areas, and fuel spill sites. Contaminants include polychlorinated biphenyls (PCBs), petroleum products, DDT, chlorinated solvents, and heavy metals. The installation completed a community relations plan (CRP) and established an information repository in FY89. In FY94, it formed a BRAC cleanup team and completed a BRAC cleanup plan, which was updated in FY97. The installation converted its technical review committee to a Restoration Advisory Board (RAB) in FY95. In FY02, the installation held a RAB forum for the Bay Area community and the CRP was updated. In FY03, the installation completed a 5-year review for two groundwater remedial sites and completed a second 5-year review at Site 1 in FY07.

Installation Restoration Program (IRP) sites have been identified at Moffett Field NAS. Sites at the installation were divided into seven operable units (OUs). The installation has completed several No Further Action (NFA) Records of Decision (RODs). The installation has also completed RODs for OU 1, Sites 22, 26, 27, and 28. The installation has closed 35 petroleum sites. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Moffett Field NAS for FY04 through FY07 is detailed below.

In FY04, the installation completed the Hangar 1 time-critical removal action and started work on the remedial investigation (RI) and feasibility study (FS) work plan for Hangar 1. The installation completed the Site 27 proposed plan (PP). The Navy initiated optimization of the pump-and-treat systems at Sites 26 and 28. The installation completed air sampling at MCH and drafted a work plan for the final phase of the groundwater investigation. The installation received closure letters for petroleum sites from the California Regional Water Quality Control Board.

In FY05, the installation finalized the Moffett Field NAS Site 25 RI report addendum and submitted the draft FS report addendum for agency review and comment. The Navy finalized the Site 27 ROD and began the remedial design (RD) for remedial action (RA). The installation continued the site management plan for delisting Moffett Field NAS from the NPL and supported of the NASA-Navy memorandum of agreement.

In FY06, the installation developed and submitted an FS for Site 25. The installation also completed and implemented the Site 27 RD, and implemented optimization of the Site 26 pump-and-treat system. The Navy continued resolution of groundwater contaminant responsibility.

In FY07, the Navy completed the second 5-year review at Site 1 and initiated a second 5-year review at Site 22. The installation identified Site 8 as a potential source of PCB contamination at Site 25. The Navy completed an FS at Site 25. Moffett Field NAS completed an RA and began preparations for an RA completion report (RACR) at Site 27. The installation initiated partnering in the regional groundwater focused FS. The Navy prepared a revised engineering evaluation and cost analysis (EE/CA) at Site 29.

FY08 IRP Progress

Moffett Field NAS completed the revised EE/CA, a structural analysis, the evaluation of adverse effects and an Action Memorandum for the Hangar 1 project (Site 29). The Navy completed a technical memorandum for Site 26 (eastern aquifer treatment system) and a selenium technical memorandum for Site 27. The Navy completed the memorandum of agreement for the Site 22 LF, and received NFA letters from the Water Board for five aboveground storage tanks, two USTs, and two former Navy petroleum pipelines. Site 8 is no longer a potential soruce of PCB contamination as the site has been closed for over five years. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Moffett Field Naval Air Station are grouped below according to program category.

IRP

- Prepare the PP and ROD for Site 25 in FY09.
- Complete RACR and seek agency concurrence on site closeout at Site 27 in FY09.
- Continue long-term management (LTM) in accordance with the ROD at Site 1 in FY09.
- Complete a basewide 5-year review and continue LTM in accordance with the ROD at Site 22 in FY09.
- Prepare RD and implement the removal action at Hangar 1 (Site 29) in FY09-FY10.

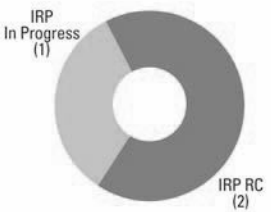
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Moses Lake Wellfield Contamination Site
Formerly Larson Air Force Base

NPL

FFID:	WA09799F331700	**Media Affected:**	Groundwater
Location (Size):	Moses Lake, Washington (9,607 acres)	**Funding to Date:**	$ 19.3 million
Mission:	Served as tactical air command, air transport, and strategic air command base; provided pilot training	**Est. CTC (Comp Year):**	$ 0.2 million (FY 2010)
HRS Score:	50.00; placed on NPL in October 1992	**IRP Sites (Final RIP/RC):**	3 (FY2010)
IAG Status:	IAG signed in March 1999. RI/FS and Interim Remedial Actions required per the IAG are completed. EPA approved the final RI/FS on 13 September 2007.	**MMRP Sites (Final RIP/RC):**	None
		Five-Year Review Status:	Planned for future
		IRP/MMRP Status Table:	Refer to page M-7-43
Contaminants:	VOCs (specifically TCE)		



Progress To Date

Larson Air Force Base (AFB) served as a Tactical Air Command base, then as a military air transport facility, and later as a Strategic Air Command base. The property was sold to the Port of Moses Lake in 1966 and is now operated by the Grant County Airport. Much of the former Larson AFB property served as a regional aviation, industrial, and educational facility. Environmental assessments, beginning in FY87, identified four sites that required further investigation: 11 underground storage tanks and associated potentially contaminated soil, a trichloroethylene (TCE)-contaminated groundwater plume, an area potentially containing low-level radioactive waste, and two disposal areas potentially containing tetraethyl lead. The U.S. Army Corps of Engineers (USACE) identified these four sites as projects at this property. EPA placed the property on the NPL in October 1992, and the Army and EPA signed an interagency agreement (IAG) in March 1999. USACE established a Restoration Advisory Board at this property.

The cleanup progress for Moses Lake for FY04 through FY07 is detailed below.

In FY04, USACE continued the long-term management (LTM) program for domestic well owners to determine the impact of TCE in groundwater to residents with private wells in Moses Lake. USACE completed planning and initiated the execution of the nature and extent investigation (NEI) of TCE in the groundwater at Moses Lake. The IAG required the NEI as a supplement to the completed remedial investigation (RI). USACE continued the surface soil operable unit (OU) feasibility study (FS). The groundwater OU FS preliminary work continued.

In FY05, USACE completed the NEI of TCE in groundwater at Moses Lake. The LTM and whole-house filter program continued to operate for residents with private wells in Moses Lake. USACE completed the draft versions of the groundwater OU FS and shallow soils OU FS, and submitted both to EPA. USACE submitted all documentation required in the IAG between USACE and EPA.

In FY06, USACE provided ongoing litigation support to the Department of Justice regarding the property, and continued to work with EPA in support of the proposed plan (PP) and Record of Decision (ROD) process. Filters placed by USACE under the LTM and whole-house filter program continued to operate for private wells in Moses Lake. USACE revised the groundwater and shallow soils FSs. USACE completed a draft archives search report for the project.

In FY07, USACE maintained the five installed whole-house filters and continued the LTM annual water sampling and analysis from these and other domestic wells on the property. USACE revised the groundwater and shallow soils FS. EPA approved the final RI/FS documents. USACE continued to provide support to EPA for the PP and ROD process.

FY08 IRP Progress

USACE maintained the five installed whole-house filters and continued the LTM annual water sampling and analysis from these and other domestic wells on the property. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues.

EPA Region 10 signed the interim ROD; however, regulatory issues delayed obtaining final signature.

FY08 MMRP Progress

USACE has identified no Military Munitions Response Program (MMRP) sites at this property.

Plan of Action

Plan of action items for Moses Lake Wellfield Contamination Site are grouped below according to program category.

IRP

- Conduct sampling and analysis of selected domestic water wells and maintain five installed whole-house filters in FY09.
- Obtain Washington Department of Ecology signature to finalize interim ROD in FY09.

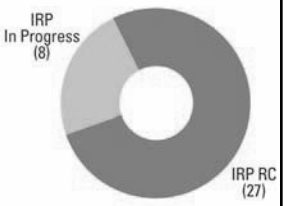
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Mountain Home Air Force Base

NPL/BRAC 2005 Realignment

FFID:	ID057212455700	**Est. CTC (Comp Year):**	$ 0.5 million (FY 2011)
Location (Size):	Mountain Home, Idaho (6,000 acres)	**IRP Sites (Final RIP/RC):**	35 (FY2011)
Mission:	Provide composite combat air power worldwide	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	NA; placed on NPL in August 1990	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in January 1992	**IRP/MMRP Status Table:**	Refer to page M-7-17
Contaminants:	VOCs, POLs, heavy metals		
Media Affected:	Groundwater, Surface Water, Soil		
Funding to Date:	$ 19.4 million		



Progress To Date

The mission of Mountain Home Air Force Base (AFB) is to provide composite combat air power worldwide. EPA placed the installation on the NPL in August 1990, and the Air Force signed a federal facility agreement (FFA) in January 1992. In 2005, the BRAC Commission recommended Mountain Home AFB for realignment. Sites identified at the installation include landfills, fire training areas, a fuel hydrant system spill area, disposal pits, surface runoff areas, wash racks, ditches, underground storage tanks, petroleum/oil/lubricant (POL) lines, and a low-level radioactive material disposal site. In FY94, the installation converted its technical review committee to a Restoration Advisory Board. In FY00, the installation updated the community relations plan. Mountain Home AFB completed 5-year reviews in FY01 and FY06.

To improve and accelerate site characterization, the installation grouped sites into operable units (OUs). A Record of Decision (ROD) has been signed for OUs 1, 3, 5, and 6; the lagoon landfill; and Fire Training (FT) Area 8. No further action RODs have been signed for OUs 2 and 4. No Military Munitions Response program (MMRP) sites were identified at this installation during the inventory development. The cleanup progress at Mountain Home AFB for FY04 through FY07 is detailed below.

In FY04, the installation completed an interim remedial design and installed 10 new groundwater and vapor monitoring wells into the deep aquifer. Using wells installed in FY02, the installation continued remediation of shallow groundwater at Site ST 11 and continued to monitor volatized vapors from vadose zones at eight sites. In addition, Mountain Home AFB continued to monitor perched groundwater and regional groundwater, and removed trichloroethylene (TCE)-contaminated soils from hot spots at Site SD 24.

In FY05, Mountain Home AFB continued to monitor wells for fuel and TCE vapors at eight sites and conduct groundwater monitoring. The installation awarded a performance-based contract (PBC). The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development.

In FY06, Mountain Home AFB completed a 5-year review and drafted an explanation of significant differences (ESD) for Landfills (LFs) 01 and 02. The installation continued to monitor wells for fuel and TCE in groundwater and completed vapor intrusion sampling. The Air Force drafted an engineering evaluation and cost analysis for removal actions at LF 23 and Sites OT 16, SD 27, and SS 29, and initiated pilot studies at FT 08, SS 11, and Sites ST 13 and SD 24.

In FY07, Mountain Home AFB completed an ESD for LFs 01 and 02, and removal actions at Sites SD 27 and SS 29. The installation initiated a one-year pilot study for Sites FT 08, SS 11, ST 13, and SD 24. The installation completed a basewide indoor air vapor intrusion evaluation with regulator concurrence. The Air Force initiated an MMRP comprehensive site evaluation (CSE) Phase I at this installation.

FY08 IRP Progress

Mountain Home AFB completed remedy enhancements at Sites FT 08, SS 11, ST 13, and SD 24. The installation completed removal actions at Site OT 16 and LF 23 with regulatory concurrence. The Air Force also completed a risk assessment for soils and a remedial investigation and feasibility study amendment on basewide groundwater. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

Mountain Home AFB awarded an MMRP contract to continue response actions. The installation continued the CSE Phase I.

Plan of Action

Plan of action items for Mountain Home Air Force Base are grouped below according to program category.

IRP

- Complete sampling and removal at LF 23 in FY09.
- Complete RODs for soils and groundwater in FY09.

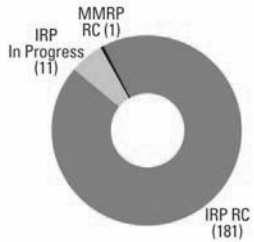
MMRP

- Complete CSE Phase I in FY09.

Myrtle Beach Air Force Base

BRAC 1991

FFID:	SC457002482100	**Funding to Date:**	$ 58.2 million
Location (Size):	Myrtle Beach, South Carolina (3,937 acres)	**Est. CTC (Comp Year):**	$ 12.1 million (FY 2038)
Mission:	Served as host to a tactical fighter wing	**IRP Sites (Final RIP/RC):**	192 (FY2010)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	1 (FY2003)
IAG Status:	N/A	**Five-Year Review Status:**	Planned for future
Contaminants:	Paints, POLs, thinners, waste oils, SVOCs, explosives, propellants, spent solvents, fuels, VOCs, metals, asbestos	**IRP/MMRP Status Table:**	Refer to page M-6-142
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Myrtle Beach Air Force Base (AFB) housed a tactical fighter wing. In July 1991, the BRAC Commission recommended closure of Myrtle Beach AFB. On March 31, 1993, the installation closed. Sites identified at the installation include landfills (LFs), weathering pits, fire training areas, drainage ditches, hazardous waste storage areas, maintenance areas, underground storage tanks, explosive ordnance areas, fuel storage areas, a small arms firing range, and a lead-contaminated skeet range. Contaminants include petroleum/oil/lubricants (POLs), heavy metals, and volatile organic compounds (VOCs). A joint management team assumed the role of a BRAC cleanup team (BCT) in FY93. The installation formed a Restoration Advisory Board (RAB) in FY94, and the BCT updated the BRAC cleanup plan (BCP) in FY96 and FY04.

The RCRA facility investigation (RFI) work plan and fieldwork have been completed for six areas. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. Ninety-nine percent of property has been transferred. The cleanup progress at Myrtle Beach AFB for FY04 through FY07 is detailed below.

In FY04, the installation initiated remedial actions (RAs) at one site. The installation completed four corrective measure studies (CMSs) and Statements of Basis (SBs), including the associated public comment period, for three sites. The installation completed field investigations and issued a RFI for the POL site. Regulatory agencies provided approval to shut down a pump-and-treat system. The Air Force updated the BCP. The installation reached site closure on a fuel-contaminated site, optimized remedial systems, and eliminated or reduced the monitoring frequency at several monitoring wells. The Air Force conducted an inventory of MMRP sites an an MMRP site was identified at this installation.

In FY05, the installation initiated final RAs at three sites. The installation issued draft documents for two CMSs, one SB, and four decision documents (DDs). In addition, the installation closed an active treatment system and moved the site into monitored natural attenuation; discontinued monitoring at two LFs; and approved no further action (NFA) for one site. The installation also evaluated and implemented optimization actions at all sites with remedial systems operating or long-term management (LTM) ongoing. The installation performed annual inspections of land use controls (LUCs). The Air Force began evaluating requirements at the MMRP site. Myrtle Beach AFB held three RAB meetings and conducted a site tour. The BCT held monthly meetings to discuss remedy implementation and maintenance, including LUCs.

In FY06, the installation continued RA implementation at three sites. The Air Force shut down one active treatment system; reactivation may be required if contamination rebound occurs. Two operating properly and successfully (OP&S) documents were approved. The installation reviewed and revised four DDs, one OP&S document, and two CMSs. The Air Force continued evaluating and implementing optimization actions at all sites that have active remedial systems or are undergoing LTM. A remedial process optimization review was completed. The installation performed annual inspections of LUCs. The Air Force initiated and continued additional investigations at the former explosive ordnance disposal (EOD) proficiency range site due to the discovery of inert munitions debris. Myrtle Beach AFB held two RAB meetings. The BCT held monthly meetings to discuss site remediation and property transfer.

In FY07, the installation continued to operate treatment systems, monitor groundwater, and perform LTM at sites basewide. Optimization actions were evaluated and implemented, and annual inspections of LUCs were also performed. The installation finalized one CMS, one SB, and one DD; and regulators approved NFA for one site and three OP&S documents. The implementation work plan format was approved, and final plans were issued for three sites. Implementation of RAs was not complete due to changing site conditions after the first phases of the remedy implementations. The Air Force completed investigation and all required removal actions at the former EOD proficiency range site. Two RAB meetings were held, and the BCT held monthly meetings to discuss site remediation and property transfer.

FY08 IRP Progress

Myrtle Beach AFB continued to operate treatment systems, monitor groundwater, and perform LTM at sites basewide. The Air Force evaluated and implemented optimization actions and performed annual inspections of LUCs. The installation finalized two CMSs, two SBs, one revised SB, and three DDs. Regulators approved two OP&S documents. The installation awarded a new 10-year performance-based contract (PBC). The Air Force completed RA implementation at three sites.

Administrative issues delayed the completion of two DDs and one OP&S document. Technical issues delayed the completion of one DD and one OP&S document.

Two RAB meetings and two public meetings were held, and the BCT held monthly meetings to discuss site remediation and property transfer.

FY08 MMRP Progress

Myrtle Beach AFB completed closeout documentation for the investigation and removal action at the former EOD proficiency range site.

Plan of Action

Plan of action items for Myrtle Beach Air Force Base are grouped below according to program category.

IRP

- Complete three DDs and two OP&S documents in FY09.
- Complete one interim corrective measure in FY09.
- Implement optimization recommendations under new PBC at two sites in FY09-FY10.

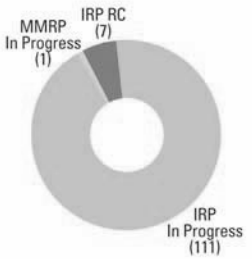
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Naval Activity Puerto Rico
Former Naval Station, Roosevelt Roads, Puerto Rico

BRAC

FFID:	PR217004000300, PR217002758200	**Funding to Date:**	$ 49.5 million
Location (Size):	Ceiba, Puerto Rico (8,432 acres)	**Est. CTC (Comp Year):**	$ 50.8 million (FY 2030)
Mission:	Provided training and support to Atlantic Fleet operations in the Caribbean	**IRP Sites (Final RIP/RC):**	118 (FY2012)
		MMRP Sites (Final RIP/RC):	1 (FY2004)
HRS Score:	N/A	**Five-Year Review Status:**	5-year review not required for this installation
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to pages M-6-137 and M-7-36
Contaminants:	Petroleum hydrocarbons, VOCs, SVOCs, PCBs, metals		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Naval Station (NS) Roosevelt Roads was established in 1943 as a Naval Operations Base to provide training and support to Atlantic Fleet operations in the Caribbean. Since the early 1960s, NS Roosevelt Roads' major mission had been to support the Atlantic Fleet Weapons Training Facility's (AFWTF's) training missions on Vieques Island, located approximately 7.5 miles east of NS Roosevelt Roads. The Naval Training Range on Vieques was transferred to the Department of the Interior on May 1, 2003, and all AFWTF training activities have since ceased. In response to this action, NS Roosevelt Roads was closed on March 31, 2004. The real estate disposal/transfer is to be carried out in accordance with procedures outlined in BRAC 1990. In FY04, the Navy established Naval Activity (NA) Puerto Rico to serve as the caretaker of the real property associated with the former NS Roosevelt Roads and to assist in the transfer of the property. Prior to 1993, environmental activities were conducted in accordance with CERCLA regulations under the Navy's Installation Restoration Program (IRP). A Restoration Advisory Board (RAB) was established in FY07.

To date, NA Puerto Rico has transferred 4,803 acres; 4,634 acres were transferred to the Commonwealth of Puerto Rico, 28 acres to the Episcopal Services Hospital, and 141 acres were transferred to the Town of Ceiba. The cleanup progress at NA Puerto Rico for FY04 through FY07 are detailed below.

In FY04, following the closure of NS Roosevelt Roads and establishment of NA Puerto Rico, the Navy performed an environmental condition of property investigation to evaluate both the historic and recent operations relating to compliance with environmental programs at NS Roosevelt Roads. The investigation identified 21 additional solid waste management units (SWMUs) and an area of concern (AOC).

In FY05, NA Puerto Rico completed a corrective measures study final report for SWMUs 7/8, 54, and 55, and initiated ecological risk assessment (ERA) projects for SWMUs 1, 2, 9, and 45. The installation initiated a RCRA facility investigation (RFI) study for SWMU 14 and a corrective measures implementation plan (CMIP) for AOC C and SWMUs 13, 46, and 53. The installation initiated an RFI for Piñeros and Cabeza de Perro Islands under the Military Munitions Response Program (MMRP).

In FY06, NA Puerto Rico initiated an RFI study for AOC A and SWMUs 14 and 16. The installation performed ERA projects for SWMUs 1, 2, 9, and 45. The installation also completed an RFI study for SWMU 14. The Navy completed CMIPs for AOC C and SWMUs 46 and 53. The installation performed a Phase I RFI anomaly location for Piñeros and Cabeza de Perro Islands. Additionally, the Navy completed a blow-in-place of munitions and explosives of concern (MEC) discovered during the Phase I RFI.

In FY07, NA Puerto Rico signed a RCRA 7003 Order and terminated the RCRA Part B permit. NA Puerto Rico closed and capped the RCRA-permitted landfill and initiated post-closure groundwater monitoring. NA Puerto Rico also closed the RCRA-permitted Hazardous Waste Storage Facility. The Navy signed the Covenant Deferral Request and sent it to the Governor of Puerto Rico. NA Puerto Rico transferred two parcels totaling 3,127 acres; 2,986 acres were transferred to the Commonwealth of Puerto Rico for conservation and 141 acres were transferred to the town of Ceiba for recreation purposes. NA Puerto Rico identified a new SWMU 78 and developed land use controls at 10 SWMUs. The installation implemented the Los Machos Mangroves Restoration Project. NA Puerto Rico completed the detonation of various MEC items discovered on the main base. The installation completed a Phase I RFI geophysical investigation at Piñeros Island. NA Puerto Rico established the NA Puerto Rico RAB.

FY08 IRP Progress

NA Puerto Rico initiated corrective measures studies for SWMUs 56, 61, 69 and 73, and Phase I RFI field investigations for SWMUs 62, 71, 74, and 78. The installation completed RFI reports for SWMUs 27, 28, 29, 42, and 68, and initiated work plans for SWMUs 9, 57, 60, 67, 70, and 75. The Governor of Puerto Rico signed the Covenant Deferral Request, which transferred the airport parcel of 1,648 acres to the Commonwealth of Puerto Rico and 28 acres to the Episcopal Services Hospital. The installation completed the Los Machos Mangroves Restoration Project. NA Puerto Rico awarded a contract to complete CMIP at SWMUs 9 and 13.

Administrative issues delayed transfer of the economic development conveyance parcels, and delayed sale of parcels I, II, and III. Technical issues delayed completion of the CMIP at SWMU 13, and an issuance of RFI work plans at Sites 62, 71, 74, and 78.

The Navy conducted four RAB meetings.

FY08 MMRP Progress

NA Puerto Rico awarded the contract to complete Phase I RFI anomaly identification at Piñeros Island; however, technical issues delayed the completion.

Plan of Action

Plan of action items for Naval Activity Puerto Rico are grouped below according to program category.

IRP

- Transfer economic development conveyance parcels in FY09.
- Complete sale of Parcels I, II, and III in FY09.
- Initiate cleanup at SWMUs 7/8, 54, and 55 in FY09-FY10.
- Complete CMIP at SWMUs 9 and 13 in FY09-FY10.
- Complete RFI work plans at Sites 62, 71, 74, and 78 in FY09-FY10.
- Complete cleanup at SWMUs 14, 56, 68, and 69 at the airport parcel in FY09-FY11.

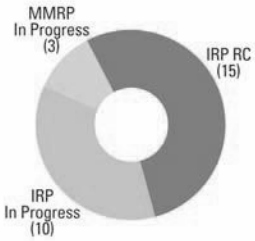
MMRP

- Complete Phase I RFI anomaly identification at Piñeros Island in FY09.

Naval Air Station Brunswick

NPL/BRAC 2005 Closure

FFID:	ME117002201800	**Funding to Date:**	$ 86.5 million
Location (Size):	Brunswick, Maine (7,259 acres)	**Est. CTC (Comp Year):**	$ 26.5 million (FY 2031)
Mission:	Provides facilities, services, materials, and aircraft for submarine warfare	**IRP Sites (Final RIP/RC):**	25 (FY2011)
HRS Score:	43.38; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	3 (FY2013)
IAG Status:	FFA signed in 1989; revised in 1990	**Five-Year Review Status:**	Completed, underway, and planned
Contaminants:	DDT, PCBs, PAHs, VOCs, SVOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-6-87
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Naval Air Station (NAS) Brunswick supports activities for submarine warfare. Site types include landfills, a groundwater plume contaminated with volatile organic compounds (VOCs), and two underground storage tank (UST) sites. Activities that contributed to contamination include intermediate aircraft maintenance, material support for maintenance, aircraft fueling services, storage and disposal of ordnance, and all-weather air station operations. On-site landfills were used to dispose of wastewater treatment sludge, paints, solvents, medical supplies, pesticides, petroleum products, and photographic and industrial chemicals. EPA placed the installation on the NPL in July 1987, because some sites were used to store or dispose of hazardous waste. The installation signed a federal facility agreement (FFA) in 1989, which was revised in 1990 to include the State of Maine. The Navy established an administrative record and information repository in FY87; the administrative record was updated in FY07. The community relations plan (CRP) was completed in FY88, and updated in FY08. A technical review committee was formed in FY88 and converted to a Restoration Advisory Board (RAB) in FY95. The Navy conducted 5-year reviews in FY01 and FY05.

Studies conducted at NAS Brunswick have identified Installation Restoration Program (IRP) sites. The Navy completed a Record of Decision (ROD) to address the eastern groundwater plume, three USTs, and a waste pit. The Navy also signed a ROD for Sites 2, 4, 7, 9, 11, and 13, and the eastern groundwater plume treatment plants. The installation completed no further action documentation for Sites 14, 15, 16, and 18. In FY02, the Navy completed an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at NAS Brunswick for FY04 through FY07 is detailed below.

In FY04, the Navy continued to monitor groundwater at Building 95 to determine what future remediation might be required. The installation completed the long-term management (LTM) plan and initiated sampling for Site 7. The Navy also initiated monitored natural attenuation for Sites 1 and 3 and the eastern plume. The Navy began optimization of the eastern plume remedy and contracted to install two extraction wells to improve system effectiveness. The Navy also planned to expand its investigation of Site 2. The Navy prepared and distributed the draft 5-year review.

In FY05, the Navy completed a 5-year review and continued to monitor sampling results at all sites. The installation demolished barracks at Site 9 and prepared an engineering evaluation and cost analysis to address underlying contaminated soil. The Navy found that extraction wells in the eastern plume were not necessary. NAS Brunswick completed a draft preliminary assessment (PA) to address regulatory issues.

In FY06, the Navy began contaminant removal at Site 9. The Navy contracted work to install two extraction wells to supplement the ongoing groundwater treatment of the eastern plume, to investigate the area north of Sites 2 and 17 (Building 95), and to initiate fieldwork at the former explosive ordnance disposal site (Site 12). NAS Brunswick also began to develop and implement a work plan to delineate the extent of 1,4-dioxane, with planned modifications to the groundwater extraction and treatment system, if necessary. NAS Brunswick completed the PA for existing MMRP areas of concern (AOCs). The Navy identified additional AOCs, requiring a PA and site inspection (SI). The Navy conducted technical subcommittee (TSC) and RAB meetings, and conference calls.

In FY07, the Navy continued the contaminant removal at Site 9. The Navy installed a new extraction well to supplement the ongoing groundwater treatment of the eastern plume. The Navy conducted field investigations at Mere Brook. The installation updated the LTM plans to incorporate the number and sampling periodicity of the monitoring wells. The Navy began a remedial investigation (RI) work plan to investigate the 1,4-dioxane contamination, and updated the administrative record file. The installation initiated preparation and review of an RI work plan for the area north of Site 2. The Navy completed the PAs and SI work plans for MMRP sites. The Navy conducted TSC and RAB meetings, initiated an update of the CRP, developed a public Web site, and published a newsletter.

FY08 IRP Progress

NAS Brunswick completed a revised base instruction and developed institutional control boundaries for IRP sites, and completed work plans for the expanded Site 2 Area and Site 17; the Navy initiated fieldwork. The installation continued the Site 9 contaminant removal action and initiated a drainage pond investigation south of Neptune Drive. NAS Brunswick also initiated 1,4-dioxane RI field investigations, installed one extraction well, and initiated the background study work plan. The cost of completing environmental restoration has changed significantly due to technical issues.

NAS Brunswick completed the CRP update.

FY08 MMRP Progress

NAS Brunswick initiated geophysical surveys to determine if surface and subsurface munitions were potentially present at MMRP AOCs and Site 12.

Plan of Action

Plan of action items for Naval Air Station Brunswick are grouped below according to program category.

IRP

- Complete fieldwork on background study work plan in FY09.
- Complete 1,4-dioxane RI report in FY09.
- Complete Site 9 contaminant removal action in FY09.
- Initiate Site 17 ROD and contaminated soil removal in FY09-FY10.
- Initiate Naval Exchange petroleum cleanup in FY09-FY10.

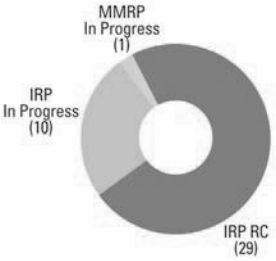
MMRP

- Initiate SI studies in FY09-FY10.

Naval Amphibious Base Little Creek

NPL

FFID:	VA317002248200	**Funding to Date:**	$ 32.1 million
Location (Size):	Virginia Beach, Virginia (2,147 acres)	**Est. CTC (Comp Year):**	$ 23.0 million (FY 2051)
Mission:	Provide logistics facilities and support services to meet the amphibious warfare training requirements of the Armed Forces	**IRP Sites (Final RIP/RC):**	39 (FY2013)
HRS Score:	50; placed on NPL in May 1999	**MMRP Sites (Final RIP/RC):**	1 (FY2009)
IAG Status:	FFA negotiations underway	**Five-Year Review Status:**	Planned
Contaminants:	Heavy metals, mixed municipal wastes, VOCs, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-167
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Naval Amphibious Base (NAB) Little Creek provides logistics facilities and support services to meet the amphibious warfare requirements of the Armed Forces. Site types at this installation include landfills, a music equipment plating shop, a laundry waste disposal area, a pentachlorophenol dip tank, sandblast yards, battery storage areas, and underground storage tanks. EPA placed the installation on the NPL in May 1999 because of the potential for contaminants in soil and groundwater to migrate to potential receptors. The installation signed a federal facility agreement (FFA) in FY04. The installation established a Restoration Advisory Board (RAB) in 1994 and completed a community relations plan in FY02. Community and RAB members attended regular meetings and tours of Installation Restoration Program (IRP) activities. The Navy, EPA, and the Commonwealth of Virginia formed a partnership to address environmental cleanup at the facility and met frequently to track progress.

To date, seven Records of Decision (RODs) have been completed, and over 100 sites have been closed. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at NAB Little Creek for FY04 through FY07 is detailed below.

In FY04, the installation signed an FFA, and over 100 sites were closed upon signature. The installation finalized a remedial design (RD) and ROD for Sites 9 and 10. The installation completed final remedial investigations (RI) for Sites 7 and 8; and Solid Waste Management Units (SWMUs) 7 and 8, and closed SWMUs 96, 97, 98, and 119. The installation completed a final feasibility study (FS) for Site 12 and an engineering evaluation and cost analysis (EE/CA) and removal action for SWMUs 7 and 8. The Navy also implemented a pilot study for Sites 11a and 13.

In FY05, NAB Little Creek completed No Further Action (NFA) RODs for SWMUs 7a and 8. The installation completed an EE/CA for Sites 7 and 8, and initiated construction for an interim remedial action (RA). The installation completed an FS and ROD for Site 12. The installation initiated an FS for Site 11. The installation completed site screening assessments at Site 6 and SWMUs 5, 6, and 13. SWMUs 18, 116, and Area of Concern (AOC) D were closed with NFA. The Navy identified one MMRP site (former Morale Welfare and Recreation [MWR] Skeet Range) at the installation and submitted a draft preliminary assessment (PA) for regulatory review.

In FY06, NAB Little Creek completed an interim RA (IRA) for Site 8, and a treatability study report in lieu of a proposed plan and ROD for Sites 11a and 13. The installation also completed a vapor intrusion assessment, an FS, and a proposed RA plan for Site 11. The installation also completed an explanation of significant differences for Site 12. The Navy initiated an IRA for Site 7, a ROD for Site 11, and a vapor intrusion assessment for Sites 11a and 13. NAB Little Creek completed site inspections (SIs) for multiple sites. The installation identified six potential MMRP AOCs during the PA of the MWR Skeet Range.

In FY07, NAB Little Creek completed RODs for Sites 11 and 13. The installation also completed the RD and RA for Site 12, the Phase II RI for SWMU 3, and the IRA for Site 7. NAB Little Creek completed two PAs addressing seven MMRP AOCs; three of these AOCs were recommended for NFA.

FY08 IRP Progress

NAB Little Creek completed the ROD for Site 8, and funded RAs for Sites 11 and 13.

Technical issues delayed completion of the Site 7 ROD. Regulatory delays prevented implementation of RAs for Sites 11 and 13.

FY08 MMRP Progress

NAB Little Creek initiated SIs at four sites.

Plan of Action

Plan of action items for Naval Amphibious Base Little Creek are grouped below according to program category.

IRP

- Complete Site 7 ROD in FY09.
- Complete RAs for Sites 11 and 13 in FY09.
- Complete a 5-year review in FY09.
- Complete an RI/FS for Site 11a in FY09-FY10.

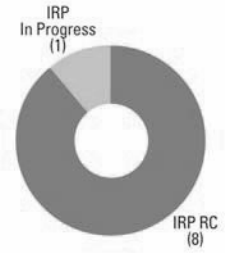
MMRP

- Complete SIs at four MMRP sites in FY09-FY10.

Naval Auxiliary Landing Field Crows Landing

BRAC 1991

FFID:	CA917002757500	**Media Affected:**	Groundwater and Soil
Location (Size):	Crows Landing, California (1,527 acres)	**Funding to Date:**	$ 29.7 million
Mission:	Served as auxiliary airfield for Moffett Field operations; used for practice operations by other Components during the 1970s and 1980s and as a research and development site by NASA	**Est. CTC (Comp Year):**	$ 1.7 million (FY 2014)
		IRP Sites (Final RIP/RC):	9 (FY2009)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
Contaminants:	Petroleum products, solvents, refuse, ordnance, incinerator wastes, VOCs, SVOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-7-6



Progress To Date

The Naval Auxiliary Landing Field (NALF) at Crows Landing was commissioned in May 1943, and served primarily as an auxiliary airfield. In July 1991, the BRAC Commission recommended closure of NALF Crows Landing. The installation was closed on July 1, 1994, and was transferred to NASA in FY94. In FY94, the installation formed a BRAC cleanup team (BCT) and completed a BRAC cleanup plan, which was updated in FY97. The installation established an information repository in FY89. The installation developed an environmental business plan and a community relations plan (CRP), both of which were updated in FY01. The CRP was updated again in FY02.

To date, NALF Crows Landing has transferred approximately 85 percent of the original acreage to the county. Regulatory oversight agencies have concurred on no further action (NFA) status for eight Installation Restoration Program (IRP) sites. Congress authorized NASA to transfer the facility to Stanislaus County in FY99. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at NALF Crows Landing for FY04 through FY07 is detailed below.

In FY04, the Navy continued groundwater extraction activities near the site of a former dry well at the Administration Area Plume (IRP Site 17). In addition, a demonstration project was conducted using an in situ submerged oxygen curtain (iSOC) within IRP Site 17. The installation prepared a plan to conduct a groundwater investigation on the adjacent (downgradient) property and began development of the access agreement. The installation conducted routine groundwater monitoring activities and munitions evaluations at IRP Site 11. The Navy initiated an investigation and response actions at IRP Site 11A. The installation issued four fact sheets and three public notices. The BCT meetings were conducted bimonthly. The BCT continued to partner, evaluate environmental cleanup, and approve the environmental master schedules for the installation.

In FY05, NALF Crows Landing completed transitional groundwater extraction near the former dry well at the Administration Area Plume (IRP Site 17). In addition, the investigation of groundwater beneath adjacent property at IRP Site 17 was completed. The installation received regulatory closure on Underground Storage Tanks (USTs) 109 and 117, as well as the UST Cluster (CL) 2 area. The iSOC demonstration project within IRP Site 17 was completed. The installation completed the removal action at IRP Site 11 (disposal pits). Munitions and explosives of concern evaluations began in four areas at the installation. NALF Crows Landing issued an environmental business plan. The BCT continued to partner, evaluate the environmental programs, and approve the environmental master schedules for the installation. The installation issued two fact sheets, two public notices, and updated the CRP. NALF Crows Landing held a public meeting.

In FY06, NALF Crows Landing continued basewide groundwater monitoring at the installation, and prepared a time-critical removal action (TCRA) memorandum for excavation and confirmation sampling at IRP Site 11B. The installation prepared a work plan for additional groundwater investigations at the off-site property adjacent to Site 17.

In FY07, NALF Crows Landing conducted a TCRA for excavation and confirmation sampling at IRP Sites 11 and 11B. The installation completed an interim remedial action alternative evaluation and work plan for the removal action pilot study for IRP Site 17. The Navy continued groundwater monitoring at the installation including additional investigation at the off-site property adjacent to IRP Site 17. NALF Crows Landing closed groundwater monitoring wells except those for IRP Site 17 and UST CL 2 area. The installation completed an NFA Memorandum for IRP Site 11A.

FY08 IRP Progress

NALF Crows Landing completed a TCRA after-action report and received concurrence with NFA for IRP Sites 11 and 11B. The installation also implemented a Phase I bioremediation pilot study for IRP Site 17, and continued groundwater monitoring at the site and an adjacent off-site area. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Naval Auxiliary Landing Field Crows Landing are grouped below according to program category.

IRP

- Implement Phase II of the bioremediation pilot study for IRP Site 17 in FY09.
- Continue groundwater monitoring at IRP Site 17 and adjacent off-site area in FY09.

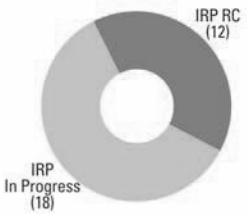
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Naval Computer and Telecommunications Area Master Station, Pacific

NPL

FFID:	HI917002438800	**Funding to Date:**	$ 25.8 million
Location (Size):	Wahiawa and Lualualei, Hawaii (2,400 acres)	**Est. CTC (Comp Year):**	$ 29.8 million (FY 2014)
Mission:	Operate and maintain communications facilities and equipment for naval shore installations and fleet units in the eastern Pacific	**IRP Sites (Final RIP/RC):**	30 (FY2014)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	50.00; placed on NPL in May 1994	**Five-Year Review Status:**	Planned
IAG Status:	Draft FAA cancelled	**IRP/MMRP Status Table:**	Refer to page M-6-68
Contaminants:	PCBs, metals, petroleum hydrocarbons, VOCs, SVOCs		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The Naval Computer and Telecommunications Area Master Station (NCTAMS), Pacific installation operates two facilities on the island of Oahu, but conducts industrial operations primarily at the main station and receiver site in Wahiawa and the Naval Radio Transmitting Facility in Lualualei. The restoration program has focused on those two facilities, where maintenance and operation of electrical transformers and switches have been the primary sources of contamination. The installation was placed on the NPL in May 1994 because polychlorinated biphenyl (PCB)-contaminated soil was detected in work and residential areas. Contamination with metals and petroleum hydrocarbons also resulted from the station's operating and maintenance activities. Two Restoration Advisory Boards were established because the installation consisted of two primary facilities. The final community relations plan was completed in FY95.

Installation Restoration Program (IRP) sites have been identified at NCTAMS, Pacific. The installation has completed no further action (NFA) documentation for Site 14 and underground storage tank Sites 6 and 22. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at NCTAMS, Pacific for FY04 through FY07 is detailed below.

In FY04, the installation completed removal actions at Sites 17, 18, and 20. Additionally, the installation completed draft reports for verification sampling to confirm Eureka laboratory results at Sites 14 and 15, and completed a Step 3a ecological risk assessment (ERA) at Sites 1, 2, 5, and 22.

In FY05, NCTAMS, Pacific completed final reports for verification sampling to confirm Eureka laboratory results at Sites 14 and 15. The installation completed a draft Step 3a ERA at Sites 6 and 24.

In FY06, NCTAMS, Pacific completed the remedial investigation (RI) reports for Sites 1, 2, 5, and 22. The installation also completed an NFA Record of Decision (ROD) for Site 22.

In FY07, NCTAMS, Pacific completed a feasibility study (FS) and achieved remedy in place (RIP) for Sites 1 and 2. The Navy completed an action memorandum and started interim removal actions for Site 5.

FY08 IRP Progress

NCTAMS, Pacific completed an interim removal action for Site 5.

Regulatory issues delayed the RI report for Site 6; the revised closeout strategy from the NFA ROD and RA at Site 24; the FS for Site 24; and the RODs for Sites 1, 2, 6, and 24. Technical issues delayed the NFA ROD for Site 5. Regulatory issues delayed lower base site actions.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Naval Computer and Telecommunications Area Master Station, Pacific are grouped below according to program category.

IRP

- Complete lower base site actions in FY09.
- Complete RODs for Sites 1, 2, 5, 6, and 24 in FY09.
- Complete RI/FS reports for Site 6 in FY10.

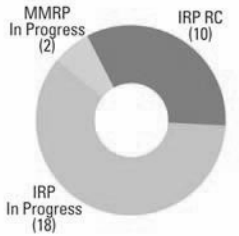
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Naval Facilities on Vieques
Formerly Vieques Naval Training Range and Naval Ammunition Support

NPL

FFID:	PR217300007400, PR217003172000, PR217006932100	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Vieques, PR (22,687 acres)	**Funding to Date:**	$ 101.3 million
Mission:	Provided ground warfare and amphibious training for marines, naval gunfire support training, and air to ground training. Provided munitions storage for Atlantic Fleet training	**Est. CTC (Comp Year):**	$ 253.1 million (FY 2044)
HRS Score:	NA; placed on NPL in February 2005	**IRP Sites (Final RIP/RC):**	28 (FY2014)
IAG Status:	FAA under negotiation	**MMRP Sites (Final RIP/RC):**	2 (FY2020)
Contaminants:	Pesticides, PCBs, gasoline, explosives, land waste oil, metals, VOCs, SVOCs, propellants	**Five-Year Review Status:**	A 5-year review is not required for this installation.
		IRP/MMRP Status Table:	Refer to pages M-6-137 and M-6-138



Progress To Date

The former Naval Facilities on Vieques consist of the former Naval Ammunition Support Detachment (NASD) on the western end of the island and the former Vieques Naval Training Range (VNTR) on the eastern half. Site types include underground storage tanks, open burning/open detonation areas, and munitions areas. In FY03, the Governor of Puerto Rico requested EPA list the former NASD and VNTR on the NPL; the installation was listed in February 2005. The installation converted the technical review committee (TRC) to a Restoration Advisory Board (RAB) in FY04.

The Navy has identified Installation Restoration Program (IRP) sites at the former NASD and former VNTR. Military Munitions Response Program (MMRP) sites have also been identified on the former VNTR. The Navy has transferred 8,114 acres of the former NASD to the Department of the Interior (DOI), the Municipality of Vieques, and the Puerto Rico Conservation Trust. The U.S. Fish and Wildlife Service manages 4,000 of these acres as a National Wildlife Refuge. The Navy has also transferred 14,573 acres of the former VNTR to DOI to be operated and managed as a National Wildlife Refuge and Wilderness Area. The Navy completed a No Further Action (NFA) Record of Decision (ROD) in FY08. The cleanup progress at Naval Facilities on Vieques for FY04 through FY07 is detailed below.

In FY04, the Navy conducted Phase I fieldwork for the remedial investigation (RI) for 12 sites on the former VNTR, RI and feasibility study (FS) reports for 4 sites at the former NASD, and RI/FS investigations for two sites. The installation finalized the NFA document for nine sites on the former NASD. The TRC was converted to a RAB. The installation completed a draft final expanded range assessment and site inspection (SI) work plan and submitted the SI work plan for regulatory review.

In FY05, the Navy completed supplemental RI work plans for three former NASD sites (Areas of Concern [AOCs] E, I, and R) and received regulatory approval. The installation submitted engineering evaluations and cost analyses for four former NASD sites (AOCs J and R, and Solid Waste Management Units [SWMUs] 6 and 7). For the former VNTR, the Navy completed a preliminary assessment (PA) and SI work plan for eight photo-identified/potential AOC (PI/PAOC) sites and received regulatory approval. The Navy submitted a data summary report for the original RCRA sites. The Navy also completed a background soil investigation work plan for the former VNTR and received regulatory approval. The Navy initiated MMRP interim removal action at SWMU 4 for the former NASD. The installation conducted an MMRP SI and expanded range assessment as well as an MMRP surface removal action at discrete sites in the former live impact area (LIA), and specific beaches and roads at the former VNTR. The Navy completed a RAB charter.

In FY06, the Navy conducted an RI and supplemental RIs at three former NASD sites (AOCs E, I, and R). The Navy initiated a background soil investigation and PA/SIs at eight PI/PAOC sites at the former VNTR. The Navy completed a time-critical removal action (TCRA) surface removal of munitions and explosives of concern (MEC) from 200 acres of the approximately 900 acres on the LIA. The Navy completed a Phase II SI work plan and expanded range assessment.

In FY07, the Navy completed the RI report at the former NASD AOCs H, J, 6, and 7. The Navy initiated the RI at former NASD SWMU 4. The installation completed the background soil investigation report at the former VNTR. The Navy prepared NFA proposed remedial action plans for nine sites. The Navy also initiated PA/SIs for 12 former RCRA sites and 8 PI/PAOCs at the former VNTR. The Navy completed a TCRA surface removal of MEC on 290 acres on LIA and Eastern Conservation Area (ECA). A geophysical survey was conducted for 90 of 305 total beach and road acres to support subsurface removal of MEC at selected beaches and roads. The installation initiated an RI at former NASD SWMU 4, and conducted archaeological and biological assessments of ECA and Yellow Beach on the former VNTR and SWMU 4 on former NASD. The Navy initiated a burn plan in LIA and ECA on VNTR.

FY08 IRP Progress

The Navy completed an NFA ROD for the former NASD AOC H. The installation completed removal action work plans for former NASD AOCs J and R, and SWMUs 6 and 7. The Navy completed RI reports for former NASD AOCs E and I. The installation completed a PA/SI at 20 former RCRA sites and PI/PAOC sites on the former VNTR. The Navy initiated SI and expanded SI work plans at 25 of the 36 former RCRA PI/PAOC sites, and an NFA Decision Document (DD) to address the remaining 11 RCRA PI/PAOC sites. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed completion of removal actions for former NASD AOCs J and R, and SWMUs 6 and 7, and RI initiation for NASD AOC R.

FY08 MMRP Progress

The Navy initiated Phase II SIs for the former VNTR. The installation completed archaeological and biological assessments at LIA. The Navy completed the TCRA surface removal of MEC on 790 acres on the LIA and ECA. The Navy completed work plans for subsurface MEC removal at selected beaches and roads. The Navy initiated work plans for non-TCRA (NTCRA) of surface impact area (SIA) MEC removal.

Technical issues delayed completion of Phase II SI for former VNTR, and assessments at SIA and ECA.

Plan of Action

Plan of action items for Naval Facilities on Vieques are grouped below according to program category.

IRP

- Complete removal action at former NASD AOCs J and R, and SWMUs 6 and 7 in FY09.
- Initiate RI report for NASD AOC R in FY09.
- Initiate pilot study for former NASD AOCs E and I in FY09.
- Complete a NFA DD for 11 former VNTR RCRA PI/PAOC sites in FY09.

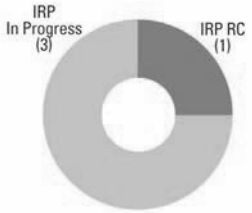
MMRP

- Continue Phase II SI and complete aerial geophysics on East in FY09.
- Initiate MEC removal associated with NTCRA in the SIA in FY09.
- Conduct archaeological and biological assessments for the former VNTR in FY09.

Naval Fuel Depot, Point Molate

BRAC 1995

FFID:	CA917002756300	**Funding to Date:**	$ 60.5 million
Location (Size):	Richmond, California (416 acres)	**Est. CTC (Comp Year):**	$ 0.0 million (FY 2033)
Mission:	Supply and provide bulk storage of various grades of petroleum fuel product for fleet	**IRP Sites (Final RIP/RC):**	4 (FY2012)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
Contaminants:	Petroleum products, VOCs, SVOCs, heavy metals	**IRP/MMRP Status Table:**	Refer to page M-7-6
Media Affected:	Groundwater, Sediment, Soil		



Progress To Date

The Naval Fuel Depot (NFD), Point Molate supplies and provides bulk storage of fuel for fleets. Operations at the installation included bulk storage and supply of fuel products, including JP5, JP7, diesel, and Bunker C. Contaminants of concern include petroleum hydrocarbons, polycyclic aromatic hydrocarbons (PAHs), volatile organic compounds (VOCs), and semi-volatile organic compounds (SVOCs) in the soil and groundwater. There are 13 disposal areas at NFD, Point Molate. In July 1995, the BRAC Commission recommended closure of NFD, Point Molate. A Restoration Advisory Board (RAB) was formed in 1996.

Nine disposal areas (1, 2, 4, 6, 7, 8, 9, 11, and 12), consisting of 364 acres, were transferred to the City of Richmond in 2003. Two Records of Decision (RODs) have been signed to date. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at NFD, Point Molate for FY04 through FY07 is detailed below.

In FY04, the installation completed the Site 3 treatment ponds removal and the Site 1 feasibility study (FS) and proposed plan (PP). The Navy also began environmental and structural closure of the 22 underground storage tanks (USTs), pipelines, and valve boxes. The installation began a groundwater beneficial use evaluation (BUE) study. Basewide groundwater monitoring and landfill (LF) methane monitoring continued. The groundwater extraction continued at Site 3. The installation initiated the Sites 3 and 4 FSs and PPs. The BRAC cleanup team continued to partner and evaluate the environmental cleanup, and approved the environmental master schedule for the installation.

In FY05, NFD, Point Molate completed the environmental and structural closure of the 22 USTs, pipelines, and valve boxes. The Navy received concurrence on the structural closure from the regulatory agencies. The installation completed the groundwater BUE with concurrence from the regulatory agencies. The Navy completed and signed the Site 1 ROD. In concurrence with the regulatory agencies, the installation changed the strategy for Site 4 and completed a risk assessment technical memorandum (RATM) to complement previous documents, instead of an FS. Basewide groundwater monitoring and LF methane monitoring continued.

In FY06, the installation continued to monitor the Site 1 LF. The Navy completed the Site 1 remedial design, and construction and operation of a filtration system. The installation initiated closure of four Navy USTs on adjacent land the Navy formerly leased from a private landowner. The Navy began early transfer and environmental strategy discussions with the local reuse authority regarding the remaining 52 acres on NFD, Point Molate. The installation also updated the environmental master schedule.

In FY07, NFD, Point Molate completed the removal and closure of four Navy USTs on adjacent private property. The Navy continued to monitor the Site 1 LF. In collaboration with the regulatory agencies, the Navy completed a product mobility and recovery study, and fuel fingerprinting at Site 3 to aid in completion of the FS and corrective action plan. The installation conducted structural integrity inspections of the 20 remaining large USTs, and received environmental closure on two of them. NFD, Point Molate continued basewide groundwater monitoring. The Navy continued early transfer discussions with the local reuse authority. The NFD, Point Molate RAB conducted a community site tour.

FY08 IRP Progress

NFD, Point Molate continued to monitor the Site 1 LF. The Navy, in collaboration with regulatory agencies, received environmental closure on seven additional USTs. The installation continued basewide groundwater monitoring. The Navy completed early transfer negotiations with the local reuse authority, and issued the finding of suitability for early transfer for the remaining four disposal areas. The Navy led Site 3 technical discussions, which provided critical input for the early transfer negotiations. Under the Early Transfer Cooperative Agreement, the Navy will transfer the remaining cleanup responsibility to the City of Richmond. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Naval Fuel Depot, Point Molate are grouped below according to program category.

IRP

- Continue groundwater monitoring until deed transfer in FY09.
- Complete UST inspections and minor repairs until deed transfer in FY09.
- Trasnfer responsibility for the completion of the Site 3 FS, PP, and corrective action plan, and the Site 4 RATM to the city of Richmond in FY09.
- Continue Site 1 LF monitoring and conduct minor maintenance until deed transfer in FY09.

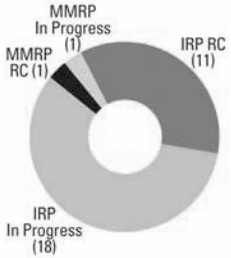
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Naval Station Newport
Formerly Newport Naval Education and Training Center

NPL

FFID:	RI117002424300	**Est. CTC (Comp Year):**	$ 36.8 million (FY 2041)
Location (Size):	Newport, Rhode Island (1,400 acres)	**IRP Sites (Final RIP/RC):**	29 (FY2014)
Mission:	Provide logistical support and serve as a training center	**MMRP Sites (Final RIP/RC):**	2 (FY2015)
HRS Score:	32.25; placed on NPL in November 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in March 1992	**IRP/MMRP Status Table:**	Refer to page M-6-139
Contaminants:	PCBs, POLs, VOCs, SVOCs, metals		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 101.8 million		



Progress To Date

Naval Station Newport (formerly known as the Newport Naval Education and Training Center) was used as a refueling depot from the early 1900s until after World War II, when it was restructured to support research and development, and provide specialized training. Contaminants at the installation include petroleum/oil/lubricant (POL) sludge associated with tank farm sites, waste acids, solvents, and polychlorinated biphenyls (PCBs) in landfills used to dispose of general refuse and shop wastes. The installation was placed on the NPL in November 1989. It signed a federal facility agreement (FFA) in March 1992. The installation formed a technical review committee in FY88 and converted it to a Restoration Advisory Board (RAB) in FY95. In FY90, a community relations plan was completed, and the installation established an ecological advisory board. The installation completed 5-year reviews in FY99 and FY04.

The installation completed Record of Decision (ROD) documents for the landfill cap and the Site 1 off-shore area. The installation also submitted an interim ROD for Tank Farm 5. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Naval Station Newport for FY04 through FY07 is detailed below.

In FY04, Naval Station Newport performed a site inspection (SI) at Site 4. For Site 8, the installation prepared the draft final study area screening evaluation (SASE) reports, finalized the background study work plan, and awarded a removal action to remove several drums and paint cans discovered during the study area screening assessment. The installation completed the pre-design investigation for the soil removal action and awarded the first phase of a soil removal action to remove three soil mounds approximating 11,000 cubic yards at Site 9. Naval Station Newport also developed a draft sediment and groundwater monitoring work plan. The installation completed the SI work plan for Sites 12 and 13, and the remedial investigation (RI) work plan for Site 17. The Navy completed sediment sampling, which will be used to update and finalize the feasibility study for the off-shore area at Site 19. The installation prepared a draft SASE for Site 20, and completed a 5-year review. The Navy prepared the preliminary assessment (PA) for the Carr Point Shooting Range. The draft final report recommended no further action. The RAB met nine times, including a bus tour of the Installation Restoration Program (IRP) sites.

In FY05, the Navy initiated SIs at Sites 12 and 13. The installation completed the Site 8 removal action, Site 17 RI fieldwork, and Site 20 study area screening assessment. The Navy finalized the PA for the Carr Point Shooting Range, which recommended proceeding to the SI phase.

In FY06, Naval Station Newport completed the optimization review for Site 9. BRAC 2005 legislation transitioned responsibility for the IRP program to the Naval Facilities Engineering Command Mid-Atlantic.

In FY07, the Navy completed annual long-term operation (LTO) activities at Site 1 and finalized an interim remedial action (IRA) work plan for removal of petroleum-contaminated soils at Site 9. The installation also completed RI field activities, submitted a final RI report, and initiated development of the Phase II RI work plan for Site 17. The Navy completed an IRA at Site 19 to remove sandblast grit, and an IRA at Site 21 to remove lead-contaminated soils located on a Navy-owned parcel adjacent to an elementary school. The installation completed an IRA to remove paint cans and drums, finalized an RI work plan, and initiated RI fieldwork at Site 8. The Navy completed the contract award for an SI at unexploded ordnance (UXO) Site 1 Carr Point Shooting Range, and completed and submitted the draft SI work plan to regulators. The installation also conducted six remedial program manager meetings with EPA and the State of Rhode Island, and conducted six RAB meetings.

FY08 IRP Progress

Naval Station Newport completed annual LTO activities at Site 1 and RI fieldwork at Site 8. The Navy also completed a soil removal action and IRA fieldwork at Site 9. The installation finalized a basewide soil background study and construction completion reports for Site 21. The Navy conducted six remedial program manager meetings with EPA and the State of Rhode Island.

The Naval Station Newport RAB held six meetings.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Naval Station Newport are grouped below according to program category.

IRP

- Continue annual LTO activities at Site 1 in FY09.
- Complete interim removal action consisting of the construction of a revetment at Site 9 in FY09-FY10.
- Complete removal of pump-and-treat system at Site 13 (Tank Farm 5) in FY09-FY10.
- Complete Phase II RI fieldwork at Site 17 in FY09-FY10.

MMRP

- Finalize SI work plan, implement SI fieldwork, and submit SI report to regulators for UXO Site 1 Carr Point in FY09.

Naval Station Todd-Tacoma
Formerly Commencement Bay

NPL

FFID:	WA09799F345500	**Est. CTC (Comp Year):**	$ 0.1 million (FY 2010)
Location (Size):	Tacoma, Washington (191 acres)	**IRP Sites (Final RIP/RC):**	1 (FY2010)
Mission:	Served as shipbuilding facility and reserve shipyard	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	Unknown	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	None	**IRP/MMRP Status Table:**	Refer to page M-7-43
Contaminants:	Mercury, VOCs, PNAs, PCBs, heavy metals, arsenic, lead		
Media Affected:	Groundwater, Sediment, Soil		
Funding to Date:	$ 0.3 million		

Progress To Date

The Naval Station Todd-Tacoma shipyard is located on Commencement Bay between Hylebos and Blair Waterways in Tacoma, Washington. The Navy acquired the 191-acre facility between 1942 and 1948. Beginning in 1940, the western portion of the property, approximately 74.2 acres and owned at that time by Seattle-Tacoma Shipbuilding Corporation (later named Todd Pacific Shipyards, Inc., Tacoma Division), was rapidly developed to support the war effort. The Navy and the Maritime Commission acquired adjacent land to expand the plant. By October 1942, the Maritime Commission had transferred all of its contractual and facility interests to the Navy. Land acquisitions continued until the end of the war, and the facility expanded to 191 acres. After the war, the property was designated a Naval Industrial Reserve Shipyard, and shipbuilding ceased. In September 1948, the Navy acquired the Todd-owned property. In October 1958, DoD declared the property excess. The Navy and Marine Reserve Training Center retained eight acres, and the remaining property was conveyed to the Port of Tacoma in January 1960.

The cleanup progress for Naval Station Todd-Tacoma for FY04 through FY07 is detailed below.

In FY04, the U.S. Army Corps of Engineers (USACE) continued to assist with ongoing negotiations. USACE completed investigations that identified no Military Munitions Response Program (MMRP) sites at this property.

In FY05, USACE continued to assist with ongoing settlement negotiations.

In FY06, USACE continued to assist the Office of Counsel and the Department of Justice (DOJ) with ongoing settlement negotiations.

In FY07, USACE continued to assist the Office of Counsel and DOJ with ongoing settlement negotiations.

FY08 IRP Progress

USACE continued to assist the Office of Counsel and DOJ with monitoring cleanup activities by other potentially responsible parties (PRPs) within the Commencement Bay area. The cost of completing environmental restoration has changed significantly due to regulatory issues.

FY08 MMRP Progress

USACE has identified no MMRP sites at this property.

Plan of Action

Plan of action items for Naval Station Todd-Tacoma are grouped below according to program category.

IRP

- Continue to support Office of Counsel and DOJ with monitoring PRP cleanup actions in FY09-FY10.

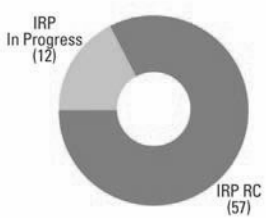
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Naval Support Facility, Dahlgren
Formerly Dahlgren Naval Surface Warfare Center

NPL/BRAC 2005 Realignment

FFID:	VA317002468500	**Funding to Date:**	$ 66.6 million
Location (Size):	Dahlgren, Virginia (2,677 acres)	**Est. CTC (Comp Year):**	$ 6.9 million (FY 2014)
Mission:	Proof and test ordnance	**IRP Sites (Final RIP/RC):**	69 (FY2011)
HRS Score:	50.26; placed on NPL in October 1992	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in September 1994	**Five-Year Review Status:**	Completed, underway, and planned
Contaminants:	Heavy metals, explosives residues, low-level radioactive materials, mercury, Cleaning solvents, PCBs, pesticides, VOCs, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-7-43
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The Dahlgren Naval Surface Warfare Center changed its name in FY05 to the Naval Support Facility, Dahlgren (Dahlgren) to reflect integration into the Naval District Washington Region. Dahlgren conducts ordnance testing for the Navy. Site types include former landfills, former ordnance burning and disposal areas, underground storage tanks (USTs), former ordnance ranges, and former ordnance research and development areas. The installation established an information repository and an administrative record in FY91. EPA placed the installation on the NPL in October 1992 because of potential migration of releases from three contaminated sites. These releases could affect the Potomac River, Gambo Creek, associated wetlands, and local groundwater aquifers used for drinking water. Ordnance testing operations contributed to the contamination. A federal facility agreement (FFA) was signed in September 1994. In 2005, the BRAC Commission recommended Dahlgren for realignment. In FY92, a community relations plan was completed, and the installation formed a technical review committee (TRC). In FY95, the TRC was converted to a Restoration Advisory Board (RAB). The installation completed 5-year reviews in FY03, FY04, and FY05.

To date, Dahlgren has completed Records of Decision (RODs) for 20 sites. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Dahlgren for FY04 through FY07 is detailed below.

In FY04, the installation completed three remedial investigations (RIs) (Sites 32, 37, and 61), two feasibility studies (FSs) (Sites 32 and 37), two proposed plans (PPs), and two RODs (Sites 32 and 37). The Navy completed 5-year reviews for Sites 9, 10, 12, and 17. The installation completed the Site 6 remedial action (RA) and began construction on the Site 47 completed interim RA (IRA). The Site 37 remedial design (RD) was submitted. The Magnus System treatability study continued at Site 12. The installation completed annual wetland monitoring reports (WMRs) for Sites 9/58, 17, 25, 46, and 50. The installation completed IRAs for Sites 43 and 52. The installation initiated the IRA for Site 61 and completed site screenings for four sites (Sites 14, 15, 38, and 57).

In FY05, the Navy completed a comprehensive 5-year review for annual wetland monitoring sites, an RD for Site 37, and annual WMRs for Sites 6, 9, 17, 25, 46, 50, and 58. Dahlgren completed an RI/FS, a PP, and a ROD for Site 62. The installation completed IRAs for Sites 47b and 61b. The Navy finalized two closeout documents for no further action at Sites 38 and 40. The installation completed RIs for Sites 20 and 61a, and conducted removal actions at Sites 4 and 15. The Navy utilized diffusion bag technology for groundwater sampling to assist with volatile organic chemical (VOC) contamination concentrations at Site 20. Two RAB meetings were held, and a presentation was made to the King George Board of Supervisors on the status of the remediation efforts at Dahlgren.

In FY06, Dahlgren completed annual WMRs for Sites 6, 9, 17, 25, 46, 50, and 58, an Appendix B closeout report for Solid Waste Management Unit 128 oil-water separator 1121, initiated and completed the Site 9 marsh cap repair, and installed a temporary methane gas intercept trench with gas monitoring wells. The Navy completed the ROD amendment and revised RD for Site 37, and initiated an RA. Dahlgren completed an engineering evaluation and cost analysis for Site 14. The installation has planned additional trenching and soil screening at Site 61a prior to recommendation of a final remedy. The Navy also developed a new remediation team. The Navy held a public meeting to present the Site 37 amended PP, and a RAB meeting was conducted.

In FY07, Dahlgren completed an FS and a PP for Sites 20 and 23, and one closeout document for Sites 47a and 47b. The Navy awarded and initiated an IRA for Site 14. The Navy awarded an RA and IRA for Sites 20 and 23, respectively. The installation completed and signed an explanation of significant differences (ESD) for Site 12, and completed annual WMRs for Sites 2, 9, 17, 25, and 50. The Navy held a public meeting to present the Site 12 ESD, and Sites 20 and 23 PP. The Navy also held a RAB meeting.

FY08 IRP Progress

Dahlgren completed IRAs for Sites 20 and 23. The installation completed a soil IRA for Site 14, during which an underground pipe was uncovered and is now scheduled for removal. The Navy also completed periodic groundwater monitoring reports for Sites 2, 9, and 17. The installation awarded and initiated the groundwater RA for Sites 20 and 23, and finalized WMRs for Sites 6, 9/58, 17, 25, 46 and 50. The Navy submitted a 5-year review for Site 2, which is under regulatory review. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed IRAs for Sites 4 and 15.

Dahlgren held a RAB meeting.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Naval Support Facility, Dahlgren are grouped below according to program category.

IRP

- Initiate IRAs for Sites 4 and 15 in FY09.
- Complete WMRs for various sites, and continue groundwater RAs at Sites 20 and 23 in FY09.
- Complete Site 14 pipe removal in FY09.
- Conduct 5-year reviews for various sites in FY09.
- Conduct RAB meetings in FY09-FY10.

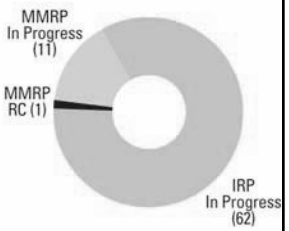
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Naval Weapons Station Seal Beach, Detachment Concord
Formerly Concord Naval Weapons Station

NPL/BRAC 2005 Closure

FFID:	CA917002452800	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Concord, California (13,023 acres)	**Funding to Date:**	$ 88.7 million
Mission:	Shipped, received, inspected, and classified munitions (tidal area); served as munitions storage and weapons maintenance, inspection, and testing facility (inland area)	**Est. CTC (Comp Year):**	$ 138.9 million (FY 2020)
		IRP Sites (Final RIP/RC):	62 (FY2014)
HRS Score:	50.00; placed on NPL in December 1994	**MMRP Sites (Final RIP/RC):**	12 (FY2017)
IAG Status:	FFA signed in June 2001	**Five-Year Review Status:**	Completed
Contaminants:	Heavy metals, petroleum hydrocarbons, VOCs, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-23



Progress To Date

Naval Weapons Station (NWS) Seal Beach, Detachment Concord (SBDC) ships, receives, inspects, and classifies munitions. It also serves as a munitions storage and weapons maintenance, inspection, and testing facility. Past operations, such as disposal of paints and solvents, spent ordnance, treated wood, and household and industrial waste; open burning of munitions; and spills or leaks from fuel storage tanks contributed to contamination. These sites interconnect to Suisun Bay and include sensitive habitats for threatened and endangered species. EPA placed the installation on the NPL in December 1994, due to surface water and sediment contamination at tidal and litigation-area sites. The Navy and EPA signed a federal facility agreement (FFA) in June 2001. In 2005, the BRAC Commission recommended closure of Naval Weapons Station (NWS) Seal Beach, Detachment Concord (SBDC). In FY90, the installation formed a technical review committee, which converted to a Restoration Advisory Board (RAB) in FY95. The RAB received a technical assistance for public participation award in FY03. In FY03, the installation updated the community relations plan and finalized the 5-year review for the seven litigation-area sites.

The Navy has completed 15 Records of Decision (RODs) and recommended 20 sites for no further action (NFA). As a result of BRAC 2005, the Tidal Area will be realigned to the Army and the Inland Area is scheduled to close. The Navy conducted an inventory of Military Munitions Response Program (MMRP) sites in FY02. The cleanup progress at NWS SBDC for FY04 through FY07 is detailed below.

In FY04, the Navy, EPA, and the State signed the Site 1 ROD after dispute resolution and initiated a groundwater sampling plan. The Navy initiated the sampling plan for investigating groundwater at Site 1 and remedial design (RD). RAB membership increased to nine and monthly meetings continued.

In FY05, NWS SBDC completed the Site 1 landfill cap RD and initiated remedial action (RA). The Navy completed a treatability study in the litigation areas. The installation performed data gap sampling at Sites 2, 9, and 11, and found that additional work was required. The Navy completed an engineering evaluation and cost analysis and a non-time-critical removal action (NTCRA) memorandum for Site 30. The installation initiated the MMRP preliminary assessment (PA) and issued a draft report for review.

In FY06, NWS SBDC transitioned management of Sites 13, 17, 22, 27, 29, and Solid Waste Management Units (SWMUs) 2, 5, 7, and 18 under BRAC 2005. The Navy signed an NFA ROD for Site 17. The installation began the Site 30 NTCRA work plan and finalized an additional data gap sampling work plan for Site 11. The Navy began remedial investigation (RI) sampling at Site 31 and resolution of a litigation-area feasibility study (FS) informal dispute. The Navy began to transition environmental cleanup of the Tidal Area sites to the Army. The installation submitted a draft RI report for Site 22 and a draft pilot test work plan for SWMUs 2, 5, 7, and 18. The Navy finalized the MMRP PA and awarded the contract to begin the site inspection (SI) work plan. The RAB reviewed site characterization documents and coordinated cleanup.

In FY07, NWS SBDC prepared a revised FS and conducted a groundwater treatment pilot study to evaluate solvent cleanup technology for SWMUs 2, 5, 7, and 18. The installation completed an RI/FS report for Site 22. The Navy initiated a soil investigation and prepared an RI report for Sites 22A, 27, and 29, and a groundwater investigation for Site 29. NWS SBDC finalized PAs for the Inland and Tidal Area sites. The Navy prepared a draft SI field sampling plan/sample and analysis plan (FSP/SAP) for Site 24A, the former pistol range. The installation finalized PAs and prepared draft FSP/SAPs for the former Inland Burn Area/Railroad Siding Excavations Site, the Eagles Nest Explosive Ordnance Disposal (EOD) Site, the Black Pit at Red Rock Site, and the Burn Area near Site HE 5.

FY08 IRP Progress

NWS SBDC completed FSs on SWMUs 2, 5, 7, 18; a draft final FS report on Site 22; and draft proposed plans (PPs) for SWMU sites. The Navy completed RI fieldwork and prepared a draft RI report at Site 22A. The installation also completed a soil investigation at Site 27, and initiated a TCRA and action memorandum for the site. The Navy initiated the historical radiological assessment program, and continued a soil and groundwater investigation on Site 29.

The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

NWS SBDC finalized the PA for the Inland and Tidal Area MMRP sites. The installation also finalized SI work plans for the Inland Area MMRP sites.

The Navy conducted an SI for Site 24A, former Inland Burn Area, Eagles Nest EOD, Black Pit at Red Rock, and HE 5 Burn Area.

Plan of Action

Plan of action items for Naval Weapons Station Seal Beach, Detachment Concord are grouped below according to program category.

IRP

- Complete PPs and prepare RODs for SWMUs 2, 5, 7, 18, and Site 22 in FY09-FY10.
- Complete FS and prepare PP for Site 22A in FY09-FY10.
- Complete TCRA and prepare RA completion report for Site 27 in FY09-FY10.
- Complete fieldwork and prepare revised RI for Site 29 in FY09-FY10.
- Establish groundwater monitoring program at IRP Sites 13, 22, and 29, and SWMUs 2, 5, 7, and 18 in FY09-FY10.

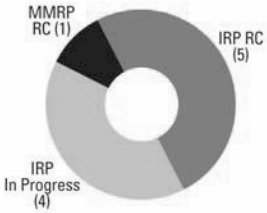
MMRP

- Complete SI at Inland Area EOD in FY09-FY10.
- Complete SI fieldwork and prepare SI reports for Site 24A, former Inland Burn Area, HE 5 Burn Area, and Black Pit at Red Rock in FY09-FY10.

Nebraska Ordnance Plant

NPL

FFID:	NE79799F041800	**Est. CTC (Comp Year):**	$ 241.9 million (FY 2075)
Location (Size):	Mead, Nebraska (17,214 acres)	**IRP Sites (Final RIP/RC):**	9 (FY2013)
Mission:	Performed ordnance storage and manufacturing activities	**MMRP Sites (Final RIP/RC):**	1 (FY2001)
HRS Score:	31.94; placed on NPL in August 1990	**Five-Year Review Status:**	Completed
IAG Status:	IAG signed in September 1991	**IRP/MMRP Status Table:**	Refer to page M-6-105
Contaminants:	Explosives, VOCs, TCE, PCBs, SVOCs, metals, propellants		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 103.5 million		



Progress To Date

From 1942 to 1956, Nebraska Ordnance Plant (NOP) produced munitions at four bomb-loading lines, stored munitions, and produced ammonium nitrates. The property also contained burn areas, an Atlas missile facility, and a sewage treatment plant. The University of Nebraska now owns the majority of the property. The Nebraska National Guard, U.S. Army Reserves, and private entities own the remainder of the property. The U.S. Army Corps of Engineers (USACE) identified soil contaminated with polychlorinated biphenyls (PCBs) and munitions, and on- and off-site groundwater contaminated with explosives and volatile organic compounds (VOCs). EPA placed the property on the NPL in August 1990, and EPA and the Army signed an interagency agreement (IAG) in September 1991. In FY97, USACE converted the property's technical review committee to a Restoration Advisory Board. In FY99, USACE completed a memorandum of understanding with the Lower Platte National Resource District concerning beneficial reuse of treated groundwater. In FY04, USACE completed a 5-year review of the munitions and explosives of concern (MEC) engineering evaluation and cost analysis (EE/CA) removal action. In FY08, USACE completed a community relations plan.

To date, USACE has signed a Record of Decision (ROD) for Operable Units (OUs) 1 and 2, and incinerated over 16,000 tons of contaminated soil at the site. The cleanup progress at NOP for FY04 through FY07 is detailed below.

In FY04, USACE developed a remedial design (RD) for additional containment and groundwater monitoring wells. USACE continued operations and maintenance (O&M) of the treatment system and conducted quarterly groundwater monitoring. USACE also completed work plans for the Load Line 1 remedial action (RA) and developed an RD for a treatment facility south of Load Line 1. In a separate effort, USACE, EPA, and the Department of Justice (DOJ) began negotiations with three potentially responsible parties (PRPs) for cost recovery and settlement of their environmental liability at NOP. EPA approved the 5-year review of the MEC EE/CA removal action. USACE conducted a pre-design investigation in the vicinity of the proposed monitoring wells.

In FY05, DOJ continued to lead negotiations with PRPs. USACE initiated construction on Load Line 1 extraction wells and air stripper treatment system (RA for OU 2). USACE began implementation of the focused extraction portion of the OU 2 ROD. USACE also initiated a supplemental groundwater investigation to better define the southern and eastern edges of the plume and facilitate design of the Municipal Utilities District monitoring network.

In FY06, USACE continued O&M of the treatment system and quarterly groundwater monitoring. A supplemental groundwater investigation clearly defined the southern and eastern perimeter of the plume, supporting the design of a supplemental groundwater monitoring network. USACE developed and submitted a containment evaluation work plan describing how successful groundwater containment will be measured and reported. USACE completed construction and started operation of the extraction well and treatment for Load Line 1. USACE continued to provide legal and technical support to DOJ for settlement discussions and litigation. USACE approved and implemented the OU 2 ROD.

In FY07, USACE continued O&M of the containment system, quarterly groundwater monitoring, and completed containment evaluation work. NOP completed installation of the supplemental groundwater monitoring network on the southern and eastern perimeters. USACE completed the first annual remedy performance report, a comprehensive assessment of system performance using monitoring, modeling, and O&M data. USACE continued implementation of the focused extraction portion of the OU 2 ROD and submitted a 5-year review of the OU 2 remedy. NOP initiated an interim removal action for OU 3 to dig and haul antimony contaminated soils on the site. USACE continued to provide legal and technical support to DOJ.

FY08 IRP Progress

USACE completed construction of the advanced oxidation pre-treatment system and began full-scale operation. USACE submitted the 5-year review for OU 2 for regulatory signature. USACE completed the OU 3 interim RA and the community relations plan. USACE continued O&M of the containment system and groundwater monitoring. USACE continued to provide legal and technical support to DOJ in the PRP negotiations.

The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Technical issues delayed the installation of two containment wells and one focused extraction well.

FY08 MMRP Progress

USACE began the ordnance and explosives (OE) recurring review.

Plan of Action

Plan of action items for Nebraska Ordnance Plant are grouped below according to program category.

IRP

- Complete installation of two new containment wells and one focused extraction well in FY09.
- Complete construction of new treatment plant in FY09-FY10.
- Continue to provide legal and technical support to DOJ in the PRP negotiations in FY09-FY10.
- Investigate possible source areas and alternative treatments in FY10.

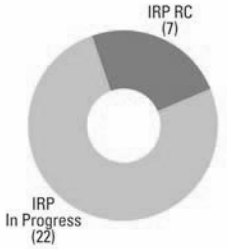
MMRP

- Complete OE recurring review in FY09.

New London Naval Submarine Base

NPL/BRAC 2005 Realignment

FFID:	CT117002202000	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Groton, Connecticut (547 acres)	**Funding to Date:**	$ 65.6 million
Mission:	Maintain and repair submarines; conduct submarine training and submarine research; provide a home port for submarines	**Est. CTC (Comp Year):**	$ 28.7 million (FY 2041)
HRS Score:	36.53; placed on NPL in August 1990	**IRP Sites (Final RIP/RC):**	29 (FY2013)
IAG Status:	FFA signed in January 1995	**MMRP Sites (Final RIP/RC):**	None
Contaminants:	Dredge spoils, incinerator ash, POLs, PCBs, spent acids, pesticides, solvents, construction debris, metals, VOCs, SVOCs	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-6-49



Progress To Date

New London Naval Submarine Base maintains and repairs submarines. Significant sites at the installation include the Area A Landfill (Site 2), smaller disposal areas, and fuel and chemical storage areas. EPA placed the installation on the NPL in August 1990 because of polychlorinated biphenyl (PCB) contamination at Site 2. The Navy signed a federal facility agreement (FFA) in January 1995. In 2005, the BRAC Commission recommended New London Submarine Base for realignment. The installation formed a technical review committee in FY89 and converted it to a Restoration Advisory Board in FY94. The installation completed 5-year reviews in FY01 and FY07.

Installation Restoration Program (IRP) sites have been identified at this installation, along with underground storage tanks (USTs) which were grouped into two UST sites. The installation completed Record of Decision (ROD) documents for Sites 2, 3, 6, 8, 20, and an interim ROD for the basewide groundwater operable unit (OU). In addition, the Navy has signed No Further Action (NFA) RODs for Sites 4 and 15. In FY02, the installation completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at New London Naval Submarine Base for FY04 through FY07 is detailed below.

In FY04, New London Naval Submarine Base completed the proposed remedial action plan (PRAP) and interim ROD for the basewide groundwater OU.

In FY05, the Navy completed a remedial design (RD) for the basewide groundwater OU and for the Site 7 Soil OU.

In FY06, the installation completed remedial action (RA) for the basewide groundwater OU and the RA at Site 7 Soil OU. New London Submarine Base completed a draft 5-year review. Additionally, the Navy drafted an NFA PRAP for the Defense Reutilization and Marketing Office (DRMO) Site 6.

In FY07, New London Submarine Base finalized the second 5-year review, and ROD for the DRMO Site 6. The installation completed an explanation of significant differences for Site 3 and completed the Thames River Study fieldwork.

FY08 IRP Progress

New London Naval Submarine Base completed the Thames River Validation Study and an engineering evaluation and cost analysis for a sediment removal action at Inner Pier 1. The Navy completed the proposed plan (PP) and final ROD for the basewide groundwater OU, and an RA at Site 3 New Source Area. The installation submitted a draft feasibility study (FS) for lower base sites, and achieved remediation goals at Site 7.

The Navy initiated a draft remedial investigation (RI) and FS at Area A Wetlands; however, regulatory issues delayed completion.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for New London Naval Submarine Base are grouped below according to program category.

IRP

- Complete FS, PP, and draft ROD for lower base sites in FY09.
- Complete RI/FS for Area A Wetlands in FY09.
- Complete a non-time-critical removal action for Inner and Outer Pier 1 sediments in FY09.
- Initiate RDs for lower base sites in FY10.

MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Newark Air Force Base

BRAC 1993

FFID:	OH557002465000	**Funding to Date:**	$ 6.4 million
Location (Size):	Heath, Ohio (70 acres)	**Est. CTC (Comp Year):**	$ 0.9 million (FY 2012)
Mission:	Provided depot-level maintenance for Air Force and DoD missile, navigation, and guidance systems.	**IRP Sites (Final RIP/RC):**	14 (FY2002)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	N/A	**Five-Year Review Status:**	Completed and planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-34
Contaminants:	VOCs, SVOCs, BCEE, TCE		
Media Affected:	Groundwater and Soil		

Progress To Date

Newark Air Force Base (AFB) has provided depot-level maintenance for missile guidance, and navigational systems used by most aircraft and missiles since 1992. In 1993, the BRAC Commission recommended Newark AFB for closure. The work at Newark AFB was privatized-in-place in 1996. Past waste management activities related to solvents, such as freon 113 and trichloroethylene (TCE), have affected groundwater at the installation. An Environmental Baseline Survey was completed in 1994. In FY94, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) to support cleanup efforts. The RAB adjourned in FY05. The Air Force completed the first 5-year review in FY05.

The installation prepared No Further Action Decision Documents for five sites. Upon closure, 56 of the 70 acres comprising Newark AFB were transferred to the Heath-Newark-Licking County Port Authority. In FY03, a 13-acre parcel on the northern side of the installation was transferred to Licking County Regional Airport. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup process at Newark AFB from FY04 through FY07 is detailed below.

In FY04, the amended post-closure plan for Site FF 87 was completed. Contaminant concentrations dramatically decreased at Monitoring Well (MW) 87 1A. The Air Force conducted an inventory of MMRP sites. No MMRP sites were identified at this installation.

In FY05, the Air Force completed the first 5-year review. The enhanced bioremediation at Site FF 87 continued to make progress at the two remaining wells (MWs 87 1 and 87 1A), where concentrations of TCE exceed the maximum contaminant level. A performance-based contract was awarded for groundwater monitoring at Site FF 87. The BCT held one meeting, at which the Air Force presented proposed amendments to the post-closure plan for the detection monitoring program and bioremediation effectiveness monitoring program. The RAB formally adjourned in accordance with DoD policy because all environmental cleanup sites were closed with the exception of Site FF 87.

In FY06, the installation continued remedial action operation (RA-O) groundwater monitoring activities at Site FF 87 and submitted a proposal to amend the post-closure plan for this site. The Air Force submitted an operating properly and successfully (OP&S) demonstration for Site FF 87 to EPA Region V. Obsolete groundwater monitoring wells at previously transferred parcels were decommissioned. The BCT met twice and signed a consensus statement for no further groundwater monitoring at Site LF 002.

In FY07, the installation continued groundwater RA-O at Site FF 87, including the collection of two rounds of source area delineation samples. Sampling results indicated the source area was larger and more complex than originally estimated, changing the conceptual site model. Ohio EPA provided conditional approval of post-closure plan amendments for Site FF 87. The installation finalized an updated land use controls/institutional controls map. The BCT met twice during the year.

FY08 IRP Progress

Newark AFB planned and coordinated the final source reduction remedy at Site FF 87. Activities conducted included Site FF 87 source area characterization and site preparation, including the demolition of Buildings 90, 102, and 114. The installation collected two additional rounds of soil and groundwater samples to delineate the presence of chlorinated hydrocarbons after the buildings were removed. The installation conducted ongoing discussions with the BCT concerning the Site FF 87 work plan and final excavation and soil disposal approach. The installation continued RA-O groundwater monitoring at Site FF 87. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The BCT met twice.

FY08 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Newark Air Force Base are grouped below according to program category.

IRP

- Continue to coordinate and conduct the final source reduction remedy at Site FF 87 in FY09-FY10.
- Prepare OP&S documents and obtain OP&S approval letter for Site FF 87 in FY09-FY10.
- Revise the post-closure plan to accommodate the post-excavation groundwater monitoring requirements at Site FF 87 in FY09-FY10.
- Continue RA-O groundwater monitoring at Site FF 87 in FY09-FY10.

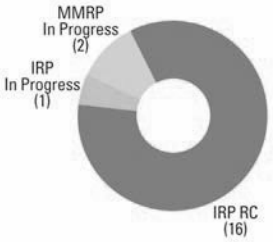
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Newport Chemical Depot

BRAC 2005 Closure

FFID:	IN521382227200	**Funding to Date:**	$ 21.0 million
Location (Size):	Newport, Indiana (6,996 acres)	**Est. CTC (Comp Year):**	$ 9.7 million (FY 2012)
Mission:	Store and eliminate VX stockpile and related materials, while protecting the workforce, public, and environment	**IRP Sites (Final RIP/RC):**	17 (FY2010)
		MMRP Sites (Final RIP/RC):	2 (FY2012)
HRS Score:	N/A	**Five-Year Review Status:**	Planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-18
Contaminants:	Explosives, heavy metals, VOCs, SVOCs, breakdown products		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In May 2005, the BRAC Commission recommended closure of the Newport Chemical Depot (CD) after completion of the chemical demilitarization mission. The installation began to neutralize VX agent on May 5, 2005. The Wabash River Ordnance Works (Site 001) originally manufactured the explosive RDX during World War II and the Korean conflict. In addition, heavy water was produced in support of the Manhattan Project and Atomic Energy Commission. In 1961, the heavy water production facility was converted to the production of chemical agent VX and operated until 1969 (Sites 014 and 016). The installation buried building debris at Sites 022 and 025, including asbestos-contaminated and decontaminated debris from the chemical plant. From 1973 to 1974, the Army constructed a TNT production plant. The installation burned and buried TNT removed from the production lines at Site 024. In 2000, Newport CD formed a Restoration Advisory Board (RAB). In FY02, the installation composted approximately 7,000 cubic yards of TNT- and DNT-contaminated soils at Site 024, and in FY03 composted and backfilled about 6,700 cubic yards of RDX-contaminated soils at Site 001. The Army conducted a preliminary assessment of the Military Munitions Response Program (MMRP) site at Site 022.

Environmental studies identified 17 Installation Restoration Program (IRP) sites. Sixteen of these sites have achieved response complete (RC). The cleanup progress at Newport CD for FY04 through FY07 is detailed below.

In FY04, Newport CD constructed a soil barrier on a portion of Site 022. Newport CD also established an inspection program to periodically check the integrity of the soil barrier and complete any needed repairs. The Army conducted a geophysical study to identify the location of a buried 300-gallon tank at Site 022. The installation also installed a two-foot-thick soil cap and six-inch-thick topsoil layer and revegetated the area to control soil erosion at Site 025. The installation established an inspection program to periodically check the integrity of the cap, assess the stability of the creek bank, and conduct any needed repairs.

In FY05, the BRAC Commission recommended closure of Newport CD. The installation conducted long-term management (LTM) for groundwater at Sites 001, 022, 024, and 025. Newport CD completed a land use control implementation plan.

In FY06, the installation continued LTM for groundwater at Sites 001, 022, 024, and 025. The installation also conducted cap inspection at Sites 022 and 025. The installation initiated a historical records review (HRR) to identify potential munitions, including landmines, aerial rockets, secondary explosives, and toxic chemical agents/munitions. Additional sites identified in the HRR will be addressed in the environmental condition of property (ECP) report. Newport CD hosted a RAB meeting.

In FY07, Newport CD continued LTM for groundwater at Sites 001, 022, 024, and 025, and completed the HRR.

FY08 IRP Progress

Newport CD attempted to locate a buried tank at Site 022, but was unable to locate the tank. The Indiana Department of Environmental Management determined the installation's actions were sufficient. The installation also installed 10 groundwater monitoring wells at Site 016, and additional groundwater monitoring wells at Site 014. Newport CD abandoned unused monitoring wells and continued monitoring at Sites 001, 022, 024, and 025. The Army completed neutralization of chemical agent VX. Newport CD also initiated work plans for the site inspection (SI) in support of BRAC 2005. The cost of completing environmental restoration has changed significantly due to regulatory issues and changes in estimating criteria.

Administrative issues delayed completing the ECP Phase I report.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Newport Chemical Depot are grouped below according to program category.

IRP

- Finalize ECP report in FY09.
- Hold RAB meeting in FY09.
- Continue unused well abandonment in FY09-FY10.
- Continue BRAC 2005 (SI) and Site 16 fieldwork in FY09-FY10.

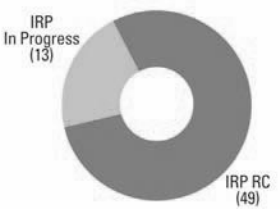
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Norfolk Naval Base
Sewells Point Naval Complex

NPL

FFID:	VA317002741400	**Funding to Date:**	$ 102.9 million
Location (Size):	Norfolk, Virginia (4,631 acres)	**Est. CTC (Comp Year):**	$ 28.1 million (FY 2039)
Mission:	Provide services and materials to support the aviation activities and operating forces of the Navy	**IRP Sites (Final RIP/RC):**	62 (FY2008)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	50.00; placed on NPL in April 1997	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in February 1999	**IRP/MMRP Status Table:**	Refer to page M-6-168
Contaminants:	Petroleum products, PCBs, solvents, heavy metals, acids, paints, asbestos, pesticides, VOCs, SVOCs		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Norfolk Naval Base provides services and materials to support the aviation activities and operating forces of the Navy. Contamination has resulted from maintenance of aircraft, equipment, and vehicles, and from operation of support facilities. Site types at the installation include landfills, ordnance storage areas, waste disposal areas, fire training areas, fuel spill areas, and underground storage tanks. The installation was placed on the NPL in April 1997, mainly because of the potential for migration of contaminated surface water into groundwater and soil. The installation signed a federal facility agreement (FFA) in February 1999. The installation formed a technical review committee in FY89 and converted it to a Restoration Advisory Board in FY94. A community relations plan was completed in FY93 and updated in FY03. In FY03, the installation completed 5-year reviews for Sites 1, 2, 3, 6, and 20.

Installation Restoration Program (IRP) sites and solid waste management units (SWMUs) have been identified at this installation. In FY03 Site 23 was added as a new CERCLA site. The installation has signed Records of Decision (RODs) for SWMUs 12 and 16, and Sites 2, 6, 22, and 23. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Norfolk Naval Base for FY04 through FY07 is detailed below.

In FY04, the installation completed the one-foot sediment cover remedy at the pond adjacent to Site 22. The installation also finalized the watershed contaminated source document for Willoughby Bay. Additionally, the remedial investigations (RIs) for SWMUs 12 and 16 were finalized, and consensus was reached for no further action (NFA) at these sites. The installation finalized the proposed remedial action plan (PRAP) and ROD for soil and sediment at Site 22 and initiated the RI at Site 23. The installation initiated a final expanded site inspection (SI).

In FY05, Norfolk Naval Base finalized an NFA PRAP and ROD for SWMUs 12 and 16. The installation finalized an SI for Site 23 and also completed the first phase of the RI. A remedial design (RD) was finalized for Sites 2 and 22. The installation completed the final RI for SWMU 14.

In FY06, Norfolk Naval Base implemented the shutdown strategy at Site 3 Area of Concern 2.

In FY07, Norfolk Naval Base completed an SI for Site 18. The installation completed an interim response action completion report (RACR) for Site 22, and an engineering evaluation and cost analysis (EE/CA) at Site 23.

FY08 IRP Progress

Norfolk Naval Base completed removal actions at SWMU 14 and Site 18, resulting in remedies in place (RIPs) for all sites. The installation completed an EE/CA for an asphalt cover at SWMU 14 and a groundwater response at Site 18. Norfolk Naval Base also completed a ROD at Site 23, and RDs at Sites 1, 3, 6, and 20. The Navy implemented initiatives to reduce elevated volatile organic compound (VOC) concentrations at Site 1. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Norfolk Naval Base are grouped below according to program category.

IRP

- Complete the second 5-year review in FY09.
- Complete RACRs for SWMU 14 and Site 18 in FY09.
- Complete land use control RODs for SWMU 14 and Site 18 in FY09-FY10.

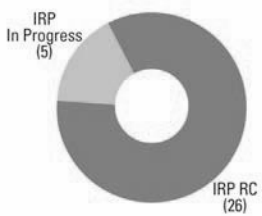
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Norfolk Naval Shipyard

NPL

FFID:	VA317002481300	**Contaminants:**	Heavy metals, PCBs, VOCs, SVOCs, POLs, land solvents
Location (Size):	Portsmouth, Virginia (795 acres)	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Mission:	Provide logistical support for assigned ships and service craft; perform work in connection with conversion, overhaul, repair, alteration, dry-docking, and outfitting of naval vessels; perform manufacturing, research, development, and test work; provide services to other activities and units	**Funding to Date:**	$ 31.4 million
		Est. CTC (Comp Year):	$ 8.7 million (FY 2037)
		IRP Sites (Final RIP/RC):	31 (FY2011)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	50.0; placed on NPL in July 1999	**Five-Year Review Status:**	Planned
IAG Status:	FFA signed in September 2004	**IRP/MMRP Status Table:**	Refer to page M-7-43



Progress To Date

Norfolk Naval Shipyard (NSY) is located on the western bank of the southern branch of the Elizabeth River. The Norfolk NSY Installation Restoration Program (IRP) includes investigation and remediation of sites located within the main shipyard and within three annexes that were formerly part of Norfolk NSY but are now under the control of other claimants. Site contamination resulted from past landfilling, disposal operations, and the operation of a plating shop. The installation was placed on the NPL in July 1999, because of the potential impact of surface water runoff on Paradise Creek, which is adjacent to the shipyard disposal areas. The Navy signed a federal facility agreement (FFA) in September 2004. An administrative record was established in FY92, and a community relations plan (CRP) was completed in FY94; the CRP was updated in June 2003. The installation formed a technical review committee in FY94 and converted it to a Restoration Advisory Board in FY96.

An initial assessment study identified IRP sites at Norfolk NSY. A RCRA facility investigation (RFI) performed at the installation identified 31 solid waste management units (SWMUs). A supplemental RFI identified an additional 121 SWMUs and areas of concern (AOCs). An additional 47 AOCs were later identified, bringing the total number of potentially contaminated areas at Norfolk NSY to 218. During the development of the FFA, inconsistent numbering and nomenclature of potentially contaminated areas in the previous documentation was identified. As a result, Norfolk NSY reduced the number of identified sites in the FFA. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation. Norfolk NSY completed Records of Decision (RODs) for Sites 10 and 17, and Operable Unit (OU) 1. The cleanup progress at Norfolk NSY for FY04 through FY07 is detailed below.

In FY04, the installation finalized the FFA. The Navy completed the engineering evaluation and cost analysis and removal action designs for OUs 1 and 2. The non-time-critical removal action (NTCRA) at OU 1 was initiated.

In FY05, Norfolk NSY's Site 17 feasibility study (FS) was revised to address changes in the planning requirements for the site. An NTCRA was completed at OU 1; approximately 30,000 tons of waste were removed, and 1.46 acres of wetlands were created or restored. The installation finalized the proposed plan (PP) for OU 1. The Navy initiated the Phase I NTCRA for OU 2.

In FY06, Norfolk NSY completed the RODs for OU 1 and Site 17. The remedial action in the Site 17 ROD is to restrict residential development via land use controls (LUCs). No further action (NFA) is required at the site because of the NTCRA completed at OU 1. The installation completed the remedial investigation and FS for Site 10.

In FY07, Norfolk NSY completed the ROD for Site 10; the remedy for this site is to implement LUCs. The installation completed Phase I NTCRA at OU 2; approximately 36,000 tons of waste were removed and 3.5 acres of wetlands were created or restored. The Navy completed the preliminary assessment for Site 15, Past Pier-Side Industrial Operations. The installation performed a review of historical dredge records and waterfront capital improvement projects, which allowed for an NFA determination for Site 15. The Navy acquired the last of three parcels to construct the remedy planned for OU 2 Phases II and III.

FY08 IRP Progress

Norfolk NSY drafted a focused FS for OU 2. The Navy completed additional sampling and data collection, and initiated the development of a long-term management (LTM) plan for groundwater. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the OU 2 focused FS. Technical issues delayed the groundwater LTM plan.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Norfolk Naval Shipyard are grouped below according to program category.

IRP

- Develop an LTM plan for groundwater at OU 2 in FY09.
- Complete the focused FS, PP, and ROD for OU 2 in FY09.
- Complete soil cover construction at OU 2 in FY09-FY10.

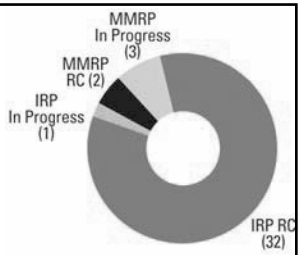
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Norton Air Force Base

NPL/BRAC 1988

FFID:	CA957002434500	**Funding to Date:**	$ 122.0 million
Location (Size):	San Bernardino, California (2,221 acres)	**Est. CTC (Comp Year):**	$ 14.2 million (FY 2024)
Mission:	Supported C-141 airlift operations	**IRP Sites (Final RIP/RC):**	33 (FY2005)
HRS Score:	39.65; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	5 (FY2005)
IAG Status:	IAG signed in 1989	**Five-Year Review Status:**	Completed and planned
Contaminants:	Paints, refrigerants, heavy metals, spent solvents, TCE, VOCs, SVOCs, waste oils, fuel	**IRP/MMRP Status Table:**	Refer to page M-6-31
Media Affected:	Groundwater and Soil		



Progress To Date

Norton Air Force Base (AFB) supported C-141 airlift operations. EPA placed the installation on the NPL in July 1987. In December 1988, the BRAC Commission recommended closure of Norton AFB. The installation signed an interagency agreement (IAG) in 1989 and closed in March 1994. The most significant sources of contamination at the base were a trichloroethylene (TCE)-contaminated groundwater plume and contaminated soil areas. Sites include underground storage tanks, landfills, fire training areas, spill areas, and waste disposal pits. Four RCRA sites required closure. The installation formed a Restoration Advisory Board (RAB) and BRAC cleanup team (BCT) in FY94. The RAB disbanded in FY98. The installation completed 5-year reviews in FY00 and FY05.

Prior to FY01, a Record of Decision (ROD) was signed for the Central Base Area Operable Unit and a closure report for Site 5 (AT 005) was completed. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The installation completed a basewide ROD in FY05, and all base property was transferred in FY07. The cleanup progress at Norton AFB for FY04 through FY07 is detailed below.

In FY04, the installation finalized the basewide proposed plan, and submitted the draft ROD for regulatory review. The installation also completed the physical closure of the industrial waste line (IWL) and industrial wastewater treatment plant (IWTP). The IWL post-closure care plan and permit were submitted for regulatory approval. Remedial action construction was completed at Site 10 and the Building 752 exterior. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation finalized the basewide ROD and selected remedies for 21 sites and 73 areas of concern. The Air Force completed the second 5-year review. The installation completed and submitted RCRA documentation and certification for the remaining two RCRA sites to regulators. Groundwater pump-and-treat systems and over 50 groundwater monitoring wells were decommissioned. The installation began preparing the remedial action completion report (RACR) for the groundwater pump-and-treat systems. The installation also attained the last remedy in place (RIP) milestone. The Air Force submitted addendums to the IWTP clean closure certification report to regulators. The Air Force began evaluating requirements at MMRP sites at this installation. The BCT continued to meet every other month. The RAB, although formally disbanded in FY98, held an annual public meeting.

In FY06, the installation completed the RACR for the groundwater pump-and-treat systems. The Air Force initiated the NPL delisting process, and EPA completed the preliminary closeout report for the installation. The installation completed the MMRP requirement evaluations. All MMRP sites were either administratively closed or determined to require no further action. The BCT continued to meet every two months.

In FY07, Norton AFB completed transfer of all remaining property and submitted a request to terminate RCRA corrective action authority on non-permitted portions of the installation. Closure documentation was prepared for the five MMRP sites. One BCT meeting was held.

FY08 IRP Progress

Norton AFB submitted documentation to regulators to terminate RCRA corrective action on non-permitted sites.

Regulatory issues delayed closure of two RCRA sites and termination of the RCRA corrective action authority on non-permitted sites.

FY08 MMRP Progress

The installation drafted closure packages for two sites.

Plan of Action

Plan of action items for Norton Air Force Base are grouped below according to program category.

IRP

- Obtain RCRA post-closure permit for the IWL in FY09.
- Obtain regulatory approval for termination of RCRA corrective action authority on non-permitted sites in FY09.
- Complete closure of two RCRA sites in FY09.

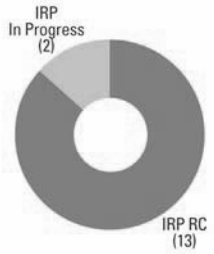
MMRP

- Finalize closure package documentation, evaluate, and close remaining sites in FY09-FY10.

Oakland Army Base

BRAC 1995

FFID:	CA921352066100	**Funding to Date:**	$ 41.0 million
Location (Size):	Oakland, California (425 acres)	**Est. CTC (Comp Year):**	$ 9.2 million (FY 2014)
Mission:	Served as host to Military Traffic Management Command, Western Area	**IRP Sites (Final RIP/RC):**	15 (FY2014)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Planned
Contaminants:	POLs, TCE, solvents, lead, PCBs, VOCs, SVOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-7-6
Media Affected:	Surface Water, Sediment, Groundwater, Soil		



Progress To Date

The 1995 BRAC Commission recommended closure of Oakland Army Base. The Army closed the installation as scheduled on September 30, 1999. Beginning in 1989, the installation continued to characterize potentially contaminated areas through its Installation Restoration Program (IRP). These sites included underground storage tanks; Berths 6 and 6 ½, where storm drain bedding materials were contaminated with oil and fuel products; Building 991, where pesticides and oil were in soil and groundwater; the West Grand Avenue overpass roadsides (lead-contaminated soil); Building 807 (chlorinated solvents in soil and groundwater); and Building 648, where soil was contaminated with polychlorinated biphenyls (PCBs). In FY96, the installation formed a BRAC cleanup team and a Restoration Advisory Board. In FY98, the installation completed an initial BRAC cleanup plan and an Environmental Baseline Survey for each of the base's 26 parcels.

To date, the Army has signed a Record of Decision (ROD) and transferred approximately 387 acres. Parcel 1 and Operable Unit (OU) 2 are the only remaining Army sites. In FY02, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Oakland Army Base for FY04 through FY07 is detailed below.

In FY04, the Army transferred groundwater monitoring responsibility to the local reuse authority (LRA) for their closure actions. The Army continued to oversee LRA cleanup actions under the terms of the environmental services cooperative agreement.

In FY05, the Army completed the Parcel 1 remedial investigation and draft feasibility study (FS), and began remedial design (RD) and remedial action (RA) contracting actions. The regulators agreed to postpone RAs at OU 2 until the source area for the contamination was investigated and remediated. The installation continued oversight of the LRA RAs.

In FY06, the Army completed the FS and awarded a contract for RD and RA at Parcel 1. The Army also drafted the decision document (DD) for Parcel 1 RAs. The Army reevaluated the alternative selected in the ROD for Parcel 1. As a result, the Army will amend the draft DD and resubmit it for regulatory concurrence. The OU 2 property owner started actions to fill the wetland site for railroad expansion under the fill and development plan. The adjacent LRA property became a non-issue as a source. The Army expects that this will relieve the installation of RA responsibility at OU 2. The Army continued oversight of LRA RAs.

In FY07, the Army negotiated with regulators regarding the final ROD for Parcel 1.

FY08 IRP Progress

The Army completed RAs at the LRA property.

Regulatory issues delayed implementing RAs at Parcel 1, completing the DD for Parcel 1 RAs, and reviewing the Parcel 1 FS.

FY08 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Oakland Army Base are grouped below according to program category.

IRP

- Implement RAs at Parcel 1 in FY09.
- Complete the DD for Parcel 1 RAs in FY09.
- Review Parcel 1 FS in FY09.
- Complete the FS and ROD for OU 2 and marine sediments in FY09-FY10.

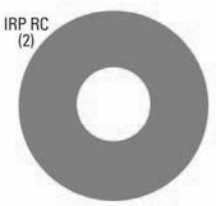
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Old Navy Dump/Manchester Annex

NPL

FFID:	WA09799F832600	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Kitsap County, Washington (350 acres)	**Funding to Date:**	$ 12.2 million
Mission:	Provided harbor defense for Puget Sound; tested torpedoes and stored fuel during World War I; served as a fire training school for the Navy and housed an antiaircraft artillery battery	**Est. CTC (Comp Year):**	$ 2.1 million (FY 2004)
		IRP Sites (Final RIP/RC):	2 (FY2004)
HRS Score:	50.00; placed on NPL in May 1994	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	IAG signed in July 1997	**Five-Year Review Status:**	Completed and planned
Contaminants:	Asbestos, PCBs, heavy metals, petroleum hydrocarbons, dioxins, furans	**IRP/MMRP Status Table:**	Refer to page M-8-62



Progress To Date

The Navy owned the Old Navy Dump/Manchester Annex from 1919 to 1960. During that time, three areas (a net depot, a fire training area, and a landfill) were established at the property. Activities at the property included maintenance, painting, sandblasting, and storage of steel cable net. The Navy disposed of domestic waste, wood, and metal waste originating from the Annex and the Puget Sound Naval Shipyard in a landfill. Currently, the National Oceanic and Atmospheric Administration, the National Marine Fisheries Service, an EPA laboratory, and a portion of Manchester State Park occupy the property. Preliminary assessments and site inspections conducted at the property since FY87 identified past releases of hazardous substances from the three areas. Contaminants have been detected in soil at the landfill, at the fire training area, and in surface water and sediment at the property. Contaminants of concern include heavy metals, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, dioxins, furans, and asbestos. The Manchester Annex Workgroup was established in FY94. EPA placed the property on the NPL in May 1994. During FY95, a potential unexploded ordnance area was identified, but the U.S. Army Corps of Engineers (USACE) determined that the area was not accessible to the general public; the area was considered for no further action. The USACE signed an interagency agreement (IAG) in July 1997. In FY04, USACE completed the first 5-year review.

To date, USACE and regulators have signed one Record of Decision (ROD). The cleanup progress at the Old Navy Dump/Manchester Annex for FY04 through FY07 is detailed below.

In FY04, USACE continued long-term management (LTM) for inspection and maintenance of the landfill cover. USACE also completed the first 5-year review on the site and identified several areas where USACE needs to take action. Additionally, USACE determined that the remedy continued to be protective.

In FY05, USACE conducted the required actions from the 5-year review. USACE initiated a shellfish tissue and sediment study to determine the health of the bivalve population. The study suggested that the remedy in the ROD is operating properly and contamination did not appear to be reducing the bivalve population.

In FY06, USACE continued to conduct the compliance monitoring as required in the ROD. The property continued to monitor the landfill for uncontrolled releases and found none. USACE conducted a clam counting survey to determine if the bivalve population was sufficient for sampling and found the number of appropriate bivalves was not sufficient to sample. Ongoing landfill cap maintenance actions were accomplished, including mowing, gas vent sampling, and drainage system checks. USACE completed a preliminary assessment that identified the potential for Military Munitions Response Program (MMRP) concerns.

In FY07, USACE continued compliance monitoring of the clam population, and continued LTM and maintenance of the landfill cap. USACE completed an archive search report (ASR). USACE is planning to prepare an inventory project report (INPR) and propose an MMRP project as required by the ASR and technical advisory group.

FY08 IRP Progress

USACE continued compliance monitoring of the clam population, and LTM and maintenance of the landfill cap. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

FY08 MMRP Progress

The property drafted a revised INPR, recommending approval of an MMRP project.

Plan of Action

Plan of action items for Old Navy Dump/Manchester Annex are grouped below according to program category.

IRP

- Prepare second 5-year review in FY09.
- Prepare LTM and maintenance contract in FY09.

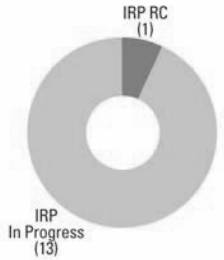
MMRP

- Complete revised INPR and approve MMRP project in FY09.

Orlando Naval Training Center

BRAC 1993

FFID:	FL417002473600	**Funding to Date:**	$ 38.5 million
Location (Size):	Orlando, Florida (2,050 acres)	**Est. CTC (Comp Year):**	$ 9.3 million (FY 2029)
Mission:	Serve as naval training center; formerly used as Army Air Force and Air Force bases	**IRP Sites (Final RIP/RC):**	14 (FY2008)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	Asbestos, paints, POLs, photographic chemicals, solvents, low-level radioactive wastes, VOCs, SVOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-7-13
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

From 1941 to 1968, Orlando Naval Training Center (NTC) served as an Army air base and an Air Force base. In 1968, it became a naval training center. In July 1993, the BRAC Commission recommended closure of the installation and relocation of its activities. The installation closed on April 30, 1999. The installation has four areas: the main base, Area C, Herndon Annex, and McCoy Annex. Most of the operational and training facilities are located on the main base. Area C, west of the main base, contains warehouse and laundry operations. Herndon Annex contains warehouse and research facilities. McCoy Annex contains housing and community facilities. In FY94, the installation formed a Restoration Advisory Board and a BRAC cleanup team (BCT). In FY01, the installation conducted a 5-year review.

The installation has identified 55 areas of concern and more than 300 tank systems requiring removal or assessment. The BCT completed a Record of Decision (ROD) and removed and assessed 55 tanks. The installation completed a draft finding of suitability to lease for McCoy Annex and draft findings of suitability to transfer for the public benefit conveyance of Herndon Annex and part of McCoy Annex to the Airport Authority. In addition, the installation has transferred 1,425 acres to the City of Orlando, and approximately 83 acres to the Federal Aviation Administration. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation. In FY08, the Navy transferred the remaining property at McCoy Annex (Operable Unit (OU) 2) and Study Area (SA) 17 to the Airport Authority. The cleanup progress at Orlando NTC for FY04 through FY07 is detailed below.

In FY04, the installation continued long-term management (LTM) at SAs 17, 36, 39, 52, and OU 1, and operation and maintenance (O&M) and LTM at OUs 2, 3, and 4. The Navy also completed Phase II of the finding of suitability for early transfer (FOSET) of the majority of remaining sites (OUs 2 and 3, the majority of Area C, OU 4, SAs 2, 17, and 52). The installation initiated the FOSET for the remainder of Area C for General Services Administration public sale. The installation completed the interim remedial action (IRA) for SA 55 and continued the IRAs at OU 3, and SAs 17 and 52. It also completed the covenant deferral for the majority of the remaining property. Orlando NTC performed an IRA and amended the ROD for OU 3. The amendment stated that the IRA is part of a pilot study to clean arsenic from groundwater at SAs 8 and 9 (OU 3). The installation also issued final decision documents for SAs 36, 39, 52, and 55.

In FY05, the installation continued O&M/LTM at OUs 1, 2, 3, 4, and SAs 17, 36, 39, and 52. The installation continued IRAs at OUs 2, 3, 4, and SAs 2, 36, and 39. The Navy identified a new site at the main base (SA 36 Northwest [NW]) where petroleum contamination in groundwater (primarily benzene) migrated from the former main base auto service station (Building 109). The installation added the site to LTM.

In FY06, Orlando NTC monitored and evaluated off-site contamination at OUs 2, 3, 4, and SAs 17 and 36 NW. The Navy continued to monitor IRAs O&M/LTM at OUs 1, 2, 3, 4, and SAs 17, 36, 36 NW, and 52.

In FY07, Orlando NTC continued monitoring IRAs O&M/LTM at OUs 1, 2, 3, 4, and SAs 17, 36, 36 NW, and 52. The installation also continued monitoring and evaluating off-site contamination at OUs 2, 3, and 4, and SAs 17 and 36 NW.

FY08 IRP Progress

Orlando NTC continued monitoring IRAs O&M/LTM at OUs 1, 2, 3, 4, and SAs 2, 17, 36, and 36 NW. The installation implemented all remedial actions, and received no further action determination for Site 52. The Navy transferred the remaining property at McCoy Annex (OU 2) and SA 17 to the Airport Authority. The installation continued monitoring and evaluation of off-site contamination at OUs 2, 3, 4, and SAs 2, 17, and 36 NW. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Orlando Naval Training Center are grouped below according to program category.

IRP

- Continue delineation of groundwater contamination from SA 36 NW in FY09.
- Continue IRA at OU 4 in FY09-FY10.
- Continue developing RODs for OUs 2, 3, and 4 in FY09-FY10.

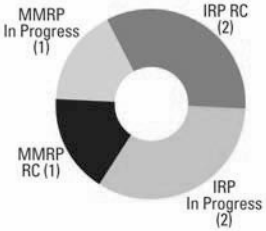
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Pantex Plant
Formerly Pantex Ordnance Plant

NPL

FFID:	TX69799F676300,TX69799F655100	**Est. CTC (Comp Year):**	$ 8.8 million (FY 2086)
Location (Size):	Pantex Village, Texas (16,000 acres)	**IRP Sites (Final RIP/RC):**	4 (FY2015)
Mission:	Produce and store military weapons	**MMRP Sites (Final RIP/RC):**	2 (FY2086)
HRS Score:	51.22; placed on NPL in May 1994	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	None	**IRP/MMRP Status Table:**	Refer to pages M-7-41 and M-8-57
Contaminants:	VOCs, SVOCs, heavy metals, UXO, explosives		
Media Affected:	Sediment, Soil, Groundwater		
Funding to Date:	$ 12.6 million		



Progress To Date

The former Pantex Ordnance Plant began operations in 1942 as an Army Ordnance Corps facility and was excessed in 1947. The property is now owned by DOE and Texas Tech University (TTU). Operations conducted on the active DOE site include fabrication, assembly, testing, and disassembly of nuclear ammunition and weapons. Sources of contamination have included burning of chemical waste in unlined pits, burial of waste in unlined landfills, and discharge of plant wastewaters into on-site surface water. The southern part of the property is used as an experimental agricultural research farm by TTU. DOE is solely investigating sites on their property. EPA placed the property on the NPL in May 1994. The U.S. Army Corps of Engineers (USACE) established an electronic administrative record for the TTU FUDS property in FY03. USACE completed a public involvement plan (PIP) in FY06.

A preliminary assessment and site inspection (SI) in FY90 identified nine areas of emphasis for investigation. The cleanup progress for Pantex Plant for FY04 through FY07 is detailed below.

In FY04, USACE completed environmental investigations to determine the extent of contamination for all areas of concern (AOCs), including Zone 2, and continued investigations for sites that required additional data. Additionally, USACE presented investigation results for Zones 1 and 9, the Burning Grounds, Carbon Black Pits, Landfill, Rock Pile, and Lake Mounds AOCs to the Texas Commission on Environmental Quality (TCEQ), DOE, and TTU. Potentially responsible party (PRP) discussions with TTU and DOE continued. USACE initiated a remedial investigation (RI) report and feasibility study (FS) for cleanup of all DoD responsible AOCs.

In FY05, USACE submitted an RI report to regulators for investigations at nine AOCs and performed additional SIs to fill data gaps identified during the RI. USACE continued PRP discussions with TCEQ, TTU, and DOE. Pantex Ordnance Plant received an updated right-of-entry from TTU for a two-year permit. USACE initiated preparation of a PIP.

In FY06, USACE conducted additional sampling and prepared an addendum to the RI to fill data gaps. The PIP for former Pantex Ordnance Plant was completed. The Tulsa District of USACE transmitted the Installation Restoration Program (IRP) RI report to the state regulators. TCEQ sent a letter to all PRPs and committed to scheduling a meeting to establish responsibilities. USACE revised the Military Munitions Response Plan (MMRP) work plan and received regulatory acceptance of the signed DOE security plan agreement for fieldwork execution. It also completed the fieldwork for the MMRP RI. USACE developed the draft RI report and provided additional requested information to the lead regulatory agency. The RI addendum report was completed. USACE developed an RI fact sheet, in preparation for public distribution. USACE developed and placed an administrative record in the Amarillo College and Carson County Public Libraries.

In FY07, USACE reviewed and finalized the draft RI addendum report. An RI addendum was issued to address regulatory concerns. USACE reviewed and revised the draft RI report. A draft final RI report was submitted.

FY08 IRP Progress

USACE initiated discussions with state regulators and developed a path forward to address overlapping investigation activities. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Technical issues delayed the initiation of supplemental RI/FS activities and the preparation of an FS. Regulatory issues delayed investigations at Zones 2 and 9, the Carbon Black Pits, and the groundwater. Regulatory issues also delayed the preparation and presentation of a remedial action (RA) proposed plan (PP) at the public meeting, and the removal of contaminated soil in three areas.

FY08 MMRP Progress

USACE completed the RI, and submitted the associated draft report for review.

Technical issues delayed the evaluation of remedial options to complete the FS. Technical issues also delayed initiation of an RA.

Plan of Action

Plan of action items for Pantex Plant are grouped below according to program category.

IRP

- Prepare and present RA PP in FY09.
- Complete contaminated soil removal in three areas in FY09.
- Continue supplemental RI/FS activities in FY09-FY10.
- Conduct further investigations at Zones 2 and 9, Carbon Black Pits, and the groundwater in FY09-FY10.
- Prepare RI/FS in FY10.

MMRP

- Revise and finalize RI report in FY09.
- Complete FS in FY09-FY10.
- Initiate RA or additional activities in FY09-FY10.

Parris Island Marine Corps Recruit Depot

NPL

FFID:	SC417302276300	**Funding to Date:**	$ 22.0 million
Location (Size):	Parris Island, South Carolina (8,043 acres)	**Est. CTC (Comp Year):**	$ 15.7 million (FY 2041)
Mission:	Receive, recruit, and combat-train enlisted personnel upon their enlistment in the Marine Corps	**IRP Sites (Final RIP/RC):**	25 (FY2014)
HRS Score:	50.00; placed on NPL in December 1994	**MMRP Sites (Final RIP/RC):**	8 (FY2015)
IAG Status:	FFA signed in 2005	**Five-Year Review Status:**	Completed and planned
Contaminants:	Pesticides, paints, POLs, solvents, industrial wastes, metals, acids, electrolytes, ordnance compounds, VOCs, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-6-142
Media Affected:	Groundwater, Surface Water, Sediment, Soil		

Progress To Date

The Parris Island Marine Corps Recruit Depot (MCRD Parris Island) receives, recruits, and combat-trains personnel upon their enlistment in the Marine Corps. EPA placed the installation on the NPL in December 1994 due to contamination at two landfill sites. The Navy and EPA signed a federal facility agreement (FFA) in 2005. Sites at the installation include landfills or spill areas where groundwater and sediment are contaminated with solvents and petroleum/oil/lubricants (POLs). The installation began to compile an administrative record in FY96 and completed a community relations plan in FY98. There has been no community interest in forming a Restoration Advisory Board. The installation completed a 5-year review in FY05.

To date, the installation has signed an interim Record of Decision (ROD) for Site 1 corrective action plan (CAP), 2, 3, and 12. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at MCRD Parris Island for FY04 through FY07 is detailed below.

In FY04, the installation developed a remedial investigation (RI) addendum work plan to sample the groundwater plume and define the path forward for Solid Waste Management Unit (SWMU) 45. The Navy completed the RCRA facility assessment at fiber optic vault Site 55. The installation issued a draft proposed plan (PP) for SWMU 12. The Navy completed the landfill Site 1 CAP, and developed a draft long-term management (LTM) work plan. The installation completed the CAP at the Depot gas station, monitored the aviation gasoline (AVGAS) pipeline and Building 850, and completed negotiations on the FFA.

In FY05, MCRD Parris Island issued a PP and draft ROD for Site 12. The Navy awarded a fixed-price environmental multi-award contract for Site 12 and issued a draft remedial action work plan. The installation completed an LTM work plan for Site 1 and continued monitoring at Sites 1, 3, and 45. The CAP for the Depot gas station was implemented and sampling was completed. The Navy continued fieldwork at the Depot gas station and the AVGAS pipeline. The installation received a no further action letter for Building 850. The installation signed the FFA and completed a 5-year review.

In FY06, MCRD Parris Island signed RODs for Sites 1 CAP and 2. Additionally, the Marine Corps completed a removal action and signed a ROD for Site 12. The installation completed the RCRA facility investigation addendum while continuing a treatability study (TS) and feasibility study (FS) at Site 45. The Marine Corps continued monitoring at Sites 1 and 3, the Depot gas station, and the AVGAS pipeline.

In FY07, MCRD Parris Island submitted the completion report for Site 12 removal action, submitted land use control remedial design for Sites 1 and 12, and continued LTM at Sites 1 and 3. The Marine Corps submitted an RI work plan for Site 27. MCRD Parris Island continued fieldwork in support of Site 45, and awarded site inspections (SIs) for all eight MMRP sites.

FY08 IRP Progress

MCRD Parris Island continued LTM at Sites 1 and 3, the Depot gas station, and the AVGAS pipeline.

Administrative issues delayed completion of the TS and FS at Site 45. Technical issues delayed completion of RI and sampling at Site 27.

FY08 MMRP Progress

MCRD Parris Island drafted an SI workplan for the eight MMRP sites.

Plan of Action

Plan of action items for Parris Island Marine Corps Recruit Depot are grouped below according to program category.

IRP

- Complete the TS and FS at Site 45 in FY09.
- Continue LTM at Sites 1, 3, 12, and the AVGAS pipeline in FY09.
- Submit RI report for Site 27 in FY09.
- Submit final ROD for Site 3 in FY09.

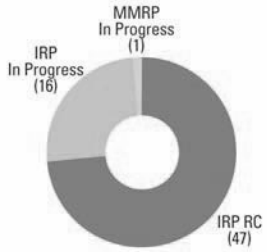
MMRP

- Complete SIs for all eight MMRP sites in FY09.

Patuxent River Naval Air Station

NPL/BRAC 2005 Realignment

FFID:	MD317002453600	**Funding to Date:**	$ 59.7 million
Location (Size):	Lexington Park, Maryland (6,800 acres)	**Est. CTC (Comp Year):**	$ 25.0 million (FY 2015)
Mission:	Test and evaluate naval aircraft systems	**IRP Sites (Final RIP/RC):**	63 (FY2014)
HRS Score:	36.87; placed on NPL in May 1994	**MMRP Sites (Final RIP/RC):**	1 (FY2010)
IAG Status:	FFA signed in December 2000	**Five-Year Review Status:**	Completed and planned
Contaminants:	Heavy metals, pesticides, organics, POLs, solvents, UXO, VOCs, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-90
Media Affected:	Surface Water, Sediment, Soil, Groundwater		



Progress To Date

Patuxent River Naval Air Station (NAS) tests and evaluates naval aircraft systems. Three sites contributed to PAX River being placed on the NPL in May 1994: a Fishing Point Landfill site (Site 1), the former sanitary landfill (Site 11), and the pest control shop (Site 17). Wastes managed at the sites included mixed solid wastes, petroleum/oil/lubricants (POLs), paints, thinners, solvents, pesticides, and photographic laboratory wastes. In 2005, the BRAC Commission recommended Patuxent River NAS for realignment. The installation formed a technical review committee in FY90 and completed a community relations plan in FY91, which is updated every three years. A Restoration Advisory Board that meets quarterly was established in FY94. The Navy regularly updates an administrative record and two information repositories. The installation completed 5-year reviews in FY01 and FY04.

To date, the installation has completed Record of Decision (ROD) documents for Sites 1, 11, and 12. In addition, a ROD amendment was completed for Site 17. Patuxent River NAS has completed No Further Action (NFA) Proposed Remedial Action Plan (PRAP) RODs for Sites 4/5, 6, 24, and 29, and a PRAP ROD for Site 39. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites in FY02, and closed Site 6A (6 Operable Unit [OU] 1) in FY04. The cleanup progress at Patuxent River NAS for FY04 through FY07 is detailed below.

In FY04, the installation closed Sites 6A (6 OU 1) and 46 through completion of the remedial investigation (RI) and feasibility study (FS), and NFA ROD. Patuxent NAS also completed a basewide 5-year review with no outstanding actions requiring further action.

In FY05, Patuxent River NAS completed the FS and the PRAP/ROD for Sites 1/12 OU 2 and the Rifle Range Landfill. The installation completed two of four RI/FS documents, and four of eight desktop evaluations.

In FY06, Patuxent River NAS completed the RI/FS and PRAP/ROD for Site 17 OU 2. The installation achieved NFA at five sites.

In FY07, Patuxent River NAS completed an NFA PRAP/ROD for Sites 24 and 29. The installation also completed a PRAP/ROD for Site 39 and an interim remedial action (RA) for Site 31. Patuxent River NAS initiated the Site 1/12 OU 2 RA, and also initiated the Site 17 OU 2 RA.

FY08 IRP Progress

Patuxent River NAS completed NFA PRAP/RODs for Site 6 OU 2 and Site 4/5 OU 6, and an action ROD for Site 11 OU 2. The installation completed an RA for Site 1/12 OU 2, and four RI/FS documents. Patuxent River NAS initiated an RA for Site 17 OU 2 and a remedial design (RD) for Site 39. The Navy initiated a basewide 5-year review.

FY08 MMRP Progress

Patuxent River NAS established Site UXO 0001.

Plan of Action

Plan of action items for Patuxent River Naval Air Station are grouped below according to program category.

IRP

- Complete RODs for five additional OUs at Sites 3, 4/5, and 34 in FY09.
- Complete RD at Site 39 in FY09.
- Complete RAs for Sites 17 (OU 2) and 39 in FY09.
- Complete RAs at Sites 3, 4, and 5 in FY09-FY10.
- Complete three site inspection (SI) reports in FY09-FY10.

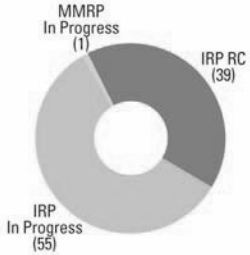
MMRP

- Complete SI report in FY09-FY10.

Pearl Harbor Naval Complex

NPL

FFID:	HI917002434200, HI917002477900, HI917002434100, HI917002434000, HI917002433900, and HI917002433400	**Funding to Date:**	$ 187.3 million
Location (Size):	Pearl Harbor, Hawaii (2,162 acres)	**Est. CTC (Comp Year):**	$ 171.8 million (FY 2035)
Mission:	Provide primary fleet support in the Pearl Harbor area	**IRP Sites (Final RIP/RC):**	94 (FY2016)
HRS Score:	70.82; placed on NPL in October 1992	**MMRP Sites (Final RIP/RC):**	1 (FY2004)
IAG Status:	FFA signed in March 1994	**Five-Year Review Status:**	Planned
Contaminants:	VOCs, SVOCs, heavy metals, PCBs, pesticides, petroleum, hydrocarbons, solvents, explosives, propellants	**IRP/MMRP Status Table:**	Refer to pages M-6-67, M-6-68, M-7-16, and M-8-17
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The Pearl Harbor Naval Complex consists of seven installations: the Fleet and Industrial Supply Center (FISC), the Naval Station (NS), the Naval Magazine (NAVMAG), the Naval Shipyard (NSY) and Intermediate Maintenance Facility, the Public Works Center (PWC), the Naval Submarine Base, and the Inactive Ship Maintenance Facility. Fuel supply activities, landfills, and other support operations have contaminated the soil and groundwater with volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. The installation was placed on the NPL in October 1992. The installation signed a federal facility agreement (FFA) in March 1994. A technical review committee, formed in FY90, was converted to a Restoration Advisory Board in FY95. The installation established three information repositories in FY90 and an administrative record in FY92. A community involvement plan was completed in FY92 and was updated in FY95 and FY05.

The installation has completed one Record of Decision (ROD) for FISC Site 33 and NAVMAG Site 9. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. In FY03, the Navy added an MMRP site at the NAVMAG West Loch for further investigation of potential munitions-generated constituents in a burning pit. The cleanup progress at Pearl Harbor Naval Complex for FY04 through FY07 is detailed below.

In FY04, the installation completed removal actions for NS Sites 51, and 53 through 57, and PWC Site 34. The Navy continued removal actions at NS Site 31, remedial action operations (RA-Os) at Sites 25, 29, 36, 37, 45, and 46, and a remedial investigation (RI) for NS Site 19. The installation initiated the removal site evaluation (RSE) at NS Solid Waste Management Unit (SWMU) 6. The Navy finalized the innovative technology evaluation report for NSY Site 10 and initiated the site inspection (SI) for NSY Site 49. The installation completed the combined SI for West Loch and Waipio Peninsula, initiated RSEs at PWC Sites 2 and 48, and continued the SI report for SWMU 44.

In FY05, Pearl Harbor Naval Complex initiated the RSE for FISC Site 26. The installation continued RA-Os at Sites 25, 29, 36, 37, 45, and 46, and an RI for NS Site 19. The Navy continued the SI for NSY SWMU 44, the proposed plan (PP) for NSY Site 41, and RSEs for PWC Sites 2, 25, and 48. The installation initiated SI fieldwork for NSY Site 49, an SI for SWMU 84, and completed the remediation verification report for NS Sites 51, and 53 through 57.

In FY06, Pearl Harbor Naval Complex completed RSEs for NS SWMU 6 and PWC Site 2. The installation completed a ROD for FISC Site 33 and NAVMAG Site 9. The Navy completed PPs for NSY Site 41 and NAVMAG Site 9. The installation initiated a feasibility study (FS) for FISC Site 39, and completed removal actions for NS Site 35 and FISC Site 26. The Navy initiated a site characterization at PWC Site 47. The installation also completed a draft SI for NSY Site 49 and a final SI for NSY SWMU 44. The Navy initiated a removal action for FISC Site 44. Pearl Harbor Naval Complex continued RA-O at NS Sites 25, 29, 36, 37, 45, and 46. The installation initiated a preliminary assessment (PA) for NAVMAG Unexploded Ordnance (UXO) Site 7.

In FY07, Pearl Harbor Naval Complex completed a removal action at NS SWMU 6 and an FS for FISC Site 39. The installation completed a draft RI report for PWC Site 47. RI efforts were ongoing at PWC Site 2 and FISC Site 44. Pearl Harbor Naval Complex completed the PA for NAVMAG MMRP UXO Site 7.

FY08 IRP Progress

Pearl Harbor Naval Complex continued RI/FSs for PWC SWMU 13, NS Site 31, FISC Site 45, and PWC Site 47. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

Pearl Harbor Naval Complex initiated an SI for NAVMAG UXO Site 7, and completed SI work plans.

Plan of Action

Plan of action items for Pearl Harbor Naval Complex are grouped below according to program category.

IRP

- Complete RI fieldwork and draft RI addendum for NS Site 19, RI work plan for FISC Site 44, and continue RI for FISC Site 45 and PWC Site 47 in FY09.
- Complete SI work plan and initiate fieldwork for FISC Site 46 in FY09.
- Complete ROD for PWC Site 2 in FY09.
- Continue RI/FS for PWC SWMU 13 and NS Site 31 in FY09.

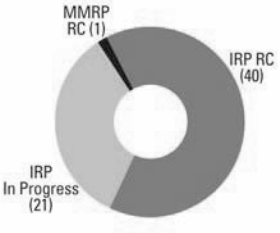
MMRP

- Complete SI fieldwork and prepare an SI Report for NAVMAG UXO Site 7 in FY09.

Pease Air Force Base

NPL/BRAC 1988

FFID:	NH157002484700	**Funding to Date:**	$ 162.5 million
Location (Size):	Portsmouth/Newington, New Hampshire (4,255 acres)	**Est. CTC (Comp Year):**	$ 20.7 million (FY 2048)
Mission:	Served as Strategic Air Command bomber and tanker base	**IRP Sites (Final RIP/RC):**	61 (FY2010)
HRS Score:	39.42; placed on NPL in February 1990	**MMRP Sites (Final RIP/RC):**	1 (FY1996)
IAG Status:	FFA signed in April 1991; modified in December 1992	**Five-Year Review Status:**	Completed and planned
Contaminants:	VOCs, spent fuels, waste oils, POLs, pesticides, paints, TCE, SVOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-6-109
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Pease Air Force Base (AFB) served as a Strategic Air Command bomber and tanker base. The BRAC Commission recommended closure of Pease AFB in 1988, and EPA placed the installation on the NPL in February 1990. In March 1991, the installation closed. Studies identified the following site types: fire training areas, burn pits, industrial facilities, landfills, and underground storage tanks. The installation signed a federal facility agreement (FFA) in 1991 and modified it in 1992. Groundwater and soil are contaminated with petroleum products (JP-4 jet fuel) and industrial solvents, such as trichloroethylene (TCE). The installation formed a BRAC cleanup team (BCT) in FY93 and a Restoration Advisory Board (RAB) in FY95. The installation completed 5-year reviews in FY99 and FY04.

Before closure, the installation completed interim remedial actions (RAs) at four sites, soil removal at three sites, and test pit operations at two sites. To date, 10 Records of Decision have been signed. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Pease AFB for FY04 through FY07 is detailed below.

In FY04, the installation constructed the wellhead protection system for the Haven Well. The installation also completed a detailed characterization of refueling system contamination near the well, including an analysis of the alternatives meeting New Hampshire requirements for RA at the site. Monitoring and the operation of remedial systems continued. The installation initiated optimization evaluations for several locations. An operating properly and successfully (OP&S) demonstration was accepted by EPA for Site 73 (ID 073), and OP&S documentation was drafted for the remaining Zone 3 Sites. The installation completed the second 5-year review. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed the RA plan for Plume 13/14 located in the flightline area. The installation continued monitoring and operations of remedial systems and continued optimization activities. In addition, the installation completed the OP&S demonstration for Zone 3 and Site 49. The installation developed findings of suitability to transfer for the remaining parcels and transferred all remaining property to the Pease Development Authority. The Air Force began evaluating requirements at MMRP sites at this installation. RAB and BCT activities continued.

In FY06, the installation continued monitoring and optimization efforts for all sites. The Air Force awarded the contract for the installation and operation of the RA for Plume 13/14. The installation evaluated requirements at MMRP sites.

In FY07, the installation began construction of the Plume 13/14 remedy and continued to operate, monitor, and optimize remedial systems. Pease AFB also continued monitoring institutional control (IC) compliance with no violations identified.

FY08 IRP Progress

Pease AFB completed installation of the soil vapor extraction (SVE)/air sparging system at Plume 13/14 and initiated operations. The Air Force installed sparge wells to optimize performance at Site 8 and continued to effectively operate, monitor, and optimize the remaining remedial systems. The installation continued to monitor IC compliance in coordination with the local redevelopment authority and other landowners.

FY08 MMRP Progress

Pease AFB completed all required MMRP closure actions.

Plan of Action

Plan of action items for Pease Air Force Base are grouped below according to program category.

IRP

- Install treatment system for fuel contamination at Pumphouse 2 in FY09-FY10.
- Complete optimization of Site 8 SVE system in FY09-FY10.
- Maintain ongoing operations and monitoring programs across the installation in FY09-FY10.

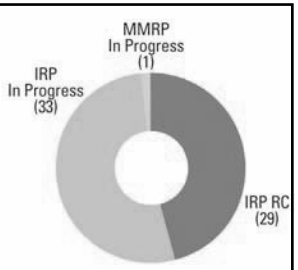
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Pensacola Naval Air Station

NPL/BRAC 2005 Realignment

FFID:	FL417002461000	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Pensacola, Florida (5,874 acres)	**Funding to Date:**	$ 75.1 million
Mission:	Serve as a flight training center	**Est. CTC (Comp Year):**	$ 48.5 million (FY 2042)
HRS Score:	42.40; placed on NPL in December 1989	**IRP Sites (Final RIP/RC):**	62 (FY2014)
IAG Status:	FFA signed in October 1990	**MMRP Sites (Final RIP/RC):**	1 (FY2018)
Contaminants:	Ammonia, asbestos, benzene, cyanide, heavy metals, paints, PCBs, pesticides, phenols, chlorinated and nonchlorinated solvents, plating wastes, VOCs, SVOCs, explosives, propellants	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-6-52



Progress To Date

Pensacola Naval Air Station (NAS), which now serves as a flight training center, was formerly a naval air rework facility and an aviation depot. Operations that have caused contamination at the station include machine shops, a foundry, coating and paint shops, paint stripping and plating shops, various maintenance and support facilities, landfills, and storage facilities. Investigations have identified 38 CERCLA sites, 1 solid waste management unit (SWMU), and 14 underground storage tank (UST) sites. Site types include landfills, disposal sites, polychlorinated biphenyls (PCBs) transformer and spill areas, industrial wastewater treatment plant areas, and evaporation ponds. The installation was placed on the NPL in December 1989, and a federal facility agreement (FFA) was signed in October 1990. In 2005, the BRAC Commission recommended Pensacola NAS for realignment. The installation formed a technical review committee in FY90 and converted it to a Restoration Advisory Board in FY94. The installation completed the first 5-year review in FY03. A second 5-year review was completed for Operable Units (OUs) 1, 4, 11, and 13 in FY08.

Installation Restoration Program (IRP) sites have been identified at Pensacola NAS. Thirteen Records of Decision (RODs) have been signed by the installation, including seven for no further action (NFA). In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Pensacola NAS for FY04 through FY07 is detailed below.

In FY04, Pensacola NAS continued groundwater monitoring at SWMU 1, and completed remedial action (RA) plans for UST Sites 20 and 24. The interim RA was completed.

In FY05, Pensacola NAS completed the NFA ROD for Site 40 (OU 15). The Navy completed a remedial investigation (RI) at Sites 44, 45, and 46. The installation completed groundwater monitoring at SWMU 1 and cleanup at UST Sites 15 and 21.

In FY06, Pensacola NAS completed the NFA ROD for Site 02 (OU 03). The Navy continued groundwater monitoring at SWMU 1, Sites 01 (OU 01) and 15 (OU 04).

In FY07, Pensacola NAS was awarded RA fieldwork for UST Site 20. The installation completed the ROD with land use controls (LUCs) for Sites 8, 24 (OU 13), and 38 (OU 11). The Navy continued groundwater monitoring at Sites 01 (OU 01), 15 (OU 01), and SWMU 1. Pensacola NAS implemented optimization fieldwork at Site 01 (OU 01). The Navy achieved NFA status for UST 19.

FY08 IRP Progress

Pensacola NAS completed the ROD with LUCs for OU 02 (Sites 11, 12, 25, 26, 27, and 30). The installation completed the second 5-year review for OUs 01, 04, 11, and 13; a feasibility study (FS) for Site 43 (OU 18); and an RI for Site 41 (OU 16). The installation continued groundwater monitoring at Sites 01 (OU 01), 8, 15 (OU 04), 24 (OU 13), and SWMU 1. The Navy installed the air sparging and soil vapor extraction treatment system at Site 1159. Pensacola NAS continued free-product removal and data collection at UST Site 20 (Berthing Pier). The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy identified two MMRP sites.

Plan of Action

Plan of action items for Pensacola Naval Air Station are grouped below according to program category.

IRP

- Continue groundwater monitoring at SWMU 1, Sites 01, 8, 15, 24, and UST Site 17 in FY09.
- Complete proposed plan for OU 18 (Site 43) in FY09-FY10.
- Complete FS on OUs 16 (Site 41), 19 (Site 44), 20 (Site 45), and 21 (Site 46) in FY09-FY10.
- Complete ROD for OUs 16 (Site 41), 18 (Site 43), and 19 (Site 44) in FY09-FY10.
- Achieve remedy in place (RIP) for OU 11 (Site 38) in FY10.

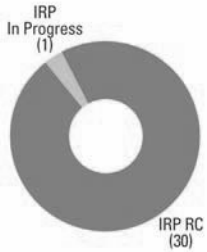
MMRP

- Complete preliminary assessment and site inspection for MMRP sites in FY09-FY10.

Philadelphia Naval Complex

BRAC 1988

FFID:	PA317002775600, PA317002219800, and PA317002241800	**Funding to Date:**	$ 22.5 million
Location (Size):	Philadelphia, Pennsylvania (1,494 acres)	**Est. CTC (Comp Year):**	$ 1.2 million (FY 2009)
Mission:	Provide logistical support for ships and service craft; overhaul, repair, and outfit ships and craft; conduct research and development; test and evaluate shipboard systems	**IRP Sites (Final RIP/RC):**	31 (FY2009)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	N/A	**Five-Year Review Status:**	Completed and planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-36 and M-8-51
Contaminants:	POLs, heavy metals, PCBs, solvents, VOCs, SVOCs		
Media Affected:	Groundwater, Sediment, Soil		



Progress To Date

Philadelphia Naval Complex comprises Philadelphia Naval Shipyard (NSY), Naval Station (NS), and Naval Hospital (NH). In December 1988, the BRAC Commission recommended closure of the Philadelphia NH, and in July 1991, recommended closure of the Philadelphia NS and the Philadelphia NSY. Site types at the complex include landfills (LFs), oil spill areas, and disposal areas where petroleum/oil/lubricants (POLs) and heavy metals were released into groundwater and soil. A preliminary assessment and site inspection completed in FY88 identified 15 sites. The complex formed a technical review committee in FY89 and later established a Restoration Advisory Board (RAB). The installation formed a BRAC cleanup team and prepared a BRAC cleanup plan (BCP) in FY94. The BCP was revised in FY97. In FY95, an information repository was established and a community relations plan was written. In FY01, a technical assistance for public participation grant was obtained to provide the RAB with input during the property transfer process. Upon completion of all property transfer, the RAB shifted its focus to the Navy-retained property at the Naval Surface Warfare Center Ship System Engineering Station. The installation completed a 5-year review in FY04.

Installation Restoration Program (IRP) sites were identified at Philadelphia Naval Complex. The installation has signed eight Records of Decision and transferred 1,218 acres of property. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Philadelphia Naval Complex for FY04 through FY07 is detailed below.

In FY04, Philadelphia Naval Complex received the final signature on the 5-year review. The installation also completed the well repair for one well and the replacement of another. The Navy petitioned regulators to discontinue long-term management (LTM) of groundwater monitoring at Sites 4 and 5.

In FY06, Philadelphia Naval Complex discovered new contamination at Site 4.

In FY07, Philadelphia Naval Complex initiated discussions with regulators regarding discontinuing LTM at Sites 4 and 5. The installation initiated maintenance inspections to determine necessary repairs to LFs at Sites 4 and 5, and also initiated discussions with regulators regarding the need for additional remedial action (RA) to address new contamination at Site 4.

FY08 IRP Progress

Philadelphia Naval Complex determined that the additional contamination discovered at Site 4 was unrelated and an RA was not necessary. The Navy completed inspections and maintenance repair at Sites 4 and 5. The Navy finalized LTM discontinuation agreements with regulators for Sites 4 and 5; all monitoring wells were properly closed, requiring no further action for Site 5. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Philadelphia Naval Complex are grouped below according to program category.

IRP

- Continue LF operation and maintenance at Site 4 in FY09-FY10.

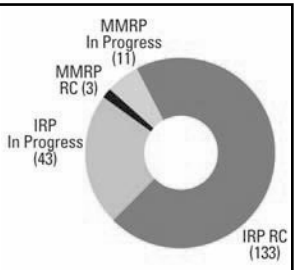
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Picatinny Arsenal

NPL

FFID:	NJ221382070400	**Funding to Date:**	$ 118.4 million
Location (Size):	Rockaway Township, New Jersey (6,500 acres)	**Est. CTC (Comp Year):**	$ 101.3 million (FY 2037)
Mission:	Serve as host to the Army Armaments Research, Development, and Engineering Center	**IRP Sites (Final RIP/RC):**	176 (FY2014)
HRS Score:	42.92; placed on NPL in February 1990	**MMRP Sites (Final RIP/RC):**	14 (FY2015)
IAG Status:	IAG signed in April 1991	**Five-Year Review Status:**	Completed and planned
Contaminants:	VOCs, explosives, PCBs, heavy metals, SVOCs, propellants, radioactive materials	**IRP/MMRP Status Table:**	Refer to page M-6-110
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In 1880 Dover Powder Depot, now known as Picatinny Arsenal, was established to store the gunpowder needed to manufacture ammunition. From 1898 to the early 1970s, the installation manufactured explosives, propellants, and ammunition. It now houses the Joint Munitions and Lethality Life Cycle Management Command. EPA placed Picatinny on the NPL in February 1990. The Army and EPA signed an interagency agreement (IAG) in July 1991. In FY91, the installation identified contaminated sites including a burning ground, landfills, underground storage tanks, former production areas, and former testing sites. Releases of volatile organic compounds (VOCs), explosives, and heavy metals from these sites have contaminated groundwater, surface water, sediment, and soil. The remedial investigation (RI) and feasibility study (FS) in FY91 divided the identified sites at the installation into 16 areas. In FY96, the installation's technical review committee was converted to a Restoration Advisory Board (RAB). In FY98, FY05, and FY08, the installation procured technical assistance for public participation (TAPP) contracts. A community relations plan was developed in FY00. The installation completed 5-year reviews in FY01 and FY06.

Environmental studies initially identified Installation Restoration Program (IRP) sites at the installation, 113 of which are response complete (RC), mostly through consolidation and identification of ineligible sites from the original list. In FY03, the Army completed an inventory of closed, transferred, and transferring (CTT) ranges and identified Military Munitions Response Program (MMRP) sites. The Army and EPA have signed four Records of Decision (RODs). The cleanup progress at Picatinny Arsenal for FY04 through FY07 is detailed below.

In FY04, the Army and EPA signed the Area D Groundwater ROD for the replacement of the pump-and-treat hydraulic barrier with a permeable reactive barrier and monitored natural attenuation (MNA). The installation completed the removal of sediment for the retention basin of Bear Swamp Brook and completed the proposed plans (PPs) for Site 25/26 and Area E. The installation removed lead-contaminated soils at six sites and submitted the RI report for all sites in Areas H, I, J, and K. The Army approved FSs for Sites 64/104 and 180, and Groups 1 and 3. The Army provided the CTT report to regulators for review.

In FY05, the installation completed three RODs for the Post Farm Landfill, Green Pond Brook, and Site 34 of the Burning Grounds. Six major RI reports have been approved that address over 70 sites. The installation submitted FSs for the former Defense Reutilization and Marketing Office (DRMO) Yard and 25 sites. The installation completed five pilot studies of contaminated groundwater, including magnus techniques for bioremediation and a nano-iron groundwater study. The Army approved a TAPP contract for the installation.

In FY06, the Army awarded a performance-based contract (PBC) for most of the IRP sites. The installation submitted FSs for Building 31/33 and the Midvalley Area. The installation also initiated the remedial design for the permeable reactive wall and MNA for Area D Groundwater, the Green Pond Brook ROD, the Post Farm, and long-term monitoring. The Army submitted an ecological risk assessment for Phases I and III. The installation completed the Area B PP for public notice. Picatinny completed a 5-year review, and EPA agreed with the determinations. The installation conducted a historical records review (HRR) on the MMRP sites and developed a site inspection (SI) work plan. The Army approved and submitted the HRR. The Army also signed a time-critical removal action (TCRA) for off-site unexploded ordnance (UXO) contamination from a 1926 explosion. The neighboring mining operation had discovered up to seven UXOs on the property during mining operations. The Army awarded a contract to initiate the TCRA.

In FY07, Picatinny Arsenal considered eight sites remedy in place (RIP) under the terms of the PBC. The Army installed the permeable reactive barrier for the Area D Groundwater, removing the contaminated sediments related to the Green Pond Brook ROD and the cover for contaminated soils, and formally implemented land use controls at Site 180 and the 13 sites in PICA Area 20. The installation completed the ROD at Area E Groundwater and Post Farm and submitted the closure report. The Army released public notice of the PPs for two sites (PICA Area 72 and 206). The installation began a groundwater pilot study in the Group 1 groundwater site. The installation completed a pilot study of Group 3 sites. The installation completed the removal action of the UXO on 28 acres of mining property and submitted the report. The Army approved and conducted the MMRP HRR and SI work plan. The Army awarded a contract to conduct a removal action on 55 acres of leased property. The RAB held a meeting and published a quarterly newsletter.

FY08 IRP Progress

Picatinny Arsenal completed a remedial action at Area B, released public notice for the Former DRMO Yard and Area C groundwater PPs, and completed the excavation and disposal of the contaminated soil at Site 61.

Regulatory issues delayed completion of the RODs for Area C Groundwater, former DRMO Yard, and Area B Groundwater; release of public notice for 3 PPs; achievement of RIP for 15 additional sites; and completion of the Midvalley Area FS.

The Army briefed the RAB, and a TAPP contract was awarded.

FY08 MMRP Progress

Picatinny Arsenal finalized the SI report, which identified and prioritized 10 sites. The installation completed submunitions and UXO removal actions, and performed an engineering evaluation and cost analysis (EE/CA) on 40 acres of leased property. The Army performed a second removal action of adjacent mining property (former DRMO site) on 20 acres.

Plan of Action

Plan of action items for Picatinny Arsenal are grouped below according to program category.

IRP

- Complete RODs for Areas B and C Groundwater, and former DRMO Yard in FY09.
- Release public notices for six PPs in FY09.
- Complete Midvalley Areas FS and 600 Hill FS in FY09.
- Achieve RIP for 15 sites in FY09.
- Complete cleanup of former DRMO site in FY09.

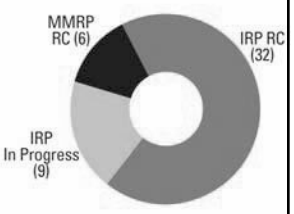
MMRP

- Initiate cleanup at the Former DRMO Yard in FY09-FY10.
- Continue EE/CAs in FY09-FY10.

Plattsburgh Air Force Base

NPL/BRAC 1993

FFID:	NY257002477400	**Funding to Date:**	$ 63.4 million
Location (Size):	Plattsburgh, New York (3,447 acres)	**Est. CTC (Comp Year):**	$ 20.1 million (FY 2084)
Mission:	Served as former bomber and tanker aircraft operations	**IRP Sites (Final RIP/RC):**	41 (FY2010)
HRS Score:	30.34; placed on NPL in November 1989	**MMRP Sites (Final RIP/RC):**	6 (FY2003)
IAG Status:	FFA signed in July 1991	**Five-Year Review Status:**	Completed and planned
Contaminants:	Organic solvents, pesticides, fuels, PCBs, lead, VOCs, SVOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-6-119
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Plattsburgh Air Force Base (AFB) was placed on the NPL in November 1989 after the former fire training area was determined to be a source of chlorinated solvents, and benzene, toluene, ethyl benzene, and xylene contamination in groundwater. In 1993, the BRAC Commission recommended closure of Plattsburgh AFB, and the installation closed in September 1995. Site types include underground storage tanks, aboveground storage tanks, landfills, industrial facilities, spill sites, and training areas. In July 1991, the installation signed a federal facility agreement (FFA), which became effective September 1991. Plattsburgh AFB formed a technical review committee (TRC) in FY91. In FY94, the installation converted the TRC to a Restoration Advisory Board (RAB) to support cleanup efforts. In FY95, an installationwide environmental impact statement and a comprehensive land reuse plan were completed, and a community relations plan was drafted. In FY97, the Environmental Baseline Survey was updated. The BRAC cleanup plan was updated in FY04. 5-year reviews were completed in FY99 and FY04.

Environmental studies at Plattsburgh AFB have identified sites for investigation and cleanup. To date, regulatory concurrence has been received for the closeout of 21 sites. Records of Decision (RODs) have been completed for 38 sites to date. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Plattsburgh AFB for FY04 through FY07 is detailed below.

In FY04, the installation partially completed construction of the remedy at former Fire Training (FT) Area 002 and initiated remedial action (RA) operation. The installation completed a preliminary assessment and site inspection (SI) at the former Weapons Storage Area. No further action (NFA) was recommended, and the appropriate documentation was completed. NFA decision documents were also completed for two other SIs. The second 5-year review was completed. The RAB conducted a tour of the FT 002 RA construction. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed construction of the FT 002 remedy. The installation also continued operation of remedial systems and long-term management (LTM) activities at other restoration sites. The Air Force began evaluating requirements at MMRP sites at this installation. The RAB held two meetings.

In FY06, the installation continued operation of remedial systems and LTM activities in support of remedial programs. The Air Force initiated a remedial process optimization (RPO) study of the FT 002 source operable unit (OU). The installation completed an evaluation of MMRP sites.

In FY07, the installation continued operation of systems and LTM activities in support of remedial programs. An RPO study of the FT 002 source OU was completed, including evaluation of the soil vapor intrusion (SVI) pathway. The installation continued discussion of regulatory issues involving the SVI pathway. Plattsburgh AFB completed a remedial investigation (RI) at one site.

FY08 IRP Progress

Plattsburgh AFB continued operation of systems and LTM activities in support of remedial programs. The installation completed RODs for two sites and an RI at one site. The Air Force resolved regulatory issues involving the SVI pathway for FT 002. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Contractual and technical issues delayed completion of a ROD at one site.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Plattsburgh Air Force Base are grouped below according to program category.

IRP

- Finalize RODs for three sites in FY09.
- Complete cleanup of FT 002 source OU in FY09-FY10.
- Complete the third 5-year review in FY09-FY10.

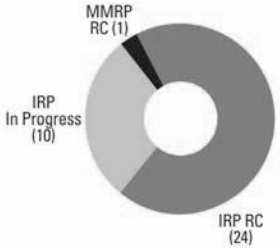
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Portsmouth Naval Shipyard

NPL

FFID:	ME117002201900	**Est. CTC (Comp Year):**	$ 27.6 million (FY 2037)
Location (Size):	Kittery, Maine (278 acres)	**IRP Sites (Final RIP/RC):**	34 (FY2014)
Mission:	Maintain, repair, and overhaul nuclear submarines	**MMRP Sites (Final RIP/RC):**	1 (FY2005)
HRS Score:	67.70; placed on NPL in May 1994	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in 1999	**IRP/MMRP Status Table:**	Refer to page M-6-87
Contaminants:	Pesticides, PCBs, VOCs, heavy metals, SVOCs		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 54.9 million		



Progress To Date

The Portsmouth Naval Shipyard (NSY) maintains, repairs, and overhauls nuclear submarines. A RCRA facility assessment in FY86 identified 28 solid waste management units (SWMUs). Site types at the installation include a landfill (LF), a salvage and storage area, and waste oil tanks. In FY92, the installation completed a RCRA facility investigation. The installation was placed on the NPL in May 1994, because of groundwater contamination at sites on the island, and because past activities may have adversely impacted sensitive wetland communities around and downstream of the facility. The installation signed a federal facility agreement (FFA) in 1999. The installation formed a technical review committee in FY87, which was converted to a Restoration Advisory Board in FY95. Portsmouth NSY developed a community relations plan, which was updated in FY97. The Navy completed a 5-year review for Operable Unit (OU) 3 in FY07.

Portsmouth NSY has identified several Installation Restoration Program (IRP) sites. The installation completed and signed a no further action (NFA) document for SWMUs 12, 13, 16, and 23. The installation completed one Record of Decision (ROD). In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Portsmouth NSY for FY04 through FY07 is detailed below.

In FY04, Portsmouth NSY completed the Phase I remedial investigation (RI) data package for Site 32, as well as the engineering evaluation and cost analysis for Site 30. The installation also started the Site 10 work plan and continued the remedial action (RA) for OU 3. The Navy identified and excavated 1,000 cubic yards of waste in off-shore sediment at OU 3. The installation also continued interim off-shore monitoring for OU 4, and started rounds 1 through 7 of the trending report for interim off-shore monitoring.

In FY05, Portsmouth NSY completed the RA for OU 3. The installation initiated the OU 2 feasibility study (FS), and continued interim off-shore monitoring for OU 4. Portsmouth NSY finalized the preliminary assessment and determined NFA for the MMRP site.

In FY06, Portsmouth NSY completed Site 10 fieldwork. The installation initiated an additional scrutiny report and continued the interim off-shore monitoring for OU 4. The Navy initiated the operation, maintenance, and monitoring program of the Jamaica Island LF.

In FY07, Portsmouth NSY completed a 5-year review for OU 3. The installation finalized the RI for Site 10, and continued monitoring OU 4. The Navy completed the draft NFA for the closure of the Jamaica Island LF and the former Acid/Alkaline Drain Tank Sites. A removal action was initiated at Site 34.

FY08 IRP Progress

Portsmouth NSY completed the removal action at Site 34. The Navy completed the RI and submitted an FS for OU 1. Portsmouth NSY continued interim off-shore monitoring for OU 4, and monitoring at the OU 3 Jamaica Island LF and wetland area. The Navy initiated dialog with regulators and biological technical assistance groups (BTAGs) regarding proposed changes to the interim off-shore monitoring sampling of OU 4. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Portsmouth Naval Shipyard are grouped below according to program category.

IRP

- Initiate proposed RA plan and ROD, and finalize FS for OU 1 in FY09.
- Initiate lead soil removal action for OU 2 (Sites 6 and 32) in FY09.
- Continue monitoring at OU 3 Jamaica Island LF and wetland area in FY09.
- Finalize RA closeout report for Site 34 in FY09.
- Initiate amendment of interim ROD with regulators and BTAGs to address various off-shore areas in FY09-FY10.
- Finalize and submit RI/FS for OU 2 (Sites 6 and 32) with the Defense Reutilization Marketing Office in FY09-FY10.
- Continue off-shore monitoring of OU 4 area under an interim ROD in FY09-FY10.

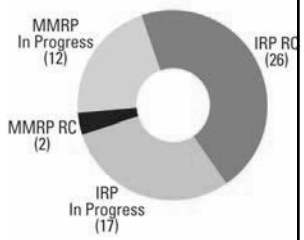
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Pueblo Chemical Depot

BRAC 1988

FFID:	CO821382072500	**Funding to Date:**	$ 132.1 million
Location (Size):	Pueblo, Colorado (23,121 acres)	**Est. CTC (Comp Year):**	$ 94.2 million (FY 2023)
Mission:	Store chemical munitions, plan for future closure.	**IRP Sites (Final RIP/RC):**	43 (FY2016)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	14 (FY2016)
IAG Status:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
Contaminants:	POLs, heavy metals, VOCs, pesticides, explosives, PCBs, UXO, SVOCs, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-45
Media Affected:	Surface Water, Sediment, Soil, Groundwater		



Progress To Date

In December 1988, the BRAC Commission recommended realignment of the Pueblo Depot Activity. Contaminated sites include a landfill, open burning and detonation grounds, ordnance and explosives waste areas, lagoons, former building sites, oil-water separators, a TNT washout facility and discharge system, and hazardous waste storage units. Heavy metals, volatile organic compounds (VOCs), and explosives are the primary contaminants affecting soil and groundwater. In FY94, the installation formed a Restoration Advisory Board (RAB) and a BRAC cleanup team, and the community formed a local redevelopment authority, which prepared a land reuse plan. In October 1996, the Army placed Pueblo Depot Activity under the Chemical and Biological Defense Command (now the Chemical Materiels Agency) and changed its name to Pueblo Chemical Depot. In FY96, the installation developed Team Pueblo to coordinate public involvement in restoration, reuse, closure, and cleanup. In FY99, RAB members approved the RAB charter. Prior to FY00, the Army completed a major groundwater treatment system and explosives-contaminated soil removal. The Army installed carbon filter units on drinking water source wells contaminated with explosives constituents, and investigated off-site contamination in public wells associated with the TNT washout facility and provided drinking water to affected off-site well water users.

The installation has unexploded ordnance (UXO) sites, for which the Army has approved 17 sites to surface and subsurface clearance. The installation initiated a UXO management plan in FY02. In FY03, the Army completed the inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents. The Army identified Military Munitions Response Program (MMRP) sites at the installation. The cleanup progress at Pueblo Chemical Depot for FY04 through FY07 is detailed below.

In FY04, the installation maintained compliance for the groundwater treatment system at Solid Waste Management Unit (SWMU) 14. The Army constructed an air-sparging system at SWMU 14 to enhance the soil vapor extraction system, and initiated in situ groundwater treatment pilot studies at SWMUs 28, 36, and 58. The installation submitted no further action (NFA) petitions for SWMUs 53, 54, and 55. The installation initiated a corrective action, which involved the installation of additional extraction and injection wells, and conducted a Phase II pilot study for in situ groundwater treatment for SWMU 17. The Army identified a new groundwater flow channel that bypasses the current groundwater treatment system at SWMU 17. Treatment of domestic wells in off-installation areas continued successfully.

In FY05, the installation completed in situ groundwater treatment pilot studies at SWMUs 28, 36, and 58. The installation completed the corrective measures study (CMS) for all four South Central Terrace Area SWMUs (14, 28, 36, and 58) and submitted it to the State for review. Three in situ pilot studies for the SWMU 17 groundwater plume were completed. The Army received state NFA approval at two sites. The installation coordinated with the State to optimize long-term groundwater monitoring requirements. Under the MMRP, the installation completed the draft conceptual site model (CSM) for SWMU 34 and submitted it for regulatory review.

In FY06, Pueblo Chemical Depot received state approval on the South Central Terrace Area CMS (SWMUs 14, 28, 36, and 58). Partnerships between the State of Colorado and installation personnel expedited resolution on environmental covenants to allow remedy selection for these sites. The installation completed the draft CMS for the former TNT Washout Facility and SWMU 18, and requested NFA approval on SWMU 18 from the State. Regulators approved RCRA facility investigations (RFIs) at SWMUs 19 and 41. Regulators also approved NFA for SWMUs 42, 48, and 59. Additionally, the installation bypassed ion-exchange treatment at the most highly contaminated boundary treatment area in the Southwest Terrace. A fixed-price contract was awarded for the Southern Industrial Area.

In FY07, Pueblo Chemical Depot submitted and received State approval for the final CMS for SWMU 17. The installation completed investigations at SWMUs 25, 29, 35, 39, 45, 56, and 57. The installation submitted the draft CSM for SWMU 34 to the State for approval.

FY08 IRP Progress

Pueblo Chemical Depot completed and received State approval on RFIs at SWMUs 21, 25, 35, 39, 40, and 56; SWMUs 21 and 35 were recommended for NFA, and SWMUs 25, 39, 40, and 56 will require CMS. The State of Colorado selected remedies for SWMU 17 and modified the RCRA permit accordingly. The Army awarded two performance-based contracts: the first addressed the soil and groundwater remediation at the South Central Terrace and South West Terrace (SWMUs 14, 17, 28, 36, and 58), and the second addressed two groundwater boundary treatment systems, various off-site treatment systems, and ongoing sitewide groundwater monitoring. The installation completed a final groundwater treatment injection for SWMUs 26 and 36, which completed Phase I of the remediation.

Technical issues delayed receiving approval for NFA at SWMUs 21, 49, and 50.

FY08 MMRP Progress

Pueblo Chemical Depot completed fieldwork for the SWMU 34 supplemental RFI.

Technical issues delayed regulatory approval on the CSM for SWMU 34.

Plan of Action

Plan of action items for Pueblo Chemical Depot are grouped below according to program category.

IRP

- Receive regulatory approval on NFA for SWMUs 21, 49, and 50 in FY09.
- Design and implement remedies for SWMU 14, 17, 28, 36, and 58 in FY09-FY10.

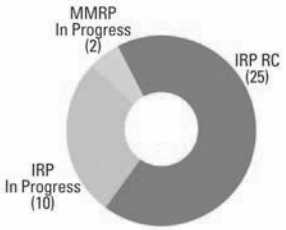
MMRP

- Receive regulatory approval on the SWMU 34 supplemental RFI in FY09.

Puget Sound Naval Shipyard

NPL

FFID:	WA017002341800 and WA017002342600	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Kitsap County, Washington (1,392 acres)	**Funding to Date:**	$ 190.0 million
Mission:	Support ship logistics; work in construction and overhaul; provide housing and healthcare for active duty families	**Est. CTC (Comp Year):**	$ 76.6 million (FY 2036)
HRS Score:	50.00; placed on NPL in May 1994	**IRP Sites (Final RIP/RC):**	35 (FY2014)
IAG Status:	IAG signed for Bremerton Naval Complex in 1998; IAG signed for Jackson Park Housing Complex in 2004	**MMRP Sites (Final RIP/RC):**	2 (FY2014)
Contaminants:	Heavy metals, VOCs, POLs, solvents, construction debris, acids, silver nitrate, SVOCs, explosives, propellants	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to pages M-6-173 and M-7-43



Progress To Date

Naval Facilities Engineering Command Northwest manages all Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) activities at Bremerton Naval Complex (BNC) and Jackson Park Housing Complex (JPHC). Most of BNC, which includes the Puget Sound Naval Shipyard (NS), is built on contaminated fill material. Metals and petroleum/oil/lubricants (POLs) are the primary contaminants. Initial assessment studies identified six sites for BNC and eight at JPHC. The main sources of contamination are past operations, such as cleaning and demilitarization of ordnance and ship construction, maintenance, and demolition. JPHC and BNC formed technical review committees in FY91 and FY92, respectively. Both were converted to Restoration Advisory Boards in FY94. Both installations were placed on the NPL in May 1994. An interagency agreement (IAG) was signed for BNC in 1998, and another was signed for JPHC in 2004. A 5-year review was completed for BNC in FY02 and FY07, and for JPHC in FY05.

IRP sites have been identified at these installations. BNC completed Records of Decision (RODs) for Operable Units (OUs) A, BM (Marine), BT (Terrestrial), D, and Naval Supply Center (NSC). JPHC completed a ROD for OU 1. Puget Sound NS transferred approximately two acres of BNC OU D property to the City of Bremerton. In FY02, the Navy completed an inventory of MMRP sites. The cleanup progress at Puget Sound NS for FY04 through FY07 is detailed below.

In FY04, BNC completed the OU D focused remedial investigation (RI) and feasibility study (FS), capping removal action, the OU BT ROD, and construction of the pavement cap and shoreline stabilization remedy components. The installation also finalized the OU BT monitoring plan and well installation, issued an explanation of significant differences, and a completed OU BM response action. The installation also conducted ROD-required monitoring for all applicable BNC OUs and JPHC OU 1. The installation continued discussions with the regulators regarding the JPHC OU 2 proposed plan (PP), and completed OU 3T Phase I RI fieldwork. The installation completed side scan sonar and bathymetric surveys for JPHC OU 3M.

In FY05, Puget Sound NS continued long-term management (LTM) at BNC OUs A, C, and NSC. The installation also completed the final component of the shoreline erosion control system and vegetated cap at BNC OU BT. BNC conducted remedial action operation (RA-O) sampling at the OU BM. The Navy signed a ROD for OU D and began implementing the remedy. JPHC continued LTM and conducted an additional investigation to address benzene seep for OU 1. JPHC identified free-product in new deep wells. JPHC completed geophysical data interpretation and a field summary report at Site OU 3T for RI Phase I. The Navy completed draft RI/FS work plans for Site OU 3M.

In FY06, Puget Sound NS transferred approximately two acres of BNC OU D property to the City of Bremerton. In addition, the installation initiated partnering and facilitated meetings with regulators for JPHC sites. The Navy continued LTM and initiated pilot testing to address free-product benzene at JPHC OU 1, as well as continued sampling, operation, and maintenance for BNC LTM.

In FY07, Puget Sound NS resolved the JPHC OU 2 informal dispute and initiated planning for a supplemental RI. The installation updated the LTM program for OU A and NSC. The installation finalized the action plan for OU C. The Navy continued LTM and initiated a focused FS at JPHC OU 1, and continued finalizing the Marine Monitoring Report for OU BM. The Navy completed RA-O monitoring for OU BM and evaluated the sediment natural recovery trend. The installation completed the second 5-year review for BNC. Puget Sound NS completed the JPHC OU 3T Phase II RI/FS MMRP work plans and RI/FS fieldwork. The Navy and EPA resolved a formal dispute regarding JPHC OU 3T Phase II sampling. The installation completed the Phase I work plans for OU 3M.

FY08 IRP Progress

Puget Sound NS continued LTM at BNC Terrestrial Sites and conducted a time-critical removal action (TCRA) at OU A. The Navy continued LTM, conducted a focused FS, and completed documentation for a non-TCRA at JPHC OU 1.

Regulatory issues delayed the supplemental RI work plan for Site OU 2. Regulatory issues also delayed finalizing the Marine Monitoring Report for OU BM.

Puget Sound NS updated community relations plans for BNC and JPHC.

FY08 MMRP Progress

Puget Sound NS completed Phase II RI/FS fieldwork and initiated a TCRA at JPHC OU 3T.

Regulatory issues delayed initiation of the RI for OU 3 Marine.

Plan of Action

Plan of action items for Puget Sound Naval Shipyard are grouped below according to program category.

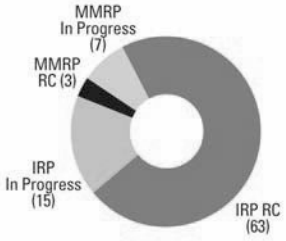
IRP

- Resolve formal dispute and finalize Marine Monitoring Report for OU BM in FY09.
- Resolve informal dispute and conduct supplemental RI for JPHC OU 2 in FY09.
- Continue LTM and conduct focused FS at JPHC OU 1 in FY09.

MMRP

- Complete JPHC OU 3T Phase II RI/FS report in FY09.
- Draft JPHC OU 3T PP in FY09.
- Resolve OU 3 Marine Phase II work plan informal dispute and initiate fieldwork in FY09.

FFID:	TX621382073800	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Texarkana, Texas (18,316 acres)	**Funding to Date:**	$ 47.1 million
Mission:	Conduct ground combat; air defense systems certification; equipment support services; munitions storage, renovation and demilitarization; defense logistic support	**Est. CTC (Comp Year):**	$ 40.3 million (FY 2015)
		IRP Sites (Final RIP/RC):	78 (FY2014)
		MMRP Sites (Final RIP/RC):	10 (FY2013)
HRS Score:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-6-152
Contaminants:	Trichloroethylene, cadmium, chromium, lead, zinc, dichloroethane, dichloroethene, VOCs, SVOCs, metals		



Progress To Date

In 1995, the BRAC Commission realigned Red River Army Depot (AD) by moving the M113 vehicle mission to other depots. In 2005, the BRAC Commission realigned Red River AD to close the munitions center and move the missile facilities. The installation retained its Bradley Fighting Vehicle, intern training, Patriot Missile, and rubber production missions. Areas of environmental concern at the depot include spill sites associated with previous industrial and pre-RCRA disposal activities. Trichloroethylene (TCE) is the main contaminant affecting groundwater at the installation. In FY95, the installation formed a BRAC cleanup team, and the community formed the Red River Redevelopment Authority (RRRA). In FY96, the installation formed a Restoration Advisory Board and prepared a BRAC cleanup plan (BCP). The BCP was updated in FY01. The installation maintains a partnership with the Texas Natural Resource Conservation Commission (now known as the Texas Commission on Environmental Quality) through the Defense and State Memorandum of Agreement program.

To date, the installation has removed more than 2,000 cubic yards of contaminated sediment from the north and south stormwater drainage ditches in the Western Industrial Area (WIA). The Army transferred 694 acres of the 797 acres of BRAC property to the RRRA. As of FY08, the Army has identified five Military Munitions Response Program (MMRP) sites at the non-BRAC, active portion of this installation, and has transferred two MMRP sites to the BRAC 2005 program through an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The cleanup progress at Red River AD for FY04 through FY07 is detailed below.

In FY04, the installation completed a pilot study demonstrating that treating the TCE-contaminated groundwater was not feasible using available technology. The Army removed contaminated soil from the former pesticide pit, the former Hays Sewer Treatment Plant, and the chrome drying beds. It submitted the Affected Property Assessment Report (APAR) and response action completion report for these sites. The Army installed four monitoring wells offsite to determine the degree of contaminant migration from the installation. Three of the wells were non-detect for TCE and one well had detections of TCE below the action level. The installation took additional soil, groundwater, surface water and sediment samples to define the extent of contamination at the X 1 Sewer Treatment Plant. The installation completed a finding of suitability to transfer (FOST) for approximately 14 acres. The Army submitted release investigation reports for the former diesel transfer station at Building 172 and the Industrial Waste Treatment Plant. The Army added two MMRP sites to the inventory.

In FY05, the installation completed a soil remediation project at the former Incinerator Building 722. The Army submitted a corrective measures implementation plan to the State for the closed hazardous waste landfill (LF). The installation completed a draft site inspection (SI) and historical record review reports for MMRP sites.

In FY06, the Army completed APARs for Buildings 371 and 373, used oil tanks, and the X 1 Sewer Treatment Plant. Red River AD completed response action plans for Buildings 371, 373, 1027, the used oil tank facility, and the X 1 Sewer Treatment Plant. The installation implemented the groundwater monitoring plan for the closed ordnance training center hazardous waste LF. The installation also completed two FOST documents, totaling 38 acres for future transfer of this property to the RRRA. Red River AD submitted the SI report and received regulator comments.

In FY07, Red River AD constructed two permeable reactive barrier walls to protect Panther Creek from solvent contaminated groundwater. Red River AD completed the environmental condition of property (ECP) and CERFA reports for the BRAC 2005 parcel. The Army submitted long-term groundwater monitoring plans for Buildings 371, 373, the WIA, and the used oil tank facility; and completed remedial excavations at Building 1027, the used oil tank facility, and the X 1 Sewer Treatment Plant. The installation submitted a remedial action plan for the WIA and Panther Creek. The Army also submitted an APAR for the WIA. The installation completed RCRA facility investigations (RFIs) for areas of concern identified in the ECP report for BRAC 2005 excess property. The installation received state comments that seven MMRP sites will require RFIs. The Army transferred the Northwest and Southwest Surveillance Function Test Ranges to the BRAC 2005 program. Red River AD published a public notice on the Munitions Response Site Prioritization Protocol scoring; there was no public response.

FY08 IRP Progress

Red River AD received regulatory concurrence for end of post-closure care at the municipal solid waste LF (permit #1313) and began Phase II investigations on BRAC 2005 sites. The Army also completed groundwater classification at X 1 Sewer Treatment Plant. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed regulatory concurrence on proposed plume management zones for WIA; Buildings 371, 373, and 433; and a used oil tank facility.

FY08 MMRP Progress

Red River AD awarded an MMRP remedial investigation (RI) and feasibility study (FS) contract for five MMRP sites.

Plan of Action

Plan of action items for Red River Army Depot are grouped below according to program category.

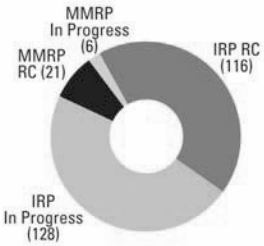
IRP

- Complete response action plan for Panther Creek sediments and installation of monitoring networks for Panther Creek biowalls in FY09.
- Complete RFIs at four BRAC 2005 sites in FY09.
- Receive regulatory concurrence on proposed plume management zones for WIA; Buildings 371, 373, and 433; and used oil tank facility in FY09.

MMRP

- Initiate RI/FSs at five MMRP sites in FY09.

FFID:	AL421382074200	**Media Affected:**	Surface Water, Sediment, Soil, Groundwater
Location (Size):	Huntsville, Alabama (38,300 acres)	**Funding to Date:**	$ 174.3 million
Mission:	Serve as host to the Army Aviation and Missile Command, the Space and Missile Defense Command, Redstone Technical Test Center, and the Missile and Space Intelligence Center	**Est. CTC (Comp Year):**	$ 277.7 million (FY 2044)
HRS Score:	33.40; placed on NPL in June 1994	**IRP Sites (Final RIP/RC):**	244 (FY2014)
IAG Status:	FFA under negotiation	**MMRP Sites (Final RIP/RC):**	27 (FY2016)
Contaminants:	Heavy metals, solvents, MEC, perchlorate, CWM, pesticides, VOCs, SVOCs, explosives, propellants	**Five-Year Review Status:**	Planned
		IRP/MMRP Status Table:	Refer to page M-6-2



Progress To Date

Past operations at the Redstone Arsenal (RSA) have included production, receipt and shipment, storage, demilitarization, and disposal of chemical and high-explosive munitions. Industrial firms also produced commercial chemicals and pesticides at the installation. RSA currently conducts military training, research and development; manages procurement; and supports the Army's aviation and missile weapons systems. EPA placed the installation on the NPL in June 1994. In 2005, the BRAC Commission recommended RSA for realignment. Site types include past disposal sites, landfills, open burning and open detonation areas, chemical munitions disposal sites, and releases from rocket motor production processes. Primary contaminants of concern are heavy metals, solvents, chemical weapon materiels, munitions and explosives of concern, and pesticides. RSA has a technical review committee, but repeated surveys of community interest in forming a Restoration Advisory Board have drawn little interest.

Studies beginning in FY77 identified Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites at RSA. The Army conducted an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents that identified MMRP sites. There are additional sites at Marshall Space Flight Center (MSFC) under the responsibility of NASA. In FY02, the Army separated RSA into groundwater operable units (OUs) and surface media OUs. In FY03, the installation transferred five IRP sites to the Army environmental compliance program for ongoing activities. The installation has achieved closure for 21 sites and completed 7 interim Records of Decision (RODs) and 6 RODs. Cleanup progress at RSA for FY04 through FY07 is detailed below.

In FY04, the installation completed one remedial investigation (RI) and feasibility study (FS) for RSA 099 and one corrective action plan (the RCRA equivalent of an RI/FS) for RSA 143. The installation developed the surface water and sediment background dataset and submitted it for regulatory review. The Army completed the ROD for RSA 099. The Army initiated limited site assessments at new potential source area sites. The Army continued updating the active, inactive, and CTT range inventory for RSA.

In FY05, the Army awarded the installation a performance-based contract (PBC). The installation submitted RI reports for RSA 011, 057, 096, 098, 146, and 183. Additionally, the installation submitted an FS report for RSA 057. The Army submitted the preliminary assessment (PA) and site inspection (SI) reports for RSA 145, 146, 147, 148, and 149. The installation corrected the MMRP inventory which includes four sites.

In FY06, the Army grouped the 126 active IRP sites into 17 major groupings. These groupings were used to prioritize the efforts at RSA to meet a goal of remedies in place (RIP) by 2014. The installation completed a no further action (NFA) agreement for MSFC 074. The Army completed a proposed plan (PP) for RSA 057 and submitted the ROD. EPA, the State of Alabama, and the Army tentatively agreed on language that would resolve the outstanding issues and allow federal facility agreement (FFA) signature. The installation completed PAs for RSA 150, 151, 152, 153, 154, 155, and 157. The installation also submitted RI reports for RSA 087, 088, 094, 122, and MSFC 002/087. Additionally, RSA submitted the FS report for RSA 049 and a draft PP for RSA 011. The installation initiated the installationwide MMRP SI.

In FY07, the installation completed the identification of 18 groupings as OUs, replacing the previously established surface media OU boundaries. EPA and the Alabama Department of Environmental Management (ADEM) added additional personnel to the RSA program. Smaller teams consisting of EPA, ADEM, and installation personnel were established to conduct cleanup at individual sites, which vastly improved communications efficiency for the RSA IRP. The installation completed RODs for RSA 011, 047, 049, 057, and a groundwater interim ROD, two of which were for designated NFA (RSA 011 and 047). The Army submitted RI reports for RSA 053, 058, and 097. The installation closed three other sites with Administrative Letters (RSA 223, 232, and 235). The Army achieved RIP for 2 sites (MSFC 002/087, RSA 229); finalized RI reports for 5 sites (RSA 054, 056, 122, 139, and 183); and initiated RI reports for 15 sites. The installation installed a northern perimeter well network to help address contamination coming on-post via groundwater from off-post sources. The Army initiated a time-critical removal action (TCRA) to support mission needs at RSA 252 and 282. The installation updated the MMRP historical records review (HRR) and resubmitted it for review. RSA submitted the SI workplan for review.

FY08 IRP Progress

RSA closed seven sites with NFA or land use controls; completed one ROD (MSFC 002/087); and completed six Administrative Letters (MSFC 77, RSA 224, 229, 236, 251, and D). The installation finalized one RI report for RSA 087; started new RIs for RSA 113, 126, 134, 138M, 144, and 200; and continued RI work on RSA 088 and 095. The Army submitted the remedial action work plans for the groundwater interim ROD and RSA 049.

Regulatory issues delayed completing the ROD for RSA 094; completion of the RI/FSs for RSA 048, 054, 122, and 183; completion of FFA negotiations; and finalizing the RI reports for RSA 053, 058, 097, and 142. Technical issues delayed finalizing the RI report for RSA 095. Administrative issues delayed finalizing the RI report for RSA 060. Contractual issues delayed awarding the new PBC and completing a ROD for RSA 098, 123, 139, and 196.

FY08 MMRP Progress

RSA completed a Phase I HRR and SI. The installation also completed the TCRA at RSA 252.

Plan of Action

Plan of action items for Redstone Arsenal are grouped below according to program category.

IRP

- Award PBC in FY09.
- Complete PP and ROD for RSA 094 and 196 in FY09-FY10.
- Complete FSs for seven sites and RI reports for 16 sites in FY09-FY10.

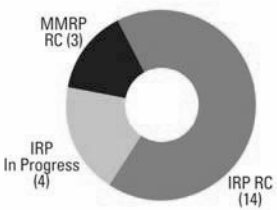
MMRP

- Initiate Phase II HRR and SI in FY09.
- Complete TCRA at RSA 282 in FY09.

Reese Air Force Base

BRAC 1995

FFID:	TX657152409100	**Est. CTC (Comp Year):**	$ 2.0 million (FY 2036)
Location (Size):	Lubbock, Texas (2,987 acres)	**IRP Sites (Final RIP/RC):**	18 (FY2006)
Mission:	Conducted pilot training	**MMRP Sites (Final RIP/RC):**	3 (FY2000)
HRS Score:	N/A	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in 1987 and terminated in June 1999	**IRP/MMRP Status Table:**	Refer to page M-7-39
Contaminants:	VOCs, POLs, metals, pesticides, herbicides, TCE, SVOCs		
Media Affected:	Groundwater, Surface Water, Soil		
Funding to Date:	$ 123.0 million		



Progress To Date

In July 1995, the BRAC Commission recommended closure of Reese Air Force Base (AFB), which was used for pilot training and related activities. The installation closed in September 1997. A federal facility agreement (FFA) was signed in 1987 and terminated in June 1999. Sites identified at the installation include landfills (LFs), surface impoundments, underground storage tanks, sludge spreading areas, industrial drain lines, and fire training areas. The installation formed a Restoration Advisory Board (RAB) in FY95 and a BRAC cleanup team (BCT) in FY96. An Environmental Baseline Survey was completed in FY97. The installation achieved the last remedy in place (LRIP) milestone and completed the first 5-year review in FY06.

Environmental studies have identified Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites at Reese AFB. All property (2,987 acres) at Reese AFB has been transferred. In FY04, the Air Force conducted an inventory of MMRP sites. The cleanup progress at Reese AFB for FY04 through FY07 is detailed below.

In FY04, 141 acres were transferred, and EPA approved operating properly and successfully (OP&S) determinations for two sites (LF 003 and SS 001). The Air Force also completed the installation of additional monitoring wells and corrective action wells for the Tower Area Plume (Site SS 002). Groundwater data was collected to support the OP&S determination for the Tower Area Plume. A guaranteed fixed-price remediation (GFPR) with insurance contract was issued to complete cleanup at Reese AFB. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the Air Force initiated preparation of the first 5-year review. Pilot studies to test the possible enhancement of remedies for the Tower Area and Southwest LF Plumes were conducted under the GFPR contract. In addition, the Air Force completed the expansion of the Tower Area pump-and-treat system, initiated an OP&S demonstration for a third site, and continued to gather data for an OP&S demonstration for a fourth site. The Air Force continued complying with the EPA 7003 Order by supplying approximately 50 off-base residents with alternate water supplies. The Air Force began evaluating requirements at the identified MMRP sites. The RAB and BCT continued to meet as scheduled.

In FY06, the Air Force completed OP&S demonstration for the Tower Area Plume. The installation transfered all remaining property (409 acres) at Reese AFB through an economic development conveyance to the Lubbock Reese Reuse Authority and through a public benefit conveyance to Texas Tech University and South Plains College. The Air Force successfully used the GFPR contract to expedite environmental remediation, advancing the schedule for groundwater cleanup. Reese AFB achieved an LRIP milestone, and completed the first 5-year review. The Air Force continued the ongoing full-scale enhanced remedial action and also continued its compliance with the EPA 7003 Order. The Air Force determined that no munitions and explosives of concern constituents remain at the installation. The RAB and BCT continued to meet as needed.

In FY07, the installation continued the GFPR contract, completed full-scale implementation of the enhanced remedial systems, and continued monitoring off-base private water wells in accordance with the EPA 7003 Order. The installation also continued LF maintenance, as well as groundwater monitoring and corrective action. Reese AFB completed requirements to close the identified MMRP sites.

FY08 IRP Progress

Reese AFB continued to enhance the groundwater remedy and expanded enhancements to the full scale system, expediting the reduction of contaminant levels in the treatment areas. The installation continued monitoring private water wells in compliance with the EPA 7003 Order. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed the award of a follow-on monitoring performance-based contract (PBC).

FY08 MMRP Progress

No MMRP actions were conducted at this installation.

Plan of Action

Plan of action items for Reese Air Force Base are grouped below according to program category.

IRP

- Award follow-on PBC for long-term monitoring after GFPR completion in FY09.
- Continue enhanced remedy for groundwater in FY09-FY10.
- Continue compliance with the EPA 7003 Order in FY09-FY10.

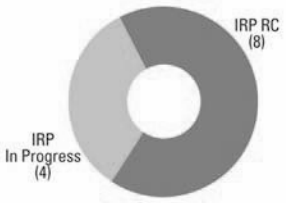
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Richards-Gebaur Air Reserve Station

BRAC 1991

FFID:	MO757002429200	**Funding to Date:**	$ 11.3 million
Location (Size):	Kansas City, Missouri (429 acres)	**Est. CTC (Comp Year):**	$ 2.6 million (FY 2038)
Mission:	Supported fighter and attack aircraft operations	**IRP Sites (Final RIP/RC):**	12 (FY2004)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	POLs, PAHs, PCBs, VOCs, heavy metals, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-7-25
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In July 1991, the BRAC Commission recommended closure of Richards-Gebaur Air Reserve Station (ARS), which supported various aircraft operations throughout its history. The installation was closed in September 1994. Site types identified at the installation include a fire training area, vehicle maintenance areas, hazardous waste drum storage areas, fuel storage areas, and underground storage tanks (USTs). In FY94, and Environmental Baseline Survey was completed, and the installation formed a Restoration Advisory Board (RAB). In FY04, the RAB adjourned and the community relations plan (CRP) was updated to indicate the status of remediation efforts and identify ongoing opportunities for community involvement. The Air Force completed a 5-year review in FY07.

Environmental studies at Richards-Gebaur ARS have identified Installation Restoration Program (IRP) and Military Munitions Restoration Program (MMRP) sites. Three sites required No Further Response Action Planned (NFRAP) Decision Documents (DDs), 16 sites required remedial investigations, and 10 sites required closure under Missouri RCRA-C UST regulations. Records of Decision (RODs) were completed for Operable Units (OUs) 1 and 2. All property (429 acres) at the installation has been transferred to the local communities (Cities of Kansas City and Belton) or assigned to other DoD Components (Departments of the Navy [DON] and Army). In FY06, the Air Force transferred environmental responsibility for IRP Sites SS 003 and 009 to the DON. The cleanup progress at Richards-Gebaur ARS for FY04 through FY07 is detailed below.

In FY04, RODs for OUs 1 and 2 were completed and signed. The NFRAP DD for Site ST 007 was signed. The Air Force conducted an inventory of MMRP sites. The CRP was updated to indicate the status of remediation efforts and identify ongoing opportunities for community involvement. The RAB adjourned after the members unanimously agreed that their mission had been completed.

In FY05, the Air Force completed the land use control (LUC) and institutional control (IC) management plan and updated the groundwater monitoring plan. Semiannual groundwater monitoring at six sites and annual LUC/IC inspections were conducted. In addition, the Air Force transferred the remainder of installation property (232 acres) to the City of Kansas City and to the DON.

In FY06, the installation conducted semiannual groundwater monitoring at six sites, and conducted annual LUC/IC inspections. The Air Force conducted field activities associated with the first 5-year review and prepared a draft 5-year review report. Environmental responsibility for IRP Sites SS 003 and 009 was transferred from the Air Force to the DON. The Air Force initiated meetings with the Kansas City Port Authority to evaluate the feasibility of entering into an environmental services cooperative agreement (ESCA) in which the Kansas City Port Authority would assume responsibility for remaining remedial action operations (RA-O) and long-term management (LTM) requirements.

In FY07, the Air Force awarded the annual regional fixed-price contract to continue RA-O/LTM and LUC/IC inspections for environmental sites at the installation. The installation conducted semiannual groundwater monitoring and annual LUC/IC inspections for four IRP sites. The Air Force completed and received regulatory concurrence for the first 5-year review, which reduced the groundwater monitoring frequency from semiannual to annual for three of the four sites. The installation submitted and received regulatory approval of an explanation of significant differences to change the remedy for two soil sites from LUC/ICs to no further action. The Kansas City Port Authority requested that the Air Force enter into an ESCA with them to assume responsibility for the remaining cleanup requirements. The Air Force began review of the ESCA.

FY08 IRP Progress

Richards-Gebaur ARS awarded an annual contract to continue groundwater monitoring, LUC/IC inspections, and annual report preparation. The Air Force conducted annual groundwater monitoring and LUC/IC inspections for four sites.

Kansas City Port Authority cancelled ESCA negotiations with the Air Force to privatize environmental cleanup.

FY08 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Richards-Gebaur Air Reserve Station are grouped below according to program category.

IRP

- Award annual contract to continue groundwater monitoring, LUC/IC inspections, and annual report preparation in FY09.
- Conduct annual groundwater monitoring and LUC/IC inspections for four sites in FY09-FY10.

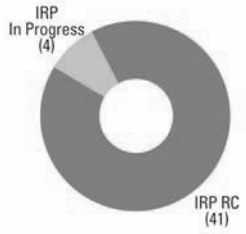
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Rickenbacker Air National Guard Base

Proposed NPL/BRAC 1991

FFID:	OH557002454400	**Funding to Date:**	$ 26.2 million
Location (Size):	Columbus, Ohio (2,076 acres)	**Est. CTC (Comp Year):**	$ 7.5 million (FY 2036)
Mission:	Supported fighter, tanker, and cargo aircraft operations	**IRP Sites (Final RIP/RC):**	45 (FY2001)
HRS Score:	50.00; proposed for NPL in January 1994	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	Pesticides, paints, POLs, solvents, heavy metals, VOCs, SVOCs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-7-34
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In July 1991, the BRAC Commission recommended closure of Rickenbacker Air National Guard Base (ANGB), which had supported aircraft operations. In July 1993, realignment was recommended rather than base closure. The installation was realigned on September 30, 1994. Rickenbacker ANGB was proposed for listing on the NPL in January 1994 because of the potential effects of contamination on underlying groundwater. A Restoration Advisory Board formed and a basewide Environmental Baseline Survey was completed in FY94. In FY95, a final environmental impact statement was published. From FY96 through FY97, a supplemental remedial investigation report was completed. In FY08 the installation completed the first 5-year review.

To date, remedial actions (RAs) included removal of 59 underground storage tanks, 28 aboveground storage tanks, and asbestos-containing materials; closure of abandoned fuel lines; and demolition of the heat and water plant lagoons. All Records of Decision have been signed to date. The Air Force has transferred over 1,700 acres to the local redevelopment authority (LRA). No further RA planned documents were signed for 16 Installation Restoration Program (IRP) sites and three areas of concern. Seven other IRP sites were closed with regulatory concurrence. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Rickenbacker ANGB for FY04 through FY07 is detailed below.

In FY04, the installation completed the two-year report for IRP Sites 2, 21, 41, 42, and 43, and finalized the land use control (LUC) and institutional control (IC) management plan. After review of groundwater data, the basewide groundwater restriction was removed. The installation shut down the groundwater treatment system at Site 2 and initiated monitored natural attenuation. The two vacuum-enhanced recovery systems at Pumphouses 898/899 and Segment G of the 1942 fuel line were turned off. A remedial process optimization (RPO) study was completed, and the first 5-year review was initiated. The Air Force conducted an inventory of MMRP sites. No MMRP sies were identified on the BRAC portion of this installation.

In FY05, the installation obtained approval letters for operating properly and successfully (OP&S) demonstrations at IRP Sites 21 and 42. A No Further Action (NFA) Statement of Basis (SB) for was signed for Site 43 contingent upon land use restrictions. The installation transferred 47 acres of Parcel D3A and 15 acres of Parcel D3B containing the petroleum/oil/lubricant (POL) bulk storage area to the LRA. The Air Force awarded a performance-based contract to close the remaining IRP Sites: 1, 2, 21, 41, and 42. The installation also implemented the RPO recommendations identified during the FY04 study. The BRAC cleanup team (BCT) reviewed the draft 5-year review and held one meeting.

In FY06, the Air Force implemented site closure acceleration enhancements at Sites 41 and 42. Approximately 100 cubic yards of contaminated soil was removed from Site 41. The installation added an aqueous solution of food grade vegetable oil and simple sugars to the groundwater to act as a long-term electron donor and to accelerate site closure at Sites 41 and 42. The Air Force expanded the air sparge system at Site 2. The installation submitted the Site 2 demonstration of an RA OP&S document to EPA Region V and received approval. The Air Force completed transfer of Site 43 (Parcels B1/D3E, D3B, D3C, D3F, D3G, and D3K) to the LRA. The Air Force decided to retain Parcels D3I, D3J, and D3L for use by the Ohio Air National Guard. The BCT met twice.

In FY07, the Air Force obtained signed SBs for the optimization of the groundwater sampling at Sites 41 and 42. The installation submitted the Site 1 demonstration of OP&S document to EPA Region V and received concurrence. Regulators approved a minor amendment to the Site 1 post closure plan, including LUCs for the site. An updated LUC/IC map was finalized, and obsolete monitoring wells were decommissioned. The Air Force transferred Parcels D3D and D3H to the LRA. The installation finalized the first 5-year review. The BCT met twice.

FY08 IRP Progress

Rickenbacker ANGB obtained signature for the first 5-year review. The installation met remedial goals and completed site closure at Site 2, as documented in a signed NFA SB for groundwater monitoring. The Air Force continued groundwater monitoring at Sites 1, 21, 41, and 42. The installation received regulatory approval for a minor amendment to the Site 1 post closure plan for the installation of four new monitoring wells. The Air Force programmed and planned the decommissioning of selected remaining obsolete monitoring wells. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The BCT met twice.

FY08 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Rickenbacker Air National Guard Base are grouped below according to program category.

IRP

- Continue groundwater monitoring at Sites 1, 21, 41, and 42 in FY09-FY10.
- Decomission remaining obsolete monitoring wells in FY09-FY10.
- Obtain NFA SB at Site 21 in FY09-FY10.

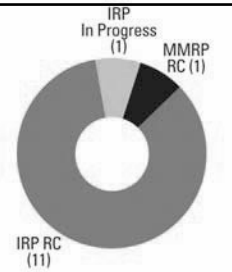
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Riverbank Army Ammunition Plant

NPL/BRAC 2005 Closure

FFID:	CA921382075900	**Est. CTC (Comp Year):**	$ 2.9 million (FY 2014)
Location (Size):	Riverbank, California (172 acres)	**IRP Sites (Final RIP/RC):**	12 (FY1998)
Mission:	Manufacture grenades, projectiles, and steel cartridge casings	**MMRP Sites (Final RIP/RC):**	1 (FY2008)
HRS Score:	63.94; placed on NPL in February 1990	**Five-Year Review Status:**	Completed and planned
IAG Status:	IAG signed in April 1990	**IRP/MMRP Status Table:**	Refer to page M-7-6
Contaminants:	Chromium, cyanide, zinc		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 56.5 million		



Progress To Date

In 1942, the Army constructed what is now the Riverbank Army Ammunition Plant (AAP) as an aluminum reduction plant to supply military requirements. Since 1951, the installation has manufactured brass and steel cartridge cases for the Army and the Navy. Other manufactured products include grenades and projectiles, which the Army ships to other ammunition plants for loading operations. In FY85, a preliminary assessment and site inspection identified the following sites: an industrial wastewater treatment plant, an abandoned landfill, and four evaporation and percolation (E/P) ponds located north of the plant near the Stanislaus River. EPA placed the installation on the NPL in February 1990. The Army and EPA signed an interagency agreement (IAG) in April 1990. In FY92, the Army extended the Riverbank City water system and connected service to all residents potentially affected by chromium contamination. The installation formed a technical review committee in 1994. In FY97, the Army submitted a petition to delete the installation from the NPL; however, EPA determined that NPL deletion was premature since groundwater cleanup goals had not been met. In 2005, the BRAC Commission recommended Riverbank AAP for closure. The Army completed 5-year reviews in FY01 and FY06.

To date, the installation has completed one installationwide Record of Decision. In FY03, the Army completed an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Riverbank AAP for FY04 through FY07 is detailed below.

In FY04, the installation converted Monitoring Well 109B to an extraction well and put it into service. Studies of the well's performance showed that it improved the efficiency of the groundwater containment system and reduced the amount of pumping required to provide full capture, resulting in lower costs. The Army obtained the permit from the California Regional Water Quality Control Board (RWQCB) for the in situ chromium treatment pilot project and initiated testing in the primary source area. The Army completed the bench-scale component of the in situ cyanide destruction pilot test and initiated discussions with RWQCB regarding regulatory requirements for implementing a field test. The Army issued a performance-based contract to accelerate completion of the groundwater cleanup. Work continued on evaluating background groundwater and surface water conditions at the E/P ponds as part of the effort to get a permanent increase in the allowable nitrate discharge limit.

In FY05, Riverbank AAP initiated optimization efforts for the extraction scenario from off-site wells. The installation completed the in situ chromium treatment pilot test in the primary source area. Under the MMRP, the installation awarded a contract to conduct a historical review and archive search for the small arms range.

In FY06, Riverbank AAP continued to optimize the current groundwater treatment system and completed the second 5-year review. The Army initiated groundwater investigations necessary for evaluation of potential treatment alternatives to potentially expedite cleanup efforts. As part of the environmental evaluation component of BRAC 2005, the Army completed the draft final environmental condition of property (ECP) report. The Army conducted a historical records review and archive search for the small arms range.

In FY07, Riverbank AAP completed the final ECP Phase I report and obtained EPA concurrence on CERFA Category 1 acres. The Army completed field efforts in support of ECP Phase II, and results were provided in a draft site inspection (SI) report. Regulators approved work plans for the 1-year shut down of the groundwater pump-and-treat system (rebound study) and work plans for pilot test of in situ ferrous iron; the installation shut down the treatment system. Riverbank AAP conducted a visual inspection and metal detection survey, and collected soil samples.

FY08 IRP Progress

Riverbank AAP completed and submitted the 1-year rebound and in situ pilot (ISPT) study for regulatory review. The Army completed the ECP Phase II SI document in support of BRAC 2005, and received regulatory approval. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed completing the evaluation report for rebound and ISPT study, and determining a future course of action to address groundwater contamination based on results of the rebound and ISPT study.

FY08 MMRP Progress

Riverbank AAP provided regulators with results of the visual SI, metal survey, and soil sampling in an SI report. The Army received no further action from EPA on the pistol range site, based on the final SI documentation.

Plan of Action

Plan of action items for Riverbank Army Ammunition Plant are grouped below according to program category.

IRP

- Receive regulatory approval of the 1-year rebound and ISPT study in FY09.
- Complete evaulation report for rebound and ISPT study in FY09.
- Determine future course of action to address groundwater contamination based on the rebound and ISPT study in FY09.

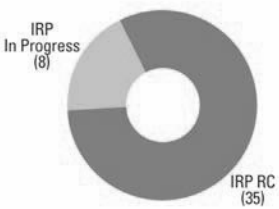
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Robins Air Force Base

NPL/BRAC 2005 Realignment

FFID:	GA457172433000	**Funding to Date:**	$ 179.6 million
Location (Size):	Houston County, Georgia (8,855 acres)	**Est. CTC (Comp Year):**	$ 124.8 million (FY 2028)
Mission:	Provide logistics support for aircraft	**IRP Sites (Final RIP/RC):**	43 (FY2005)
HRS Score:	51.66; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in June 1989	**Five-Year Review Status:**	Completed and planned
Contaminants:	VOCs, paint strippers and thinners, paints, solvents, phosphoric and chromic acids, cyanide, carbon, oils, TCE	**IRP/MMRP Status Table:**	Refer to page M-6-60
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The mission of Robins Air Force Base (AFB) is to provide logistics support for aircraft. The installation was placed on the NPL in July 1987 and the Air Force signed a federal facility agreement (FFA) in June 1989. In 2005, the BRAC Commission recommended Robins AFB for realignment. Primary contaminants at the site include trichloroethylene (TCE) and tetrachloroethane in soil and groundwater. The Robins AFB NPL site designation consists of Landfill (LF) 004 and an adjacent sludge lagoon (Site WP 14), and is divided into three operable units (OUs): source control (OU 1), wetlands (OU 2), and groundwater (OU 3). In August 2003, OU 2 was removed from the NPL designation and is addressed under RCRA. The installation has formed a Restoration Advisory Board (RAB). Robins AFB completed 5-year reviews in FY01 and FY06.

To date, a Record of Decision (ROD) was signed for OUs 1 and 3. The cleanup progress at Robins AFB for FY04 through FY07 is detailed below.

In FY04, the installation completed the remedial action (RA) for Site OT 023 and began the RA for OU 2 at LF 004. The installation also completed the ROD for OUs 1 and 3 at LF 004. In addition, Robins AFB began the installation of the RA at Site DC 034. The installation prepared and submitted for regulatory review the draft corrective action plan (CAP) for Site DC 034. The installation completed RAs at Site OT 029 and spill site (SS) 042; these sites achieved response complete (RC) status. Area of Concern 15 and Site RW 015 also achieved RC status. Operations and maintenance (O&M) activities continued at nine environmental restoration sites. The Robins AFB RAB, made up of 17 community participants, regulators, and installation members, met quarterly to discuss ongoing restoration activities.

In FY05, Robins AFB completed the CAP and the installation of the RA for Site DC 034. The Air Force completed RAs for OU 2 and SS 039. Robins AFB obtained site closure for SS 042 and conducted O&M activities at nine sites. The installation has obtained remedy in place (RIP) for all Installation Restoration Program (IRP) sites at the installation.

No Military Munitions Response Program (MMRP) sites were identified at this installation during the inventory development. The RAB met quarterly to discuss ongoing restoration activities.

In FY06, Robins AFB obtained site closure at SS 039 and completed the second 5-year review of OUs 1 and 3. The installation conducted O&M activities at eight sites and maintained land use controls (LUCs) at four sites. The Air Force awarded Robins AFB the Thomas D. White Restoration award for environmental achievements. The RAB met quarterly to discuss ongoing restoration activities.

In FY07, Robins AFB obtained site closure at Site OT 029. The installation conducted O&M activities at eight sites and maintained LUCs at four sites. Remedial Process Optimization (RPO) efforts were performed at each O&M site. The RAB met quarterly to discuss ongoing restoration activities. The Air Force initiated an MMRP comprehensive site evaluation (CSE) Phase I at this installation.

FY08 IRP Progress

Robins AFB conducted O&M activities at eight sites and maintained LUCs at four sites. The installation performed RPO efforts at each O&M site. The Air Force initiated Tier II partnering with state and federal regulators. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The RAB met quarterly to discuss ongoing restoration activities.

FY08 MMRP Progress

Administrative issues delayed the completion of the CSE Phase I.

Plan of Action

Plan of action items for Robins Air Force Base are grouped below according to program category.

IRP

- Perform O&M activities at eight sites in FY09.
- Maintain LUCs at four sites in FY09.

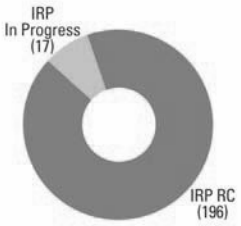
MMRP

- Complete the CSE Phase I in FY09.

Rocky Mountain Arsenal

NPL

FFID:	CO821382076900	**Funding to Date:**	$ 1,691.9 million
Location (Size):	Adams County, Colorado (17,228 acres)	**Est. CTC (Comp Year):**	$ 245.6 million (FY 2038)
Mission:	Manufactured and stored chemical munitions	**IRP Sites (Final RIP/RC):**	213 (FY2010)
HRS Score:	58.15; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	IAG and FFA signed in FY89	**Five-Year Review Status:**	Completed and planned
Contaminants:	Pesticides, chemical agents, VOCs, chlorinated organics, PCBs, UXO, heavy metals, solvents, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-6-45
Media Affected:	Groundwater and Soil		



Progress To Date

Rocky Mountain Arsenal (RMA) operated as a chemical munitions production facility from 1942 until 1982. It has been the focus of a cleanup program since the 1980s. Contaminated sites included liquid waste in unlined and lined lagoons and basins, open burning and detonation areas, structures, and landfills that received both liquid and solid wastes. Primary contaminants of concern are compounds used for chemical weapons materiel production and pesticides. Contaminated soil responses have included excavations and treatment of soil, disposing of contaminated soil in landfills, and capping contaminated soil sites. In July 1987, EPA placed the installation on the NPL. The Army and EPA signed an interagency agreement (IAG) and federal facility agreement (FFA) in FY89. The installation was divided into two operable units (OUs), one containing all on-post sites and another for off-post sites. In FY01, the Army discovered 10 M139 bomblets containing sarin, which it destroyed using the Explosive Destruction System. In 1994, the Army converted its technical review committee into a Restoration Advisory Board. In 1996, the Army and Shell Oil Company (a potentially responsible party) formed an oversight partnership that developed the Remedial Design Implementation Strategy for the on-post OU. The Army completed 5-year reviews in FY01 and FY08.

To date, the Army has transferred 13,312 acres. EPA delisted 957 acres from the NPL in FY03, 5,055 acres in FY04, and 7,399 acres in FY06. Environmental studies identified sites potentially requiring remediation at RMA. In FY96, the Army and regulators signed Records of Decision (RODs) for both OUs at the installation. Prior to the signing of the RODs, the Army completed 14 interim responses at 17 sites at the Arsenal, including the installation of five groundwater extraction and treatment systems on-post and one off-post. In FY03, the Army completed an inventory of closed, transferred, and transferring ranges. The inventory identified 25 closed unexploded ordnance, discarded military munitions or munitions constituents sites, and 3 closed military ranges totaling 459 acres. The cleanup progress at RMA for FY04 through FY07 is detailed below.

In FY04, the Army began the construction of the South Plants cover and remedial action construction (RA-C) of the Enhanced Hazardous Waste Landfill (ELF). The Army completed RAs for the Existing Sanitary Landfills (fieldwork), the Burial Trenches soil remediation, the Hex Pit soil remediation (redesign), the Section 35 soil remediation, the Secondary Basins soil remediation, and the North Plants structure demolition and removal projects. The installation continued operation of the RCRA Hazardous Waste Landfill and the Basin A Consolidation Area. The Army transferred approximately 4,929 acres to the Department of the Interior and 126 acres to local governments. GSA completed the sale of the Western Tier Parcel (917 acres).

In FY05, the installation awarded contracts to perform RAs for the Shell Disposal Trenches remediation and the Basin F Wastepile remediation projects. The installation completed the construction completion report (CCR) for the Existing (Sanitary) Landfill remediation project and continued operations at the Groundwater Intercept and Treatment System north of the Basin F Well. The Army initiated the installation's second 5-year review.

In FY06, the installation completed the remedial design (RD) and began construction on the Shell Disposal Trenches remediation cover and the Hazardous Waste Landfill cap. The installation completed RA-C at the ELF. RMA began excavation of the Basin F Wastepile. It also completed a ROD Amendment and drafted the RDs for the Former Basin F Principal Threat and Section 36 Lime Basins soil remediation projects. EPA removed 7,399 acres from the NPL. Of these acres, the Army transferred 7,258 to the U.S. Fish and Wildlife Service, but retained jurisdiction over areas containing water treatment systems.

In FY07, RMA completed the RD for the Section 36 Lime Basins Slurry Wall project and the Integrated Cover System (ICS). The installation began RA for ICS Phase I, the Former Basin F Principal Threat soil remediation project, and the Munitions Testing Soil remediation project. The Army completed the RA for the remaining Section 35 soil remediation and Miscellaneous Southern Tier soil remediation (Sand Creek Lateral area). The installation completed the Section 36 Balance of Areas soil remediation project, and the Basin F Wastepile soil remediation fieldwork. The installation began mobilization for the Section 36 Lime Basins soil remediation project. The Army continued to operate and maintain five groundwater treatment systems. The installation received the Occupational Safety and Health Administration Voluntary Protection Program Merit Level status and EPA's National Notable Achievement Award for the land deletion of the Internal Parcel.

FY08 IRP Progress

RMA completed the RD for the Basin F and Basin F Exterior soil remediation projects, and awarded the RA contract. The installation completed RAs for Munitions Testing, Basin F Wastepile, and Section 36 soil remediation project. The Army completed RA and signed the CCR for the Miscellaneous Southern Tier and Section 35 soil remediation projects (Sand Creek Lateral). RMA completed the contingent soil volume removal of Secondary Basins, and awarded the ELF cover construction contract. The installation also completed the second 5-year review report with regulatory approval. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

The Army has identified no Military Munitions Response Program (MMRP) sites at this installation.

Plan of Action

Plan of action items for Rocky Mountain Arsenal are grouped below according to program category.

IRP

- Sign certification report for Basin F Principal Threat removal in FY09.
- Complete ELF Cap and Lime Basins in FY09.
- Continue operations of groundwater treatment systems in FY09-FY10.
- Complete RA and construct engineering controls for Basin A, Lime Basins, South Plants Balance of Areas Phase II, and Complex Army Disposal Trenches in FY10.
- Initiate third 5-year review in FY10.

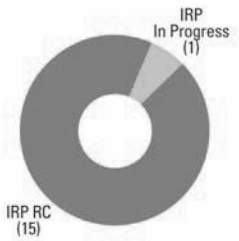
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Sacramento Army Depot

NPL/BRAC 1991

FFID:	CA921382078000	**Funding to Date:**	$ 66.6 million
Location (Size):	Sacramento, California (485 acres)	**Est. CTC (Comp Year):**	$ 5.9 million (FY 2017)
Mission:	Repaired and maintained communications and electronic equipment	**IRP Sites (Final RIP/RC):**	16 (FY1997)
HRS Score:	44.46; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	IAG signed in September 1988	**Five-Year Review Status:**	Completed and underway
Contaminants:	Oil and grease, cyanide, metals, solvents, metal plating wastes, wastewater containing caustics	**IRP/MMRP Status Table:**	Refer to page M-7-6
Media Affected:	Groundwater and Soil		



Progress To Date

When in operation, Sacramento Army Depot (AD) provided support for communications and electronic equipment. In July 1987, EPA placed the installation on the NPL. During FY88, the installation signed an interagency agreement (IAG) with EPA. In 1991, the BRAC Commission recommended closure of the Sacramento AD, and the Army closed the installation in March 1995. In FY93, the installation completed a CERFA report and a BRAC cleanup plan. The installation formed a Restoration Advisory Board (RAB) in FY94. The installation completed 5-year reviews in FY01 and FY08.

To date, all acreage has been transferred. The Army divided its contaminated sites into four operable units (OUs). During FY92, the Army signed Records of Decision (RODs) for all four OUs, and signed an installationwide ROD in FY95. The cleanup progress at Sacramento AD for FY04 through FY07 is detailed below.

In FY04, the installation completed the fate-and-transport phase of groundwater modeling.

In FY05, the Army signed the 2B Parcel Deed and transferred the final installation acreage to the City of Sacramento. The installation began groundwater and soil sampling at the South Post Plume. The installation reviewed all leases in support of groundwater monitoring; several were renewed, and one was terminated.

In FY06, Sacramento AD completed soil and groundwater sampling for the South Post Plume. The installation also initiated a 5-year review, which was completed after issuance of the optimization report.

In FY07, Sacramento AD completed the draft final groundwater cleanup optimization report and 5-year review, but did not receive regulatory concurrence. The installation awarded a contract for future remedial actions. The BRAC office discussed groundwater reuse options at the depot for a prospective ethanol production plant. The installation abandoned 14 monitoring wells and 4 piezometers. The RAB held an annual meeting.

FY08 IRP Progress

Sacramento AD awarded the performance-based contract for groundwater treatment and submitted the groundwater management plan amendment for regulatory review. The installation continued to evaluate the groundwater treatment system for optimization, collecting additional data to support previous findings and regulator comments. The Army completed the groundwater rebound test during rehabilitation of Extraction Well 10. Sacramento AD initiated installation of a new off-site extraction well at the present groundwater plume's boundary. The installation completed appraisals on private property (where monitoring wells are located) for conversion of leases to easements. The Army conducted perchlorate sampling and ruled out Sacramento AD as the source of off-site contamination. The installation also revised the completed 5-year review from FY07 and obtained regulatory concurrence. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Contractual issues delayed the bioremediation pilot study and focused feasibility study (FFS). Technical delays prohibited completion of the groundwater treatment system optimization evaluation. Regulatory issues delayed completion of the groundwater management plan amendment.

The Army RAB conducted an annual meeting.

FY08 MMRP Progress

The Army has identified no Military Munitions Response Program (MMRP) sites at this installation.

Plan of Action

Plan of action items for Sacramento Army Depot are grouped below according to program category.

IRP

- Finalize groundwater management plan amendment and optimization report in FY09.
- Continue groundwater monitoring in FY09.
- Finalize Extraction Well 10 rehabilitation report in FY09.
- Initiate bioremediation pilot study and FFS in FY09.

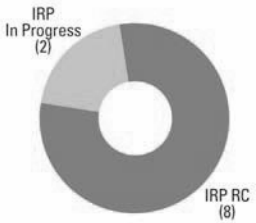
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

San Diego Naval Training Center

BRAC 1993

FFID:	CA917002320200	**Funding to Date:**	$ 36.4 million
Location (Size):	San Diego, California (541 acres)	**Est. CTC (Comp Year):**	$ 6.2 million (FY 2015)
Mission:	Provided recruit training for enlisted personnel and specialized training for officers and enlisted personnel	**IRP Sites (Final RIP/RC):**	10 (FY2012)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-7-6
Contaminants:	Pesticides, solvents, POLs, paints, VOCs, SVOCs, metals, radioactive materials		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In July 1993, the BRAC Commission recommended closure of San Diego Naval Training Center (NTC) and relocation of personnel, equipment, and mission support to other naval training centers. The installation closed in April 1997. Certain installation facilities and activities were retained to support other Navy operations in the San Diego area. In FY86, an initial assessment study identified 12 sites: 5 sites are being addressed under CERCLA and 7 under the underground storage tank program. Sites include a landfill and petroleum-contaminated areas. A community relations plan was developed in FY92 and updated in FY95. A Restoration Advisory Board (RAB) and an information repository containing the most current documents of the administrative record were established in FY94. The installation's BRAC cleanup plan was updated in FY99. The RAB became inactive in 2004 and was reestablished in FY07.

Installation Restoration Program (IRP) sites have been identified at this installation. The installation has signed one Record of Decision (ROD). In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress for San Diego NTC for FY04 through FY07 is detailed below.

In FY04, the installation completed the remedial investigation (RI) for the Boat Channel (Site 12). The City of San Diego requested initiation of actions necessary to accomplish an early transfer of the Boat Channel (Site 12). The Navy also closed Site 101. The installation continued facilitating RAB meetings.

In FY05, San Diego NTC received comments from the Regional Water Quality Control Board (RWQCB) and prepared a scope of work and preliminary cost estimates for a feasibility study (FS) for the Boat Channel (Site 12). The installation continued to pursue an early transfer with the City of San Diego.

In FY06, San Diego NTC met with the RWQCB and received comments on a final RI report. The Navy continued early transfer discussions with the City of San Diego. The Navy also awarded a contract to determine the nature and sources of contamination at the site, and to provide an assessment of potentially responsible parties.

In FY07, San Diego NTC continued discussions with the RWQCB on the final RI report. The Navy continued to pursue an early transfer with the City of San Diego. The installation considered performing a non-time-critical removal action to address contaminated sediment at the Boat Channel (Site 12). The Navy evaluated reactivating the RAB, and determined that the RAB would be reestablished.

FY08 IRP Progress

San Diego NTC held discussions with the RWQCB and regulators on the ecological risk assessment of the RI and viable sediment cleanup criteria. The installation initiated an FS to evaluate sediment cleanup alternatives for the Boat Channel (Site 12).

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for San Diego Naval Training Center are grouped below according to program category.

IRP

- Initiate an FS to evaluate sediment cleanup alternatives in FY09.
- Complete the FS, proposed plan, ROD, and remedial action for the Boat Channel (Site 12) in FY09-FY10.

MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Sangamo Electric Dump/Crab Orchard National Wildlife Refuge

NPL

FFID:	IL59799F217200	**Funding to Date:**	$ 11.0 million
Location (Size):	Carterville, Illinois (43,000 acres)	**Est. CTC (Comp Year):**	$ 0.2 million (FY 2004)
Mission:	Manufactured and loaded ordnance for shipping	**IRP Sites (Final RIP/RC):**	4 (FY2004)
HRS Score:	43.70; placed on NPL in July 1987	**MMRP Sites (Final RIP/RC):**	1 (FY2003)
IAG Status:	IAG signed in September 1991	**Five-Year Review Status:**	Completed and planned
Contaminants:	Organic solvents, inorganic compounds, PAHs, PCBs, munitions, heavy metals, VOCs, explosives, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-8-20
Media Affected:	Groundwater, Sediment, Soil		

Progress To Date

The former Illinois Ordnance Plant, which operated from 1942 to 1945, is located on the eastern portion of the U.S. Fish and Wildlife Service's (FWS') Crab Orchard National Wildlife Refuge. The ordnance plant served as a manufacturing and loading site for high-explosive shells, bombs, and other weapons components. Initially, 33 areas were identified that required further investigation. The Army grouped these areas into four operable units (OUs): the Polychlorinated Biphenyls (PCBs) OU, the Metals OU, the Miscellaneous Area OU, and the Explosives and Munitions Manufacturing Area (EMMA) OU. EPA placed the property on the NPL in July 1987. The Army and EPA signed an interagency agreement (IAG) in September 1991. The FWS established a technical working group (TWG) in FY00 consisting of FWS, EPA, Illinois EPA (IEPA), and the U.S. Army Corps of Engineers (USACE). An electronic administrative record was developed for the EMMA OU in FY04. USACE completed a 5-year review in FY07.

In FY96, USACE began fieldwork for the munitions and explosives of concern (MEC) engineering evaluation and cost analysis. The parties involved determined that FWS must provide preliminary investigations for uncharacterized sites. The remedial action for MEC initiated by USACE in FY98 at the EMMA OU was completed in FY01. The cleanup progress for Sangamo Electric Dump/Crab Orchard National Wildlife Refuge for FY04 through FY07 is detailed below.

In FY04, USACE continued long-term management (LTM) by performing two rounds of groundwater monitoring in the EMMA OU, and reported the results to FWS, EPA, and IEPA. USACE also reviewed the draft propertywide FWS land use control (LUC) plan. In addition, the former Illinois Ordnance Plant developed an electronic administrative record file for the EMMA OU and provided electronic copies to FWS, EPA, and IEPA. The TWG continued to hold meetings about potentially responsible party (PRP) sites.

In FY05, USACE continued LTM by performing two rounds of groundwater monitoring in the EMMA OU, and reported the results to FWS, EPA, and IEPA. USACE also reviewed the draft propertywide FWS LUC plan and prepared a draft insert for the EMMA OU portion. The TWG continued to hold meetings regarding PRP sites; USACE attended one of the meetings.

In FY06, USACE continued LTM by performing two rounds of groundwater monitoring in the EMMA OU, and reported the results to FWS, EPA, and IEPA. Based on IEPA concerns, three wells (two at Crab Orchard Cemetary 3 and one at Crab Orchard Plant 4) were installed to further assist in delineating the explosive contamination plumes at both sites. USACE also reviewed the draft final propertywide FWS LUC plan and prepared a draft insert for the EMMA OU portion. USACE prepared the draft PRP inventory project report (INPR). USACE participated in the development of the propertywide 5-year review, which included site visits by FWS, EPA, and IEPA. USACE started preparation of a draft INPR for a new Military Munitions Response Program (MMRP) project to further investigate a new land mine discovery. The TWG continued to hold meetings regarding PRP sites; USACE attended one of the meetings.

In FY07, USACE continued LTM by performing two rounds of groundwater monitoring in the EMMA OU, and reported the results to IEPA, EPA, and FWS. USACE obtained regulatory concurrence on project closeout for containerized hazardous toxic and radioactive wastes. USACE reviewed and completed the propertywide 5-year review. The TWG continued to hold meetings regarding PRP sites. USACE obtained regulatory concurrence on project closeout for MMRP Project 03.

FY08 IRP Progress

USACE continued LTM by performing two rounds of groundwater monitoring in the EMMA OU, and reported the results to FWS, EPA, and IEPA. The cost of completing environmental restoration has changed significantly due to technical and regulatory issues.

Administrative issues delayed completion of the PRP INPR.

The TWG continued to hold meetings regarding PRP sites.

FY08 MMRP Progress

Administrative issues delayed completion of the MMRP INPR.

Plan of Action

Plan of action items for Sangamo Electric Dump/Crab Orchard National Wildlife Refuge are grouped below according to program category.

IRP

- Continue LTM in FY09.
- Complete revised PRP INPR in FY09.

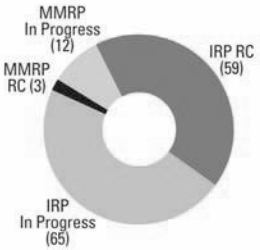
MMRP

- Complete revised MMRP INPR in FY09.
- Determine MMRP range realignment applicability in FY09.

Savanna Army Depot

NPL/BRAC 1995

FFID:	IL521382080300	**Funding to Date:**	$ 118.4 million
Location (Size):	Savanna, Illinois (13,062 acres)	**Est. CTC (Comp Year):**	$ 109.1 million (FY 2043)
Mission:	Receive, store, and demilitarize ammunition; manufacture ammunition-specific equipment	**IRP Sites (Final RIP/RC):**	124 (FY2015)
		MMRP Sites (Final RIP/RC):	15 (FY2018)
HRS Score:	42.20; placed on NPL in March 1989	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	IAG signed in FY1989	**IRP/MMRP Status Table:**	Refer to page M-6-76
Contaminants:	Explosives, metals, solvents, POLs, VOCs, SVOCs, propellants		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Savanna Army Depot (AD) began operation in 1917 as the Savanna Proving Grounds. During the 1920s, the mission changed to include storage, receipt, issuance, demilitarization, and renovation of ammunition. Contaminants were released at landfills; the open burning and open detonation ground; the fire training area; and ammunition load, assemble, and pack facilities. EPA placed the installation on the NPL in March 1989. The Army and EPA signed an interagency agreement (IAG) in FY89. In July 1995, the BRAC Commission recommended closure of the Savanna Depot Activity and relocation of the Army Defense Ammunition Center and School to McAlester Army Ammunition Plant in Oklahoma. In FY96, the Army formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB). In FY97, the installation completed a BRAC cleanup plan (BCP) and updated it in FY04, FY05, and FY08. In FY00, the Army formed a Strategic Management, Analysis, Requirements and Technology (SMART) Team to address ordnance and explosives hazards at the installation. The team included senior level officials of the Army, EPA, Illinois Environmental Protection Agency, and the U.S. Fish and Wildlife Service (FWS). In FY02, the Army successfully completed a removal action at the Pesticide Burial Area.

To date, the Army and regulators have signed one Record of Decision and transferred approximately 4,507 acres of land. The cleanup progress at Savanna AD for FY04 through FY07 is detailed below.

In FY04, the installation completed Phase I of the munitions and explosives of concern (MEC) investigations on the Small Arms area behind Buildings 134/140, the Zone F area, River Road strip, Primm's Pond area, and Central E Area. The Army completed the required transfer steps (including findings of suitability to transfer [FOSTs] and environmental condition of properties [ECPs]) on the Apple River Island parcel, the Primm's Pond parcel, the local redevelopment authority (LRA) Parcel 1, and the LRA Parcel 4, and transferred approximately 437 acres. The installation completed removal actions on Sites 15/33, 25, 44, and 76AD, and determined that the groundwater plume is only located under Site 15/33, which is located on LRA Parcel 7. The installation continued partnering with the Savanna BCT, the SMART Team, and the RAB to expedite cleanup and land transfers.

In FY05, Savanna AD completed remedial investigations (RIs) for three major areas of the Depot. Additionally, the Army awarded a performance-based contract (PBC) for nine sites. The installation, the Army Environmental Center, and the Army Corps of Engineers determined that the number of sites suitable for the PBC was 9 rather than 11. The Army completed all ECP category assessments and FOSTs for the transfer of 515 acres to the LRA. The installation completed the initial steps of the Military Munitions Response Program (MMRP) RI and feasibility study (FS) for the Old Burning Grounds (OBG).

In FY06, the installation awarded the PBC contract and completed the FOST for LRA Parcel 11A. The installation also completed the finding of suitability for early transfer (FOSET) for all remaining property scheduled for transfer to the LRA. Regulators reviewed and submitted comments on the FOSET. The Army and LRA addressed comments to determine whether early transfer is possible. Savanna AD also completed remediation of Site 82SS. Savanna AD completed fieldwork at the OBG. The Army also completed the MEC investigation of Zone F (LRA Parcel 6), the Primm's Pond area, the River Road Strip, and the central portion of the 75-mm Graze Impact Range (E Area). Preliminary findings indicate that further work is needed at the River Road Strip and Graze Impact Range. The Depot also completed the removal action project for Sites 15/33 by sifting and treating lead-contaminated soil, debris, and small arms ammunition.

In FY07, the LRA withdrew its request for early transfer, terminating the FOSET review. Savanna AD completed ECPs for the FWS Parcels 8A, 8C, and 9. The installation completed FOSTs for LRA Parcels 6 and 15A. The Army developed workplans for RI reports. Savanna AD continued the MEC removal action on Zone L. The installation completed fieldwork for the MEC investigation at the 155-mm high explosives Impact Range, the Grenade Burial Area, and the A Area Detonation Pits. PBC contractors developed the work plan for the decontamination of explosives-contaminated buildings and submitted the explosives saftey submission for DoD Explosives Saftey Board review.

FY08 IRP Progress

Savanna AD completed the transfer of LRA Parcels 6 and 15A to the LRA. Savanna AD also completed several RI projects and initiated several FSs. The installation decontaminated 13 buildings.

Administrative issues delayed the transfer of FWS Parcels 8A, 8C, and 9.

The Army updated the BCP.

FY08 MMRP Progress

Savanna AD completed the MEC removal at Zone L and two soil removal actions at Sites 155 and 186. The installation initiated a follow-on MEC investigation project of additional sections of the Graze Impact Range.

Plan of Action

Plan of action items for Savanna Army Depot are grouped below according to program category.

IRP

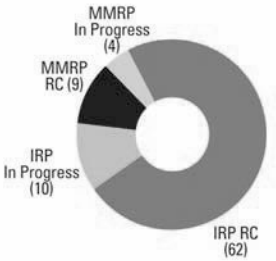
- Transfer FWS Parcels 8A, 8C, and 9, LRA Parcel 14, and the Sewage Treatment Plant to the LRA in FY09.
- Complete fieldwork for the building decontamination project in FY09.
- Complete the project closeout documents for Sites 155 and 186 in FY09-FY10.
- Complete FS for the Site 111 Outdoor Washout Plant, Site 192 Manganese Ore Pile projects, and 23 No Further Action sites in FY09-FY10.

MMRP

- Complete the Phase I MEC investigation on the Upper Function Test Range in FY09.
- Complete Phase II MEC investigation of the expanded Graze Impact Range in FY09.

Seneca Army Depot

FFID:	NY221382083000	**Funding to Date:**	$ 103.0 million
Location (Size):	Romulus, New York (10,594 acres)	**Est. CTC (Comp Year):**	$ 33.2 million (FY 2027)
Mission:	Received, stored, distributed, maintained, and demilitarized conventional ammunition, explosives, and special weapons	**IRP Sites (Final RIP/RC):**	72 (FY2010)
		MMRP Sites (Final RIP/RC):	13 (FY2017)
HRS Score:	37.30; placed on NPL in August 1990	**Five-Year Review Status:**	Planned
IAG Status:	FFA signed in January 1993	**IRP/MMRP Status Table:**	Refer to page M-6-117
Contaminants:	Heavy metals, radioactive isotopes, petroleum hydrocarbons, VOCs, SVOCs, chlorinated solvents, radioactive materials		
Media Affected:	Soil, Sediment, Groundwater, Surface Water		



Progress To Date

During its operation, Seneca Army Depot (AD) stored munitions and supplies, and distributed them to the Army. Such operations included demilitarization and disposal of munitions and explosives. Since FY78, Army studies identified the following sites or site types: an open burning ground, an ash landfill, other landfills, low-level radioactive waste burial grounds, underground storage tanks (USTs), spill areas, fire training areas, and munitions disposal areas. Interim actions include removal of several USTs and associated contaminated soil, and removal and treatment of approximately 35,000 cubic yards of soil from the ash landfill. EPA placed the installation on the NPL in August 1990. The Army and EPA signed a federal facility agreement (FFA) in January 1993. In July 1995, the BRAC Commission recommended closing Seneca AD, except for an enclave that will store hazardous materials and ores. The installation closed in September 2000. In FY96, the installation converted its technical review committee to a Restoration Advisory Board (RAB) and established a BRAC cleanup team (BCT). The community formed a local reuse authority (LRA) and began developing a land reuse plan.

To date, the Army has signed eight Records of Decision (RODs) and transferred 9,808 acres. In FY94, the installation completed a solid waste management classification study, identifying solid waste management units. Thirty-six units required either no further action (NFA) or completion reports, 8 required removal actions, and 28 required remedial investigations (RI) and feasibility studies (FSs). The 28 sites requiring RI/FSs were divided into 13 groups. The Army has also achieved RCRA closure at two sites. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites, of which 9 have achieved response complete (RC). The Army signed the ROD for 22 no action/NFA sites, closing these sites. The installation transferred 6,981 acres of property. The cleanup progress at Seneca AD for FY04 through FY07 is detailed below.

In FY04, the Army signed two RODs with land use controls. The installation completed three interim remedial actions (IRAs) and continued work on additional IRAs. The installation investigated 6 operable units and removed 13 USTs. The Army transferred 25 acres to the LRA. The installation initiated site inspections (SIs) at three MMRP sites using geophysical equipment to locate all potential munitions and explosives of concern. The BCT met every other month to discuss issues, reuse priorities, and overall progress. The RAB continued to meet regularly and received briefings on site activities.

In FY05, the installation completed one ROD and transferred 967 acres of property. The Army continued to develop a second ROD that addresses 14 sites. The installation completed three IRAs and initiated a remediation project that uses mulch to treat groundwater with trichloroethylene (TCE) contamination. Additionally, the Army continued to address termination of the Nuclear Regulatory Commission license for the storage of depleted uranium rounds. The installation completed an SI and initiated IRAs at three MMRP sites. The RAB continued to meet quarterly.

In FY06, the Army awarded a performance-based contract to address six sites through remedy in place (RIP) and RC. The installation completed RAs at two sites and continued RAs at five other sites. The Army also completed a ROD for four sites. Seneca AD initiated RAs at three MMRP sites. The Army completed the ROD for two sites with MMRP and CERCLA hazardous substances. The installation continued to address concern of residual chemical contamination at three MMRP sites. The RAB continued to meet quarterly to discuss restoration activities.

In FY07, the installation completed RAs at two sites and an IRA at one site. The installation completed a ROD for 17 sites. The installation completed IRAs and prepared closeout documents for three MMRP sites. The installation continued to work on the ROD for MMRP sites with CERCLA hazardous substances.

FY08 IRP Progress

Seneca AD completed the deed transfer and associated environmental easement of 967 acres. The installation also completed two RODs for four sites and RAs at two of these sites. Additionally, the installation continued to prepare RODs for seven other sites and initiated RAs at two of these sites.

Regulatory issues delayed RAs at five sites and closeout documents for three sites.

The RAB continued to meet quarterly.

FY08 MMRP Progress

The installation completed RAs at two sites and initiated the long-term management (LTM) at these sites.

Regulatory issues delayed completion of the ROD at three sites with CERCLA hazardous substances.

Plan of Action

Plan of action items for Seneca Army Depot are grouped below according to program category.

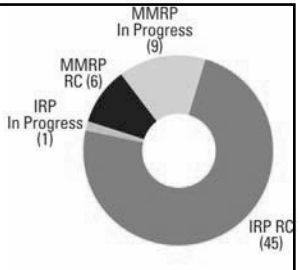
IRP

- Close Sites SEAD 11, 24, 48, and 59 in FY09.
- Complete ROD and RA for Site SEAD 12 in FY09.
- Complete ROD for Sites SEAD 1, 2, 5, 24, and 48, and remedial design for Sites SEAD 1, 2, and 5 in FY09.
- Complete RAs for Sites SEAD 4, 38, and 70 in FY09.

MMRP

- Complete ROD for Sites SEAD 002 R, 003 R, and 007 R in FY09.
- Reevaluate cost and methodology for the planned removal action at Site SEAD 006 R in FY09-FY10.
- Continue LTM at Sites SEAD 16 and 17 in FY09-FY10.

FFID:	CA921382084300	**Media Affected:**	Groundwater, Sediment, Soil
Location (Size):	Herlong, California (37,977 acres)	**Funding to Date:**	$ 88.5 million
Mission:	Provide world-wide expeditionary logistics support for the defenders of our Nation through: Long-term Storage, Maintenance, Care of Supplies in Storage Reset, and Container management, while embracing the Army values	**Est. CTC (Comp Year):**	$ 164.4 million (FY 2017)
		IRP Sites (Final RIP/RC):	46 (FY2008)
		MMRP Sites (Final RIP/RC):	15 (FY2017)
HRS Score:	N/A	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in May 1991	**IRP/MMRP Status Table:**	Refer to page M-6-21
Contaminants:	Petroleum products, solvents, explosives, metals, VOCs		



Progress To Date

In 1995, the BRAC Commission recommended realignment of Sierra Army Depot (AD). The 2005 BRAC Commission also recommended Sierra AD for further realignment. The Army and EPA signed a federal facility agreement (FFA) in May 1991. The Army identified approximately 64,996 acres as excess. Contamination at the depot originated from burn trenches, explosives leaching beds, landfills, burial sites, spill sites, sewage lines, underground storage tanks, sumps, and fire training areas. Primary contaminants in soil and groundwater include trichloroethylene (TCE), petroleum products, and explosives. Investigations identified sites, 12 of which required no further action (NFA). In FY96, the installation formed a BRAC cleanup team. In FY97, the installation published the BRAC cleanup plan, and established a Restoration Advisory Board (RAB). The installation completed 5-year reviews in FY02 and FY07.

To date, the Army has completed Records of Decision (RODs) to address 22 sites. Ongoing operations include groundwater enhancement at four sites (two sites operate with pilot systems) and a soil vapor extraction system (SVE) at the Defense Reutilization and Marketing Office (DRMO) Trench Area. In FY02, the Army awarded a guaranteed fixed-price remediation (GFPR) contract that addressed all open restoration sites at Sierra AD. The Army has transferred approximately 62,636 acres to date. The Army completed the closed, transferred, and transferring range and site inventory for both the BRAC and active sites, identifying BRAC Military Munitions Response Program (MMRP) sites and active/closed MMRP sites at Sierra AD. The cleanup progress at Sierra AD for FY04 through FY07 is detailed below.

In FY04, the installation completed the engineering evaluation and cost analysis (EE/CA) and the munitions and explosives of concern (MEC) response action on 885 acres of the East Shore, Airfield, and North Cross Depot Access parcels. The Army transferred the property with completed response actions and the Susanville Road and the Cross Depot Access parcels. The installation drafted the EE/CA for the Honey Lake Demolition Range Dry Lake Area. The GFPR contract for all active sites began. The Army initiated the MMRP site inspection (SI).

In FY05, the installation completed a ROD for the Upper Burning Grounds, Old Popping Furnace, and Building 79 Yard. Biological enhancements were injected into the groundwater at four sites. The Army completed the Honey Lake Demolition Area EE/CA and the response action at the East Shore area, and transferred the remaining 136 acres. The pump-and-treat system and the SVE system continued operations. The Army completed the MMRP SI for all inactive sites, with the exception of the recently identified Upper Burning Grounds Area. The installation renewed its RAB charter.

In FY06, the installation constructed two corrective action management units at Hansen's Hole and the Old Popping Furnace. Sierra AD conducted enhanced dechlorination at four sites and continued SVE system operations. Sierra AD completed soil removal action at Building 79. The Army submitted a 5-year review of the DRMO site and of monitored natural attenuation at the TNT area. The Army received regulatory approval of the remedial action plan for the Honey Lake Demolition Range. The installation completed the SI for seven MMRP active sites, two of which required NFA.

In FY07, Sierra AD continued operation of the SVE system at DRMO. The installation initiated the SI for the Upper Burning Grounds. The Army completed the feasibility study (FS) for the Abandoned Landfill (ALF). A proposed plan for ALF is undergoing public comment. The installation constructed and began operation of a pilot SVE system at Building 210. The Army completed a 5-year review at the DRMO site. Sierra AD continued enhanced reductive dechlorination efforts at four sites. The installation conducted an MMRP SI at the Upper Burning Grounds Area. Two additional sites were added based on the historical records review; and Sierra AD conducted an SI at these sites.

FY08 IRP Progress

Sierra AD continued operating the SVE system at DRMO. The installation completed the ROD, and achieved remedy in place (RIP) and response complete (RC) for the ALF. Sierra AD continued operation of the SVE system and completed a draft FS for the Building 210 site. The installation placed institutional controls on the Dry Lake Area of Honey Lake and continued enhancement dechlorination at four sites.

FY08 MMRP Progress

Sierra AD conducted a munitions response to unexploded ordnance (UXO) on Upper Burning Grounds and two new sites, and completed the final SI report for these sites.

Plan of Action

Plan of action items for Sierra Army Depot are grouped below according to program category.

IRP

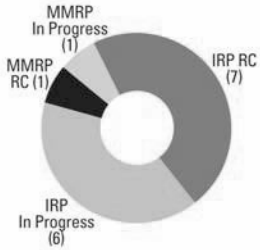
- Complete ROD for Building 210 in FY09-FY10.
- Utilize enhanced reductive dechlorination at four sites in FY09-FY10.

MMRP

- Develop a corrective measures workplan for Upper Burning Grounds, Stacy sites, and Bureau of Land Management sites in FY09.
- Perform pilot project to determine feasibility of mechanical MEC removal in FY09.
- Complete additional investigation at Upper Burning Grounds in FY09-FY10.

South Weymouth Naval Air Station

FFID:	MA117002202200	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Weymouth, Massachusetts (2,094 acres)	**Funding to Date:**	$ 55.7 million
Mission:	Provided logistical support for Reserve units and the Marine Air Reserve Training Detachment South Weymouth	**Est. CTC (Comp Year):**	$ 34.0 million (FY 2035)
		IRP Sites (Final RIP/RC):	13 (FY2012)
HRS Score:	50.00; placed on NPL in May 1994	**MMRP Sites (Final RIP/RC):**	2 (FY2008)
IAG Status:	FFA signed in November 1999	**Five-Year Review Status:**	Planned
Contaminants:	UXO, VOCs, SVOCs, hydrocarbons, industrial wastes, solvents, petroleum, acids, paints, metals, photographic chemicals, explosives and propellants	**IRP/MMRP Status Table:**	Refer to page M-6-93



Progress To Date

In July 1995, the BRAC Commission recommended closure of the South Weymouth Naval Air Station (NAS). Operations were transferred to Brunswick NAS; aircraft, personnel, and equipment were relocated. The installation was closed in September 1997. Prominent site types include landfills, underground storage tanks, a tank farm where jet fuel was stored, sewage treatment facilities, a rubble disposal area, and a firefighter training area. EPA placed the installation on the NPL in May 1994, and the installation signed a federal facility agreement (FFA) in April 2000. The installation established a technical review committee in FY92 and converted it to a Restoration Advisory Board (RAB) in FY94. In FY92, the installation established an administrative record and four information repositories, and completed its community relations plan, which was updated in August 1998. A technical assistance for public participation grant was awarded to the RAB in FY99.

Installation Restoration Program (IRP) sites have been identified at this installation. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites at this installation. The installation has completed Records of Decision (RODs) for Sites 1, 2, 3, 4, 5, 7, and 8; and Areas of Concern (AOCs) 4A, 8, 53, and 55D. The cleanup progress at South Weymouth NAS for FY04 through FY07 is detailed below.

In FY04, the Sites 2 and 4 RODs were signed, and the proposed plan (PP) was completed for Site 4. South Weymouth NAS completed the Site 2 remedial design (RD) and initiated the remedial action (RA).

In FY05, the installation continued to complete the RA at Site 2 consistent with the ROD. South Weymouth NAS collected supplemental groundwater data for Site 5 resulting in finalizing the No Further Action PP to be finalized. The installation continued remedial investigation (RI) work plan development for Sites 9, 10, and 11. The installation completed a revised reuse plan that was adopted by the local redevelopment authority and the affected communities. Sites 3 and 4 were issued corrective action demands by the State and remedial efforts began. The Navy submitted a revised draft final PP for Site 1 after the revised reuse plan was approved.

In FY06, South Weymouth NAS signed the Site 5 ROD. The installation completed the remedy at Site 2. The Navy issued the draft final feasibility study (FS) for Site 7. Additionally, the Navy began RD for Site 3 and completed the required state regulation cleanup at Site 4. The installation completed a removal action for Unexploded Ordnance (UXO) 1.

In FY07, South Weymouth NAS continued work on RIs for Sites 9 and 10. The installation finalized the PP and signed the ROD for Site 1, and finalized the FS and PP for Site 7. South Weymouth NAS continued the RD for Site 3. The installation continued development of the FS and PP for UXO 1. The Navy completed preliminary planning for a limited surface clearance.

FY08 IRP Progress

South Weymouth NAS completed RODs for Site 7 and AOCs 4A, 8, 53, and 55D. The Navy completed the draft RIs for Sites 9, 10, and 11, and continued the RD for Site 3. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed completion of the RD for Site 1, and the RI/FSs for Sites 9, 10, and 11.

The Navy held seven RAB meetings. The BRAC Cleanup Team met bimonthly to expedite closeout.

FY08 MMRP Progress

South Weymouth NAS completed the UXO surface clearance of all beaches and accessible areas.

Technical issues delayed the FS, PP, and ROD for UXO 1.

Plan of Action

Plan of action items for South Weymouth Naval Air Station are grouped below according to program category.

IRP

- Complete RD for Site 1 and RI/FSs for Sites 9, 10, and 11 in FY09.
- Complete RD for Site 3 in FY09.
- Initiate the remedy for Site 1 in FY09.

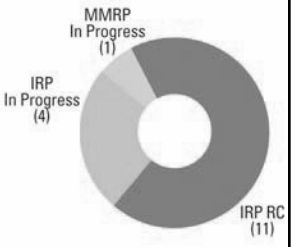
MMRP

- Complete FS, PP, and ROD for UXO 1 in FY09.
- Implement land use controls for UXO 1 in FY09.

St. Juliens Creek Annex

NPL

FFID:	VA317002758100	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Chesapeake, Virginia (490 acres)	**Funding to Date:**	$ 16.4 million
Mission:	Provide radar testing range and various administrative and warehousing facilities for the nearby Norfolk Naval Shipyard and other local Navy activities	**Est. CTC (Comp Year):**	$ 15.9 million (FY 2035)
		IRP Sites (Final RIP/RC):	15 (FY2014)
		MMRP Sites (Final RIP/RC):	1 (FY2010)
HRS Score:	50.0; placed on NPL in August 2000	**Five-Year Review Status:**	Planned
IAG Status:	FFA signed in July 2004	**IRP/MMRP Status Table:**	Refer to page M-6-169
Contaminants:	Pesticides, heavy metals, SVOCs, solvents, explosives, VOCs, propellants, radioactive materials		



Progress To Date

The St. Juliens Creek Annex has been used since 1849 for storing, loading, assembling, issuing, and receiving naval ammunition. Contamination resulted from past handling of and operations involving hazardous materials. The initial assessment study revealed low concentrations of ordnance materials throughout the installation. An administrative record was established in FY99. EPA placed the facility on the NPL in August 2000, and the Navy signed a federal facility agreement (FFA) in July 2004. The installation formed a Restoration Advisory Board in FY00 and completed a community relations plan (CRP) in FY01.

Installation Restoration Program (IRP) sites have been identified at this installation. The installation completed a Record of Decision (ROD) for Site 6 in FY03, Site 4 in FY04, and Site 3 in FY06. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at St. Juliens Creek Annex for FY04 through FY07 is detailed below.

In FY04, the installation conducted supplemental investigations for Sites 2 and 5, and a baseline ecological risk assessment (BERA) for Blows Creek. The final confirmation closeout report and construction closeout report for the Site 3 interim remedial action (IRA) were also completed. The installation completed the remedial investigation (RI), human health risk assessment (HHRA), and ecological risk assessment (ERA) for Site 2, as well as a final FFA. Additionally, the background investigation report site screening assessment (SSA) addendum for groundwater was completed. A draft Phase II expanded RI (ERI) work plan technical memorandum for Site 2 was completed, along with a supplemental site inspection (SI) technical memorandum for Sites 19 and 21. The installation also completed a final ROD and remedial decision for Site 4. The installation completed a final IRA (Phase II) work plan for Site 3 and conducted remedial actions (RAs). The installation completed a draft SSA addendum at Site 8 and Areas of Concern (AOCs) 13, 14, and K, along with a draft SI at Sites 8, 19, 21, and AOC 1. The Navy completed a draft watershed contaminated source document for the southern branch of the Elizabeth River watershed.

In FY05, the installation conducted a draft ERI for Site 2 and completed the final proposed RA plan (PRAP) and draft ROD for Site 3. It also completed the final specifications, work plan, basis of design, and construction of the soil cover for Site 4. For Site 5, the installation completed the draft final RI/HHRA/ERA and the draft engineering evaluation and cost analysis (EE/CA). The installation completed the final supplemental SI report and draft EE/CA for Site 19. The Navy awarded a contract for hot spot removal. The installation conducted the SI screening and completed a work plan for additional groundwater delineation activities at Site 21. The Navy completed the Phase II Blows Creek BERA work plan and conducted field activities. The installation finalized the watershed contaminated source document for the southern branch of the Elizabeth River watershed. The installation implemented engineering controls at various IRP sites. The Navy developed a draft updated CRP.

In FY06, St. Juliens Creek Annex completed an RA, RA completion report, groundwater monitoring plan, and land use control remedial design (RD) at Site 4. The installation completed a draft ERI for Site 2 and a final ERI for Site 5. The installation finalized a ROD for Site 3. Additionally, the Navy completed a final EE/CA, action memorandum, IRA, and construction closeout report at Site 19.

In FY07, St. Juliens Creek Annex implemented a Triad approach at Site 2 to fully delineate the contamination. The installation completed the Site 19 closeout report. The Navy completed an additional investigation at Site 21, allowing for complete delineation of the contaminated groundwater and its impact on the stormwater sewer system.

FY08 IRP Progress

St. Juliens Creek Annex completed the draft ERI report for Site 2, and the final RI report and draft feasibility study (FS) for Site 21. The Navy also completed the explosive safety submission and HHRA addendum for Site 5. The installation initiated an Environmental Security Technology Certification Program pilot study at Site 21, and a non-time-critical removal action (NTCRA) at Site 5.

Administrative issues delayed the final Site 2 ERI and FS. Technical issues delayed the Site 5 NTCRA. Regulatory concerns delayed the FS at Site 21.

FY08 MMRP Progress

The Navy identified one MMRP site, Unexploded Ordnance (UXO) 001, and contracted for a preliminary assessment.

Plan of Action

Plan of action items for St. Juliens Creek Annex are grouped below according to program category.

IRP

- Complete ERI, FS, and PRAP for Site 2 in FY09.
- Complete FS, PRAP, and interim ROD for Site 21 in FY09.
- Complete IRA and NTCRA for Site 5 in FY09.
- Complete a 5-year review in FY10.
- Complete RODs for Sites 2 and 5, PRAP for Site 5, and RD for Site 21 in FY10.

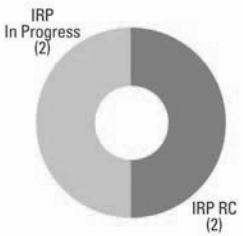
MMRP

- Complete UXO 001 PA in FY09.
- Complete UXO 001 SI in FY10.

Stratford Army Engine Plant

BRAC 1995

FFID:	CT121382292400	**Funding to Date:**	$ 18.6 million
Location (Size):	Stratford, Connecticut (77 acres)	**Est. CTC (Comp Year):**	$ 29.4 million (FY 2020)
Mission:	Manufactured engines for heavy armor vehicles and rotary wing aircraft	**IRP Sites (Final RIP/RC):**	4 (FY2020)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	A 5-year review is not required for this installation.
Contaminants:	PCBs, asbestos, fuel-related VOCs, solvents, metals, PAHs, SVOCs	**IRP/MMRP Status Table:**	Refer to page M-6-49
Media Affected:	Groundwater, Sediment, Soil		



Progress To Date

Prior to its closure in September 1998, Stratford Army Engine Plant manufactured engines. Since FY91, environmental studies at the installation have identified the following sites: transformers that contain polychlorinated biphenyls (PCBs), underground storage tanks (USTs), sludge lagoons, a fire training and explosives equipment testing area, hazardous materials and hazardous waste storage areas, and buildings constructed with asbestos-containing materials. Studies show that contaminants include PCBs, fuel-related volatile organic compounds (VOCs), solvents, metals, polyaromatic hydrocarbons (PAHs), and asbestos. Interim actions at the installation have included removal of 27 USTs, capping of 3 sludge lagoons, and removal of chromium-contaminated soil. In July 1995, the BRAC Commission recommended closure of the Stratford Army Engine Plant. In FY96, the installation formed a BRAC cleanup team and a Restoration Advisory Board. The community formed a local redevelopment authority to address socioeconomic issues related to closure of the installation and to develop a land reuse plan. The installation drafted a BRAC cleanup plan and updated the plan in FY97 and FY99. In FY98, the Army initiated the process for terminating the Nuclear Regulatory Commission license by preparing decommissioning plans and conducting radiological surveys. The Army completed decommissioning in FY99. The installation implemented a community relations plan, which included the establishment of an on-site public information repository.

The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents in FY02; no Military Munitions Response Sites (MMRP) were found. The cleanup progress at Stratford Army Engine Plant for FY04 through FY07 is detailed below.

In FY04, the installation completed the remedial investigation (RI) sampling and submitted the final RI to regulators. The installation initiated compliance sampling of subsurface soil gas. Additionally, the installation drafted a feasibility study (FS).

In FY05, the installation submitted the draft FS and proposed plan (PP). The PP outlined the preferred remedial alternatives to address the unacceptable risks associated with soil, soil vapor, and groundwater.

In FY06, the installation addressed comments from regulators on the FS and PP. The installation also addressed regulatory concerns regarding the ecological risk assessment within the RI.

In FY07, Stratford Army Engine Plant continued the process of transitioning to private ownership.

FY08 IRP Progress

Stratford Army Engine Plant continued the transfer process to private ownership. The installation updated and reapplied for the Coastal Zone Management Act determination and completed a full property survey.

FY08 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Stratford Army Engine Plant are grouped below according to program category.

IRP

- Complete RI, FS, PP, and Record of Decision in FY09.

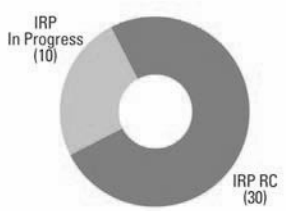
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Tinker Air Force Base
Soldier Creek and Building 3001

NPL/BRAC 2005 Realignment

FFID:	OK657172439100	**Est. CTC (Comp Year):**	$ 55.6 million (FY 2023)
Location (Size):	Oklahoma City, Oklahoma (5,041 acres)	**IRP Sites (Final RIP/RC):**	40 (FY2008)
Mission:	Repair aircraft, weapons, and engines	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	42.24; placed on NPL in July 1987	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in December 1988	**IRP/MMRP Status Table:**	Refer to page M-6-129
Contaminants:	Organic solvents, heavy metals, petroleum, VOCs, SVOCs		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		
Funding to Date:	$ 217.2 million		



Progress To Date

The mission of Tinker Air Force Base (AFB) is to repair aircraft, weapons, and engines. EPA placed the installation on the NPL in July 1987, and the Air Force signed a federal facility agreement (FFA) in December 1988. The NPL designation consists of the Building 3001 and Soldier Creek sites. In 2005, the BRAC Commission recommended Tinker AFB for realignment. Environmental studies at Tinker AFB revealed a 220-acre contaminant plume in the upper aquifer at Soldier Creek and Building 3001. Additional sites at Tinker AFB include landfills, underground storage tanks (USTs), waste pits, fire training areas, spill sites, and low-level radioactive waste sites. The installation formed a Restoration Advisory Board in FY94. Tinker AFB completed 5-year reviews in FY99, FY03, and FY07.

To date, Records of Decision (RODs) have been signed for Building 3001 and Soldier Creek. In FY05, the Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. The installation has implemented numerous interim actions, including removal of contaminated soil and USTs, and installation of landfill caps, free-product recovery systems, bioventing systems, a biostripping system, and a solidification and stabilization system.The cleanup progress for Tinker AFB for FY04 through FY07 is detailed below.

In FY04, the installation achieved site closeout status for the Soldier Creek Sediment and Surface Water Operable Unit (OU) (Site OT 02/OU 2). A deep permeable reactive barrier was installed to further protect the neighborhood near Site CG 38 (Southwest Groundwater Management Unit). The decision document (DD) was completed and remedy in place (RIP) was achieved for the Industrial Water Treatment Plant Soils Site (Site OT 34).

In FY05, Tinker AFB completed the DD and achieved RIP and response complete (RC) status for Site ST 08 (four fuel sites). The installation also achieved RIP for Site CG 38. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory update.

In FY06, Tinker AFB completed the study phases and DDs, and achieved RIP for the East Groundwater Management Unit (Site CG 39) and the Gator Facility Groundwater Management Unit (Site CG 40).

In FY07, Tinker AFB signed the Solider Creek Off-base Groundwater OT 05/OU 3 ROD and completed the third 5-year review for Building 3001 and Solider Creek. The Air Force initiated an MMRP comprehensive site evaluation (CSE) Phase I at this installation.

FY08 IRP Progress

Tinker AFB completed a corrective measures study and DD for Industrial Waste Pit 1 (Site WP 18). The installation completed all remaining study phases and DDs to achieve final RIP status at all 40 IRP sites. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

The installation completed the CSE Phase I and no MMRP sites were identified.

Plan of Action

Plan of action items for Tinker Air Force Base are grouped below according to program category.

IRP

- Continue operating and maintaining active recovery systems in FY09.
- Continue sampling and analyzing natural attenuation sites in FY09.
- Update Building 3001 contaminant plume status and risk assessment for amended ROD in FY09-FY10.

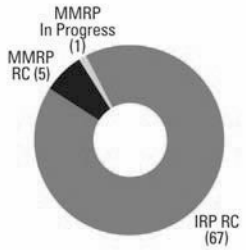
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Tobyhanna Army Depot

NPL/BRAC 2005 Realignment

FFID:	PA321382089200	**Funding to Date:**	$ 16.6 million
Location (Size):	Tobyhanna, Pennsylvania (1,296 acres)	**Est. CTC (Comp Year):**	$ 3.0 million (FY 2012)
Mission:	Provide logistics for communications and electronics equipment	**IRP Sites (Final RIP/RC):**	67 (FY2005)
HRS Score:	37.93; placed on NPL in August 1990	**MMRP Sites (Final RIP/RC):**	6 (FY2012)
IAG Status:	IAG signed in September 1990	**Five-Year Review Status:**	Completed and planned
Contaminants:	Heavy metals, solvents, VOCs, PCBs, POLs, UXO	**IRP/MMRP Status Table:**	Refer to page M-7-36
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Tobyhanna Army Depot (AD) provides support for communications and electronics equipment. Environmental studies at Tobyhanna AD began in FY80. Identified sites include landfills, a disposal pit, underground storage tanks, burn areas, drum staging areas, a surface disposal area, a waste treatment plant, a spill site area, an unexploded ordnance (UXO) area, and a fire fighting training area. The most prominent sites are the burn areas and a drum staging area, which constitute Operable Unit (OU) 1. Contamination at these sites included volatile organic compounds (VOCs), solvents, and heavy metals in groundwater; solvents, metals, polychlorinated biphenyls (PCBs), and petroleum/oil/lubricants (POLs) in surface water and sediment; and solvents, metals, PCBs, POLs, and UXO in soil. EPA placed the installation on the NPL in August 1990. An interagency agreement (IAG) was signed in September 1990 during all five BRAC rounds; the installation was designated for realignment in 2005. During FY95, the installation formed a Restoration Advisory Board, followed by a new community relations plan in FY98. In FY99, the installation completed a closeout document for 18 no further action sites. The Army completed 5-year reviews in FY02 and FY07.

Environmental studies have identified 65 areas of concern (AOCs) covering the entire installation; EPA partially delisted 62 of the AOCs from the NPL in FY01. The installation has completed six total Records of Decision, including five in FY00. In FY02, the Army completed the closed, transferred, and transferring ranges and sites inventory; Military Munitions Response Program (MMRP) sites were found. The cleanup progress at Tobyhanna AD from FY04 through FY07 is detailed below.

In FY04, the installation continued groundwater monitoring at OUs 1 and 5. The installation maintained the UXO fence and warning signs. The Army performed the site inspection (SI) fieldwork for all eligible MMRP sites.

In FY05, the installation continued groundwater monitoring at OUs 1 and 5. The Army issued the final SI MMRP report. The installation repaired the existing UXO fence at OU 4 and fenced an additional 45 acres based on the recommendations in the SI report. The Army continued to control access to OU 4.

In FY06, the Army continued groundwater monitoring at OUs 1 and 5. The installation maintained the UXO fence and warning signs and continued to control access at OU 4.

In FY07, Tobyhanna AD completed a 5-year review and continued groundwater monitoring at OUs 1 and 5. The installation maintained the UXO fence and warning signs and continued to control access at OU 4.

FY08 IRP Progress

Technical issues delayed continuing groundwater monitoring at OUs 1, 5, and the U Area. The cost of completing environmental restoration has changed significantly due to technical issues.

FY08 MMRP Progress

Tobyhanna AD maintained the UXO fence and warning signs and continued to control access at OU 4. The installation initiated a UXO removal action on 29 acres to support BRAC 2005 realignment.

Plan of Action

Plan of action items for Tobyhanna Army Depot are grouped below according to program category.

IRP

- Continue groundwater monitoring at OUs 1, 5, and U Area in FY09-FY10.
- Initiate vapor intrusion sampling in FY09-FY10.

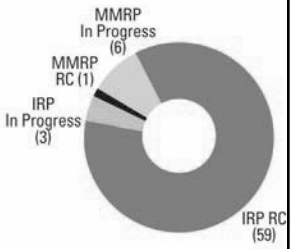
MMRP

- Continue UXO removal action to support BRAC 2005 realignment in FY09.
- Maintain UXO fence and warning signs and continue to control access at OU 4 in FY09-FY10.
- Initiate UXO removal action and remedial investigation at MMRP site to support main gate expansion project in FY09-FY10.

Tooele Army Depot

NPL/BRAC 1993

FFID:	UT821382089400	**Funding to Date:**	$ 121.2 million
Location (Size):	Tooele, Utah (24,732 acres)	**Est. CTC (Comp Year):**	$ 52.6 million (FY 2016)
Mission:	Store and demilitarize munitions	**IRP Sites (Final RIP/RC):**	62 (FY2010)
HRS Score:	53.95; placed on NPL in August 1990	**MMRP Sites (Final RIP/RC):**	7 (FY2016)
IAG Status:	FFA signed in September 1991	**Five-Year Review Status:**	Completed
Contaminants:	Metals, VOCs, SVOCs, propellants, explosives, petroleum hydrocarbons, PCBs, solvents	**IRP/MMRP Status Table:**	Refer to page M-6-162
Media Affected:	Groundwater and Soil		



Progress To Date

EPA placed Tooele Army Depot (AD) on the NPL in August 1990. The Army and EPA signed a federal facility agreement (FFA) in September 1991. The CERCLA FFA and a RCRA corrective action permit currently regulate Tooele AD's environmental restoration program. In 1993, the BRAC Commission recommended realignment of the Tooele AD maintenance missions with the installation retaining its conventional ammunition storage and demilitarization mission. Identified sites at Tooele AD include open burning and open detonation areas, ammunition demilitarization facilities, landfills, firing ranges, industrial sites, underground storage tanks, surface impoundments, and drain fields. Organic solvents and metals are the primary site contaminants. During FY94, the installation formed a BRAC cleanup team and a Restoration Advisory Board. The installation conducted a 5-year review for all sites in FY02.

To date, the Army has completed four Records of Decision (RODs) that address seven operable units (OUs). The installation transferred 41 acres to the Tooele City Redevelopment Agency in FY96 and the remaining excess BRAC property (1,663 acres) in FY99. The Army retained 23,610 acres for the conventional ammunition mission. Since FY03, the Army has identified six Military Munitions Response Program (MMRP) sites within the active portion of this installation through an inventory of operational, closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The inventory identified five . Cleanup progress at Tooele AD for FY04 through FY07 is detailed below.

In FY04, the installation signed decision documents and initiated corrective measures at three sites. The Army signed a ROD for OU 8 and initiated remedial action at Sites 6 (Old Burn Area) and 8 (Small Arms Firing Range). The installation initiated an alternative measure evaluation of groundwater treatment technologies for Solid Waste Management Unit (SWMU) 2 (Industrial Waste Lagoon), and began field activities for the Phase II groundwater and vadose investigation of SWMU 58 (the BRAC industrial area and impacted off-site property). The Army implemented a groundwater management area monitoring program as an interim action for off-site groundwater contamination originating from the BRAC industrial area.

In FY05, the installation consolidated and capped lead-contaminated soil at the former Bomb Washout Facility, SWMU 42, completing corrective measures at the site. The installation completed corrective measures consisting of soil and vegetation improvements at the former Sanitary Landfill, SWMUs 12 and 15. The installation completed planned soil stabilization and solidification of lead-contaminated soil at the former Small Arms Firing Range. Additionally, the installation continued the evaluation of alternative corrective measures for management of groundwater contamination at the former Industrial Waste Lagoon, SWMU 2, and the investigation of groundwater contamination and source areas at SWMU 58.

In FY06, the installation continued data collection to support an alternative corrective measure at SWMU 2, along with additional characterization of groundwater contaminant source areas located on SWMU 58. The installation completed an evaluation of alternative remedies for addressing lead-contamiated soil at SWMU 6 and submitted the proposed alternative remedy for regulatory review. The installation completed a historical records review and prepared a project work plan for conducting a site inspection (SI) of identified MMRP sites.

In FY07, Tooele AD completed site recharacterization and reevaluation of the proposed corrective measures at SWMU 56 and received regulatory approval. The installation completed required fieldwork for the evaluation of alternative corrective measures for groundwater at SWMU 2. The Army completed field activities as required by the RCRA facility investigation at SWMU 58. The installation completed construction of the soil composting facilities and initiated the treatment process for explosive contaminated soil at SWMU 10. The installation completed MMRP SI field activities for identified MMRP sites. A draft SI report of findings was prepared and presented to the program stakeholders for review and comment.

FY08 IRP Progress

Tooele AD signed the ROD for OU 9, implemented corrective measures at SWMU 56, and gained approval of the site completion report. The Army completed site characterization and initiated evaluations of potential corrective measures at SWMU 58. Tooele AD continued operation of the soil composting process at SWMU 10 and completed interim actions at SWMU 23 (OU 9).

Technical issues delayed implementing an alternative remedy at SWMU 6 and delayed proposing alternative corrective measures for SWMU 2.

FY08 MMRP Progress

Tooele AD finalized the SI report of findings and obtained stakeholder approval. The installation moved SWMU 6 from the Installation Restoration Program (IRP) to the MMRP to address munitions and explosives of concern and soil contamination concurrently.

Plan of Action

Plan of action items for Tooele Army Depot are grouped below according to program category.

IRP

- Complete composting process at SWMU 10 in FY09.
- Propose and implement source area corrective measures at SWMU 58 in FY09.
- Propose and implement corrective measures for groundwater contamination at SWMUs 2 and 58 in FY09-FY10.

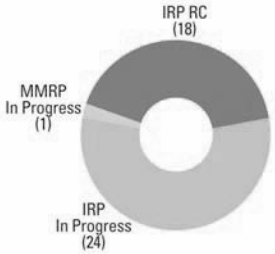
MMRP

- Complete interim removal action at the Old Burn Area (formerly SWMU 6) in FY09-FY10.

Travis Air Force Base

NPL

FFID:	CA957182457500	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Solano County, California (6,383 acres)	**Funding to Date:**	$ 108.6 million
Mission:	Provide air refueling and strategic airlift services	**Est. CTC (Comp Year):**	$ 45.7 million (FY 2036)
HRS Score:	29.49; placed on NPL in November 1989	**IRP Sites (Final RIP/RC):**	42 (FY2011)
IAG Status:	FFA signed in September 1990; amended May 1993, October 1995, July 1996, November 1997, July 1998, December 2003, February 2005	**MMRP Sites (Final RIP/RC):**	1 (FY2015)
		Five-Year Review Status:	Completed and planned
Contaminants:	VOCs, heavy metals, POLs, PAHs, SVOCs, TCE, solvents, pesticides, PCBs, BTEX	**IRP/MMRP Status Table:**	Refer to page M-6-31



Progress To Date

Travis Air Force Base (AFB) was established in 1943. Historical activities at the installation resulted in the release of metals, pesticides, fuels, solvents, and petroleum/oils/lubricants (POLs), which have migrated into the soil, sediment, surface water, and groundwater. Contaminated sites include old landfills, a closed sewage treatment plant, four fire training areas, disposal pits (DP), spill areas, a storm sewage drainage system, a pesticide disposal site, and a low-level radioactive waste burial site. Interim actions at the installation have included the removal of 27 underground storage tanks and the installation of groundwater treatment systems to address the primary groundwater chemical of concern, trichloroethylene (TCE). EPA placed the installation on the NPL in November 1989. The installation signed a federal facility agreement (FFA) in September 1990, which was last amended in February 2005. In FY95, the installation formed a Restoration Advisory Board (RAB). The installation received technical assistance for public participation funding in FY99. Travis AFB completed 5-year reviews in FY03 and FY08.

To facilitate remedial investigations, the installation was initially divided into four operable units (OUs), which were later consolidated by similar contaminants into two OUs. To date, interim Records of Decision (RODs) have been signed for groundwater in the North, East, and West Industrial OU (NEWIOU) and for soil and groundwater in the West/Annexes/Basewide OU. The cleanup progress at Travis AFB for FY04 through FY07 is detailed below.

In FY04, the installation developed a pre-draft NEWIOU soil, sediment, and surface water ROD for coordination with Headquarter's Air Mobility Command/Air Staff and completed one of 12 planned remedial designs (RDs) for soil sites in the NEWIOU. The installation completed an interim remedial action (RA) at one site, installing conveyance piping and solar power to two extraction wells, and began the installation of three new extraction wells at Site FT004 to enhance removal of TCE.

In FY05, Travis AFB completed the risk assessment process for the NEWIOU sites and issued the draft NEWIOU soil, sediment, and surface water ROD. The installation completed a draft final RD at one NEWIOU soil site and awarded a contract for RAs at five NEWIOU soil sites (SD 001, FT 003, FT 005, LF 007, and SD 033). Clean soil from on-site construction projects was stockpiled to use as clean backfill at excavated sites. The installation held a response to comments meeting to discuss regulatory agency comments on the draft NEWIOU soil, sediment and surface water ROD, and developed a revised draft document. The Air Force began the preliminary assessment (PA) for the identified Military Munitions Response Program (MMRP) site. A public tour of on-base sites was held during the summer and the RAB voted to meet semiannually based on the installation's cleanup progress.

In FY06, Travis AFB finalized and issued the NEWIOU soil, sediment, and surface water ROD with agreement from the regulatory agencies on the selected remedies for 18 sites. The installation awarded the RA contract for soil at Sites FT 004 and SD 045. The Air Force installed a new dual phase extraction well at the DP 039 source area and three additional monitoring wells downgradient in the plume. Additionally, the installation performed repairs on the corrective action management unit to demonstrate the capability for on-site storage of soil from Installation Restoration Program (IRP) sites. The installation completed the engineered tree planting study at DP 039. The installation completed the PA at the identified MMRP site. The installation continued to hold two partnering meetings per month and provided a tour to 10 members of the California Regional Water Quality Control Board.

In FY07, Travis AFB developed the remaining soil remedial designs, quality program plans, and RA workplans. The installation completed soil RAs at SD 045, removing over 4,400 cubic yards of contaminated soil and restoring the site to residential cleanup levels. The base began soil RAs at FTs 003 and 004. The Air Force held discussions with regulatory agencies to focus on anticipated groundwater site status and expected efforts to achieve remedy in place (RIP) at all sites. The installation began developing a statement of objectives for a performance-based contract (PBC) that will bring the remaining 19 groundwater sites to RIP. Travis AFB finalized an MMRP comprehensive site evaluation (CSE) Phase I.

FY08 IRP Progress

Travis AFB continued RA operation and monitoring efforts for groundwater and initiated the basewide groundwater ROD. The installation performed rebound studies on the Central and North Groundwater Treatment Plants to determine optimization opportunities. The Air Force developed and received regulatory approval on a North Groundwater Treatment Plant Optimization Technical Memorandum. The installation completed RAs and an RA report for Sites FT 003, FT 004, LF 007, and SD 045. Travis AFB achieved RIP at Sites FT 003, SD 045, and ST 028. Travis AFB completed a second basewide 5-year review. The installation also deposited and capped 22,000 cubic yards of contaminated soil from Sites SD 045, FT 003, FT 004, and LF 007, reducing mobilization, transportation, and off-base disposal costs. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed the basewide groundwater ROD. Contractual issues delayed completion of RAs at Sites SD 001, FT 005, and SD 033.

FY08 MMRP Progress

Administrative issues delayed initiating the CSE Phase II for the identified MMRP site.

Plan of Action

Plan of action items for Travis Air Force Base are grouped below according to program category.

IRP

- Complete RAs at Sites SD 001 and SD 033 in FY09.
- Finalize basewide groundwater ROD in FY10.

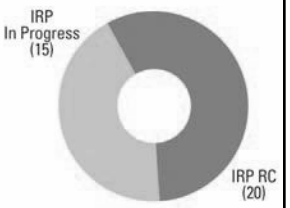
MMRP

- Complete CSE Phase II in FY09.

Treasure Island Naval Station

BRAC 1993

FFID:	CA917002333000	**Funding to Date:**	$ 142.4 million
Location (Size):	Treasure Island, California (1,075 acres)	**Est. CTC (Comp Year):**	$ 30.7 million (FY 2013)
Mission:	Provide services and materials to support units of operating forces and shore activities	**IRP Sites (Final RIP/RC):**	35 (FY2013)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFSRA signed in September 1992	**Five-Year Review Status:**	A 5-year review is not required for this installation.
Contaminants:	Petroleum hydrocarbons, VOCs, SVOCs, chlorinated solvents, metals, pesticides, PCBs, explosives, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-27
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

In July 1993, the BRAC Commission recommended closure of Treasure Island Naval Station (NS) with relocation of the Naval Reserve Center and the Naval Technical Training Center. Operational closure was completed in September 1997. Contamination is largely the result of migration of petroleum products from fueling operation areas and disposal of waste materials. Sites include former fire training areas, a landfill, a former dry cleaning facility, an old bunker area, fuel farms, a service station, and a waterline replacement area. The installation signed a federal facility site remediation agreement (FFSRA) in September 1992. In FY92, the installation established two information repositories and an administrative record, and completed a community relations plan (CRP), which was updated in FY02 and FY08. The technical review committee was converted to a Restoration Advisory Board (RAB) in FY94. The RAB received a technical assistance for public participation grant in FY99 for review of a remedial investigation (RI).

The installation has signed three Records of Decision (RODs) for Sites 9, 10, and 13. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Treasure Island NS for FY04 through FY07 is detailed below.

In FY04, the installation achieved the remedy in place (RIP) milestone for all petroleum sites, except for two sites on Yerba Buena Island, (YF3 and USCG) delayed by a state bridge construction project. The Navy initiated a historical radiological assessment (HRA). Naval Sites 32 (Former Training Area) and 33 (Waterline Replacement Area) were added to the Installation Restoration Program (IRP).

In FY05, Treasure Island NS completed regulatory concurrence for no further action (NFA) at four petroleum sites. The Navy completed the RI reports for Sites 9, 10, and 30. The installation signed an NFA ROD for Site 13 off-shore sediments. The installation also installed a groundwater pilot study for in situ bioremediation at Site 21 and completed a groundwater investigation at Site 33.

In FY06, Treasure Island NS obtained regulatory concurrence for closure of Petroleum Pipeline D 1B groundwater, and IR Site 7. The Navy completed No Action (NA) Proposed Plans (PPs) for Sites 9 and 10. The basewide HRA was completed and a radiological survey in Building 233 was conducted. The installation also completed the supplemental Environmental Baseline Survey, and signed findings of suitability to transfer for Treasure Island and Yerba Buena Island.

In FY07, Treasure Island NS completed the Site 21 RI report, and the feasibility studies (FSs) for Sites 30 and 31. The installation completed the screening level ecological risk assessment. The Navy completed the Site 12 engineering evaluation and cost analysis and action memorandum. Treasure Island NS signed NA RODs for Sites 9 and 10.

FY08 IRP Progress

Treasure Island NS completed a combined RI/focused FS for Site 24. The installation also completed an RI report for Site 32. The Navy completed PPs for Sites 30 and 31. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed closure of Petroleum Sites 6 and 25. Regulatory issues also delayed concurrence with final radiological status surveys for Buildings 343 and 344. Technical issues delayed the final radiological status surveys for Building 233 and the building's associated sanitary sewer drain system. Technical issues delayed the FSs for Sites 21, 27, and 32, and the Site 12 groundwater pilot study. Technical issues also delayed the Site 12 groundwater pilot study and solid waste disposal area soil removal action.

Treasure Island NS updated the CRP.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Treasure Island Naval Station are grouped below according to program category.

IRP

- Obtain regulatory closure for Petroleum Site 25 in FY09.
- Complete and obtain regulatory concurrence with final radiological status surveys for Buildings 343 and 344, and radiological fieldwork for the sewer drain systems associated with Building 233 in FY09.
- Complete FSs for Sites 21, and 27 in FY09.
- Initiate Toxics Substance Control Act PCB soil abatement at Site 32 in FY09.
- Complete RI reports for Sites 8, 11, 28, 29, and 33 in FY09.
- Sign RODs for Sites 30 and 31, and initiate RD/RA at Site 31 in FY09.

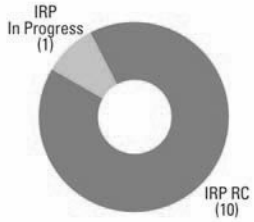
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Trenton Naval Air Warfare Center Aircraft Division

BRAC 1993

FFID:	NJ217002269500	**Est. CTC (Comp Year):**	$ 19.1 million (FY 2037)
Location (Size):	Trenton, New Jersey (529 acres)	**IRP Sites (Final RIP/RC):**	11 (FY2000)
Mission:	Test engine systems and components	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	N/A	**Five-Year Review Status:**	Completed, underway, and planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-6-110
Contaminants:	Freon, mercury, solvents, fuels, VOCs, SVOCs, metals, TCE		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 27.1 million		



Progress To Date

In July 1993, the BRAC Commission recommended closure of Trenton Naval Air Warfare Center (NAWC) Aircraft Division. Operations were transferred to the Arnold Engineering Development Center and the Patuxent River Naval Air Station in December 1998, which was the date of operational closure. Contamination at the installation resulted from various fuels used to operate engines during tests and from trichloroethylene (TCE), ethylene glycol, and freon used to cool the air entering the engines. Residues of fuels and solvents were detected in the groundwater and soil. Site types include underground storage tanks, disposal areas, and spill sites. A technical review committee was formed in FY91 and converted to a Restoration Advisory Board in FY93, which was formally disbanded in FY01. In FY04, the installation completed a 5-year review.

Installation Restoration Program (IRP) sites have been identified at this installation. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Trenton NAWC Aircraft Division for FY04 through FY07 is detailed below.

In FY04, operation and maintenance (O&M) of the groundwater treatment system continued, and the installation completed a 5-year review of the remedy.

In FY05, O&M of the groundwater treatment system continued, and the installation conducted a biennial review per state regulations. A work plan for a bioaugmentation pilot study for groundwater was completed and fieldwork began.

In FY06, Trenton NAWC Aircraft Division continued O&M of the groundwater treatment system.

In FY07, Trenton NAWC completed the bioaugmentation pilot study and report. The installation continued O&M of the groundwater treatment system. The Navy also completed the state biennial certification.

FY08 IRP Progress

Trenton NAWC continued O&M and conducted an optimization study of the groundwater treatment system; the Navy performed a bioaugmentation injection at the site. The installation initiated a second 5-year review, and submitted a draft plan to regulators to ensure relocation of the treatment plant and extraction wells met regulatory requirements.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Trenton Naval Air Warfare Center Aircraft Division are grouped below according to program category.

IRP

- Prepare a 5-year review in FY09.
- Continue O&M of groundwater treatment system in FY09-FY10.
- Complete the state biennial certification in FY10.

MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Tucson International Airport

NPL

FFID:	AZ957282593400	**Est. CTC (Comp Year):**	$ 3.7 million (FY 2017)
Location (Size):	Tucson, Arizona (84 acres)	**IRP Sites (Final RIP/RC):**	8 (FY1997)
Mission:	Provide Air National Guard training	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	57.86; placed on NPL in September 1983	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	FFA signed in October 1994	**IRP/MMRP Status Table:**	Refer to page M-7-4
Contaminants:	POLs, petroleum hydrocarbons, TCE, chromium, PCE		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 18.4 million		

Progress To Date

The Air National Guard (ANG) base at the Tucson International Airport (IAP) provides fighter pilot training and is home to the 162nd Fighter Wing. The installation is part of the Tucson International Airport Area (TIAA), which EPA placed on the NPL in September 1983. In addition to the ANG base, the TIAA (covering approximately 10 square miles) includes Air Force Plant (AFP) 44, airport property owned by the City of Tucson (and managed by the Tucson Airport Authority), adjacent Indian reservation property, and several residential areas in Tucson and South Tucson. The National Guard Bureau signed a federal facility agreement (FFA) covering the 84-acre ANG base in October 1994. Only restoration activities for this installation and AFP 44 activities are funded through the Environmental Restoration Account. Sites identified at this installation include fire training areas, solvent dumping areas, storm drainage discharge areas, the old wash rack area, petroleum/oil/lubricant (POL) areas, and spill areas. Waste disposal and spill sites have had the greatest effect on the environment. The principal contaminant is trichloroethylene (TCE) in groundwater. Tetrachloroethylene (PCE) and chromium also have affected groundwater to a lesser extent, and total petroleum hydrocarbons have been detected in soil at the installation. A Restoration Advisory Board was formed in FY95. To aid in environmental cleanup, the installation has established successful partnerships with citizens and regulators through the Unified Community Advisory Board (UCAB). In FY03, a 5-year review was completed.

To date, one Record of Decision has been completed for contaminated cleanup. The Air Force updated its Military Munitions Response Program (MMRP) inventory in FY05. The cleanup progress at Tucson IAP ANG Base for FY04 through FY07 is detailed below.

In FY04, the installation continued partnering with EPA Region 9 and the Arizona Department of Environmental Quality (ADEQ) and participated in the UCAB. Operation of the groundwater extraction and treatment system continued.

In FY05, Tucson IAP ANG Base continued operating the groundwater extraction treatment and recharge system (GWETRS). The installation continued partnering with EPA and ADEQ and participated in the UCAB. The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory.

In FY06, Tucson IAP ANG Base continued operating the GWETRS and made adjustments to enhance the system's operation. EPA and ADEQ concurred that the system is effectively containing contamination and preventing its spread beyond the installation's property line. The Air Force maintained its Defense and State Memorandum of Agreement partnership with ADEQ and partnered with the Air Force Center for Environmental Excellence (AFCEE) Regional Environmental Office (REO) to facilitate relations between Tucson IAP ANG Base and the regulators. The installation continued participation in UCAB and has agreed to reduce UCAB meetings from bimonthly to quarterly.

In FY07, Tucson IAP ANG Base continued operating the GWETRS and continued partnering with EPA and ADEQ. The installation partnered with the AFCEE REO in pursuit of a West Plume B source. Three additional monitoring well-pairs were installed and sampled at the northwest edge of the TCE plume. Tucson IAP ANG Base participated in UCAB and Tech Exchange meetings.

FY08 IRP Progress

Tucson IAP ANG Base awarded a performance-based remedial action operation project. The Air Force conducted basewide groundwater modeling and installed additional monitoring wells along the western edge of the plume. The installation continued operation of GWETRS system and replaced the groundwater treatment system air strippers. The Air Force continued to partner with EPA Region 9, ADEQ, and the UCAB. Tucson IAP ANG Base conducted a remedial process optimization (RPO) visit and issued a final RPO report. The cost of completing environmental restoration has changed significantly due to technical issues.

Tucson IAP ANG Base re-designed and updated the Installation Restoration Program (IRP) Web site for public affairs.

FY08 MMRP Progress

Tucson IAP ANG Base conducted a historical records review.

Plan of Action

Plan of action items for Tucson International Airport are grouped below according to program category.

IRP

- Conduct a second 5-year review in FY09.
- Expand GWETRS system, as required, in FY09-FY10.
- Install new groundwater monitoring wells and abandon old groundwater monitoring wells in FY09-FY10.
- Install injection wells and perform in situ chemical injection pilot test in FY09-FY10.

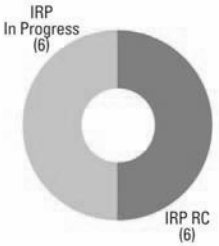
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Tustin Marine Corps Air Station

BRAC 1991

FFID:	CA917302478300	**Funding to Date:**	$ 67.9 million
Location (Size):	Tustin, California (1,603 acres)	**Est. CTC (Comp Year):**	$ 26.6 million (FY 2041)
Mission:	Supported operations of the Third Marine Aircraft Wing	**IRP Sites (Final RIP/RC):**	12 (FY2012)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in August 1999	**Five-Year Review Status:**	Completed and planned
Contaminants:	MTBE, petroleum hydrocarbons, pentachlorophenol, naphthalene, BTEX, TCP, SVOCs, metals, dichloroethane, dichloroethene, TCE, VOCs	**IRP/MMRP Status Table:**	Refer to page M-6-28
Media Affected:	Groundwater and Soil		



Progress To Date

In July 1991, the BRAC Commission recommended closure of Tustin Marine Corps Air Station (MCAS) with retention of the family housing and related personnel facilities to support El Toro MCAS. In FY93, El Toro MCAS was recommended for closure, which included those support facilities retained at Tustin MCAS. A Restoration Advisory Board and a BRAC cleanup team were formed in FY94. The Navy regularly updates two administrative records and two information repositories. The installation signed a federal facility site remediation agreement (FFSRA) in FY99 and issued a draft CERFA final Basewide Environmental Baseline Survey (EBS) in FY01. The FY01 Basewide EBS supplements the previous MCAS Tustin EBS for CERFA Report. Tustin MCAS finalized a 5-year review at Operable Unit (OU) 3 in FY07.

Since FY85, studies have identified Installation Restoration Program (IRP) sites at the installation. To date, the installation has signed five Records of Decision (RODs) and transferred over 1,300 acres of property. In FY02, the Navy identified no Military Munitions Response Program (MMRP) sites at this installation. The cleanup progress at Tustin MCAS for FY04 through FY07 is detailed below.

In FY04, Tustin MCAS obtained operating properly and successfully (OP&S) concurrence for the Moffet Trenches Landfill and OU 3. The installation also completed additional soil removal and treatment system enhancements at the underground storage tank (UST) site (UST 222) methyl tertiary-butyl ether (MTBE) site. In addition, the installation continued development of the OU 1B remedial design (RD), completed the petroleum corrective action at Site ST 16A/B, and initiated the removal action at the arsenic areas of concern (AOC) site. The Navy issued a draft RD for OU 1.

In FY05, Tustin MCAS completed a time-critical removal action for OU 1A and completed the OU 1A final ROD and remedial action plan (RAP). The installation completed selected soil removal activities associated with the OU 1A remedial action (RA). The Navy issued the final ROD and RAP for OU 1B and completed a work plan and field activities. Long-term management (LTM) continued at OU 3. The installation issued a final No Further Action ROD and RAP for OU 4A. The installation issued a draft feasibility study (FS) for OU 4B. The installation finalized the closure report for the arsenic AOC. Tustin MCAS developed and obtained concurrence from California Regional Water Quality Control Board of closure criteria for the MTBE plume groundwater site (UST 222) The installation closed the last AOC in the compliance program.

In FY06, Tustin MCAS initiated a 5-year review at OU 3 and for the continued LTM phase of a landfill cap. In addition, the installation completed all soil removal activities at OUs 1A and 1B. The Navy continued the remediation of the MTBE plume (UST 222) under an interim petroleum corrective action plan (PCAP), and developed a tiered closure criteria for the MTBE groundwater site.

In FY07, Tustin MCAS completed the RD/RA work plan and initiated field activities for groundwater RA at OUs 1A and 1B. The installation finalized a 5-year review and continued LTM at OU 3. The Navy completed and implemented a final supplemental investigation work plan to conduct additional groundwater and soil sampling at OU 4B Sites. Tustin MCAS began revising the revised draft OU 4B FS, which included the supplemental investigation data. The installation continued remediation of the MTBE plume. Tustin MCAS completed the finding of suitability for early transfer of approximately 4.8 acres of property. The Navy completed a final PCAP report for the MTBE plume (UST 222).

FY08 IRP Progress

Tustin MCAS continued groundwater site remediation at MTB Plume (UST 222) and LTM activities at OU 3. The Navy implemented the final PCAP for the MTBE groundwater site (UST 222). Since the selected remedies in the final RODs and RAPs are technically equivalent, the installation completed the RA implementation for OU 1A in conjunction with OU 1B. The Navy initiated the North Treatment System and ongoing operation and maintenance (O&M) activities at OUs 1A and 1B. Tustin MCAS finalized a technical memorandum for the supplemental investigation at IRP Site 6 and the Mingled Plumes Area. The Navy completed the draft final FS for OU 4B. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed the ROD for OU 4B.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Tustin Marine Corps Air Station are grouped below according to program category.

IRP

- Continue MTBE plume (UST 222) site remediation in FY09.
- Continue LTM activities at OU 3 in FY09-FY10.
- Complete final FS and draft ROD for OU 4B in FY09-FY10.
- Prepare long-term O&M plan and draft final OP&S report for OUs 1A and 1B in FY09-FY10.
- Continue O&M activities at OUs 1A and 1B in FY09-FY10.

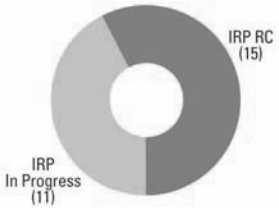
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Twin Cities Army Ammunition Plant

NPL

FFID:	MN521382090800	**Funding to Date:**	$ 159.5 million
Location (Size):	Arden Hills, Minnesota (2,370 acres)	**Est. CTC (Comp Year):**	$ 27.4 million (FY 2040)
Mission:	Provide support to DoD tenants; formerly manufactured small-arms ammunition and projectile casings	**IRP Sites (Final RIP/RC):**	26 (FY2010)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	59.60; placed on NPL in September 1983	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in August 1987	**IRP/MMRP Status Table:**	Refer to page M-6-98
Contaminants:	VOCs, PCBs, heavy metals, SVOCs		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Twin Cities Army Ammunition Plant (AAP) formerly manufactured small arms ammunition and projectile casings, and supported DoD tenants. Past waste disposal practices released contaminants into soil, groundwater, and sediment. Contaminated groundwater has impacted municipal water supplies. Ammunition-related metals, volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs) are the primary soil contaminants at the installation. The installation grouped sites, including former landfills, burning and burial grounds, ammunition testing and disposal sites, industrial operations buildings, and sewer system discharge areas, into three Operable Units (OUs). In September 1983, EPA placed the installation on the NPL. Twin Cities AAP established a technical review committee in 1985 and a Restoration Advisory Board (RAB) in FY96. From FY86 to FY93, the Army installed soil and groundwater extraction and treatment systems. The installation constructed a boundary groundwater containment system to contain and treat VOC-contaminated groundwater at the installation's southwest boundary. The Army provided a groundwater treatment system for the City of New Brighton and a municipal water supply hookup at Lowry Grove Trailer Park. The Army, State of Minnesota, and EPA signed a federal facility agreement (FFA) in 1987. In FY95, the installation completed an unexploded ordnance (UXO) sweep in support of the CERCLA site cleanups. The Army procured technical assistance for public participation to support the RAB in FY99. The Army completed 5-year reviews of OUs 1, 2, and 3 in FY99 and FY04.

To date, the Army has signed three Records of Decision (RODs). In FY03, the Army conducted an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents; no Military Munitions Response Sites (MMRP) were found. The cleanup progress at Twin Cities AAP for FY04 through FY07 is detailed below.

In FY04, the installation completed the cover construction at Site G. The regulators approved the closeout reports for Site A (1945 Trench) and Site D, both with the exception of land use controls (LUCs), the closeout report for the corrective action management unit (with no LUCs), and the second 5-year review.

In FY05, Twin Cities AAP obtained regulatory approval for the Tier II ecological risk assessment for various water bodies, and the Army initiated a feasibility study (FS) to evaluate remedies. Regulators also approved the closeout report for Site G (except LUCs), the site inspection reports for the 135 and 535 Primer/Tracer Areas, and an evaluation report for the vapor intrusion pathway off the installation.

In FY06, Twin Cities AAP received regulatory approval for an alternatives analysis addressing revised and new remedies for Site C. A ROD Amendment was signed for OU 1, resolving disagreements over groundwater containment and the need for further action deeper in the aquifer. Additionally, the Army signed another ROD Amendment for OU 3, documenting the final decision to turn off the extraction well. Contaminated sediment was removed from a ditch near the 135 Primer/Tracer Area, and the closeout report was approved by the regulators. With the exception of LUCs, the regulators also approved a closeout report for construction of a cover over contaminated soil at the 1900 Yard Range of the Outdoor Firing Range.

In FY07, the installation resolved LUC issues for Site C 2 and signed a ROD Amendment addressing remedies for soil, sediment, surface water, and groundwater. This enabled the fieldwork to be completed at this site. The Army continued groundwater operation and maintenance. The installation prepared a work plan for the engineering evaluation and cost analysis (EE/CA) at the 135 and 535 Primer/Tracer Areas. The installation also prepared an EE/CA work plan for Building 102 and performed sampling at the site. The Army also achieved progress on the Aquatic Sites FS after defining trustee and Technical Working Group roles.

FY08 IRP Progress

Twin Cities AAP signed two ROD Amendments addressing LUCs and remedy changes implemented for various OU 2 sites. Twin Cities AAP also accelerated fieldwork at Site K, and the Army approved an EE/CA for excavation and off-site disposal of soil contamination; the Army also approved an EE/CA for Building 102. The installation completed investigation work at the 535 Primer/Tracer Area, and submitted the EE/CA for review. The installation received regulatory approval to turn off the Site A groundwater pump-and-treat system. Twin Cities AAP completed sampling of Marsden Lake and Pond G in support of the Aquatic Sites FS.

Regulatory issues delayed approval for LUC remedial design (RD) plans and closeout reports for soil sites.

FY08 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Twin Cities Army Ammunition Plant are grouped below according to program category.

IRP

- Obtain approval for the 535 Primer/Tracer Area EE/CA, the Aquatic Sites FS, and LUC RD plans and closeout reports for soil sites in FY09.
- Complete implementation of the removal actions at Site K, Building 102, and the 535 Primer/Tracer Area in FY09.
- Complete 5-year review in FY09.
- Complete transfer of Area 135 to receiving party in FY09-FY10.

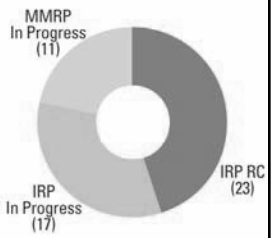
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Tyndall Air Force Base

NPL/BRAC 2005 Realignment

FFID:	FL457152412400	**Funding to Date:**	$ 29.8 million
Location (Size):	Panama City, Florida (28,824 acres)	**Est. CTC (Comp Year):**	$ 43.6 million (FY 2034)
Mission:	Provide advanced F-15 and F/A-22 fighter training	**IRP Sites (Final RIP/RC):**	40 (FY2012)
HRS Score:	50.00; placed on NPL in April 1997	**MMRP Sites (Final RIP/RC):**	11 (FY2021)
IAG Status:	FFA under negotiation	**Five-Year Review Status:**	A 5-year review is not required for this installation.
Contaminants:	POLs, chlorinated solvents, pesticides, metals, PCBs, general refuse, VOCs, SVOCs, PAHs, BTEX	**IRP/MMRP Status Table:**	Refer to page M-6-54
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Tyndall Field was activated in 1941 as the Flexible Gunnery School of the U.S. Army Air Corps. The installation became Tyndall Air Force Base (AFB) in 1947. The current mission is F-15 Eagle and F/A-22 Raptor fighter training under the 325th Fighter Wing. EPA placed the installation on the NPL in April 1997. In 2005, the BRAC Commission recommended Tyndall AFB for realignment. The primary site responsible for the installation's inclusion on the NPL, Site OT 029 (Shoal Point Bayou), has DDT contamination in the sediments. Tyndall AFB is involved in a Florida partnering initiative with EPA, the Florida Department of Environmental Protection (FDEP), and natural resource trustees serving as the installation's technical review committee (TRC). In FY94, FY97, FY00, and FY03, there were efforts to establish a Restoration Advisory Board, but public response indicated there was no need.

Environmental studies, beginning in FY81, have identified Environmental Restoration Account eligible sites under the Installation Restoration Program (IRP). The cleanup progress at Tyndall AFB for FY04 through FY07 is detailed below.

In FY04, the Air Force began developing and implementing performance-based management principals into the IRP. Tyndall AFB awarded and initiated three 5-year performance-based contracts (PBCs) covering remedial action (RA) design and implementation for seven sites: Landfills (LFs) 006 and 007; Spill Sites (SS) 015, 019 and 026; and Fire Training (FT) Areas 017 and 023. These contracts were based on agreement between Tyndall AFB, EPA, and FDEP on the jointly selected technical portion of the preferred alternatives. The PBCs resulted in cost avoidances of more than $6.16 million. Programmed remedial investigation (RI) and baseline risk assessment activities were finalized, and post-RI and feasibility study (FS) work began at Site OT 029.

In FY05, Tyndall AFB received a no further RA planned (NFRAP) concurrence for three sites (LFs 001 and 003, and SS 014) and completed draft RI studies recommending an NFRAP for two additional sites (LF 005 and Site OT 037). The Air Force began the preliminary assessments (PAs) for identified Military Munitions Response Program (MMRP) sites under a centrally managed comprehensive site evaluation (CSE) process.

In FY06, Tyndall AFB implemented remedies for LFs 006 and 007, FT 017, and SS 026 to reduce exposure risks. The Air Force, in cooperation with EPA and FDEP, implemented the technical portions of the preferred alternatives outlined in the proposed plans. Tyndall AFB achieved remedy in place (RIP) status for SSs 015 and 019, and FT 023, and investigated and closed Area of Concern (AOC) 006. The installation converted another AOC to a site (FR 038) and awarded the RI/FS to conduct the investigation and identify remedial options. The Air Force awarded a PBC to complete remedy selection and implementation or site closure for all remaining active sites, except Site FR 038. The Air Force continued the CSE Phase I.

In FY07, the Air Force completed the MMRP CSE Phase I, which is the equivalent of a PA under the Defense Environmental Restoration Program (DERP). Four range complexes were confirmed and eight more potential MMRP areas were identified. Twelve areas were identified as meeting MMRP eligibility criteria.

FY08 IRP Progress

Tyndall AFB screened and added Site DB 039 to the DERP. The installation performed additional characterization at LF 005, as requested by EPA and FDEP. The Air Force conducted geotechnical investigation of surface and subsurface debris and downgradient migration. Tyndall AFB submitted a performance-based interagency agreement (IAG) and federal facility agreement (FFA) to regulators. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed completion of characterization and FSs for LFs 001, 003, and 005, and Records of Decision (RODs) for LFs 001, 003, 005, 006, and 007; FT 017; SS 026; and Site OT 029. Regulatory issues also delayed RIP status for LFs 006 and 007, FT 017, SS 026, and Site OT 029.

FY08 MMRP Progress

Tyndall AFB initiated the CSE Phase II.

Plan of Action

Plan of action items for Tyndall Air Force Base are grouped below according to program category.

IRP

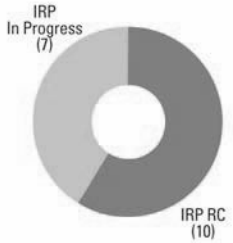
- Obtain signatures on performance-based IAG/FFA in FY09.
- Finalize RODs to achieve RIP at LFs 006 and 007, Site FT 017, and SS 026 in FY09.
- Complete site characterization, FSs, and RODs for LFs 001, 003, and 005 in FY09.
- Complete RI/FS at Site OT 029 in FY09-FY10.

MMRP

- Complete CSE Phase II in FY09.

U.S. Army Soldiers Systems Center

FFID:	MA121382063100	**Funding to Date:**	$ 42.3 million
Location (Size):	Natick, Massachusetts (78 acres)	**Est. CTC (Comp Year):**	$ 12.4 million (FY 2029)
Mission:	Research and develop food, clothing, equipment, and materials for military operations	**IRP Sites (Final RIP/RC):**	17 (FY2009)
HRS Score:	50.00; placed on NPL in May 1994	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	None	**Five-Year Review Status:**	Completed
Contaminants:	Pesticides, herbicides, pentachlorophenol, solvents, PCBs, VOCs, SVOCs, metals	**IRP/MMRP Status Table:**	Refer to page M-6-92
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Since 1954, the U.S. Army Soldiers Systems Center (Soldiers Systems Center) has supported industrial, laboratory, and storage activities for research and development in food science and in aeromechanical, clothing, material, and equipment engineering. Operations used various volatile organic compounds (VOCs), including tetrachloroethylene (PCE), trichloroethylene (TCE), carbon disulfide, benzene, and chloroform. Site types include contaminated buildings, spill sites, storage areas, disposal pits, dry wells, and underground storage tanks. The installation made efforts to partner with state and federal regulators and to communicate with the community after EPA placed the installation on the NPL in May 1994. The installation established a Restoration Advisory Board (RAB) in FY95. In 2005, the BRAC Commission recommended the Soldiers Systems Center for realignment. A 5-year review was completed for Natick Research, Development, and Engineering Center (NRDEC) 05 in FY07.

To date, the installation has signed one Record of Decision (ROD) for Building T 25. The T 25 ROD contained a unique partnering cooperative agreement involving the Town of Natick, the Massachusetts Department of Environmental Protection, EPA, and the Army. The installation has performed several interim actions, including removal of waste and contaminated soil and pavement from the drum storage area. The installation also removed a 1,000-gallon waste oil storage tank and associated contaminated soil, as well as polychlorinated biphenyl (PCB)-contaminated soil from an exploded transformer. In FY03, the Army completed an inventory of all Military Munitions Response Program (MMRP) sites and found no sites. The cleanup progress at the Soldiers Systems Center for FY04 through FY07 is detailed below.

In FY04, the Army installed four additional off-site monitoring wells to track and monitor the T 25 area plume location. The installation updated and expanded the sitewide groundwater model to reflect additional monitoring and recovery wells, and additional plumes in the vicinity of the former Post Drinking Water Wells (PDWW) and Buildings 22 and 36. The Army also installed 10 additional on-site monitoring wells to delineate groundwater contamination in the vicinity of the former PDWW. The RAB met three times and provided comments on all draft and final reports.

In FY05, the Army initiated interim remedial action (IRA) soil removals at NRDEC 03/13 (Buildings T 62 and T 68) and NRDEC 09/12 (Building 14 and former Building 13), and replaced Monitoring Well 35B. The installation initiated an updated site inspection (SI) for NRDEC 11 (former PDWW site) and the remedial investigation (RI) for NRDEC 16 (Buildings 22 and 36). In addition, the installation submitted the Tier III sediment ecological and fish consumption human health study to EPA for review. A 5-year review was underway.

In FY06, Soldiers Systems Center completed IRA soil removals at NRDEC 03/13. The installation completed the RI for NRDEC 11 and a feasibility study (FS) for NRDEC 16. The installation completed the update of the SI for NRDEC 11 and updated the draft RI for NRDEC 6. The installation also completed additional fish consumption risk assessment analyses requested by EPA in connection with three sediment sites (NRDECs 07, 10, and 17). The Army submitted a draft proposed plan (PP) for NRDECs 03, 06, and 13; and a draft 5-year review to EPA for review.

In FY07, Soldiers Systems Center completed the initial 5-year review for NRDEC 05. The installation submitted a draft explanation of significant differences and a pilot study work plan to expand the existing groundwater treatment system to NRDECs 11 and 16. The Army completed an FS for three sediment sites (NRDECs 07, 10, and 17). The installation signed a No Further Action (NFA) ROD for NRDECs 03, 06, and 13. The Army completed IRA soil removal at NRDECs 09 and 12. The RAB met quarterly and provided review and comments on various draft reports.

FY08 IRP Progress

Soldiers Systems Center completed the remedial design for NRDECs 07 and 17, which qualified for an NFA ROD. The Army signed an NFA ROD for the T 25 soil site and Buildings 13, 14, and 19 (NRDECs 05, 09, 12, and 14), which closed all soil sites at Soldiers Systems Center. The installation continued a remedial optimization study for in situ treatment of groundwater in the T 25 Area and completed the expansion of the groundwater treatment system to include NRDECs 11 and 16. Soldiers Systems Center also submitted a draft NFA PP for sediment at the T 25 Outfall and Buildings 2, 45, and 63 Parking Lot Outfalls.

The RAB met twice to review and comment on various draft reports.

FY08 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for U.S. Army Soldiers Systems Center are grouped below according to program category.

IRP

- Complete ROD for T 25 Outfall and Buildings 2 and 45 Parking Lot Outfall (NRDECs 07 and 17) in FY09.
- Complete RD, PP, and ROD for Main Stormwater Outfall sediment site (NRDEC 10) in FY09-FY10.
- Draft PP for groundwater ROD Amendment in FY09-FY10.

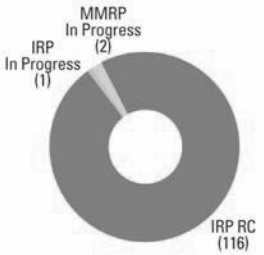
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Umatilla Chemical Depot

NPL/BRAC 1988

FFID:	OR021382091700	**Est. CTC (Comp Year):**	$ 23.2 million (FY 2023)
Location (Size):	Hermiston, Oregon (19,729 acres)	**IRP Sites (Final RIP/RC):**	117 (FY2003)
Mission:	Store ammunition	**MMRP Sites (Final RIP/RC):**	2 (FY2018)
HRS Score:	31.31; placed on NPL in July 1987	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in October 1989	**IRP/MMRP Status Table:**	Refer to page M-6-132
Contaminants:	UXO, pesticides, nitrates, explosives, heavy metals		
Media Affected:	Groundwater and Soil		
Funding to Date:	$ 55.9 million		



Progress To Date

In 1941, the Army established Umatilla Ordnance Depot as a facility for storing conventional munitions. Between 1945 and 1955, the installation's functions expanded to include demolition, renovation, and maintenance of ammunition. In 1962, the Army began to store chemical munitions at the depot. EPA placed the installation on the NPL in July 1987. The Army and EPA signed a federal facility agreement (FFA) in October 1989. In December 1988, the BRAC Commission recommended realignment of the installation and in 2005, the BRAC Commission recommended its closure. In FY93, the installation transferred its conventional weapons mission to another installation. In FY94, the commander formed a BRAC cleanup team and converted the installation's technical review committee to a Restoration Advisory Board. In FY98, the installation officially changed its name from Umatilla Ordnance Depot to Umatilla Chemical Depot (CD). Identified sites include explosives-washout lagoons, an open burning and open detonation area, pesticide disposal pits, a deactivation furnace, and landfills. Significant remedies completed include bioremediation of explosives contaminated soil from a number of sites, landfill closure capping, and removal of all underground storage tanks. In FY99, the installation completed an environmental baseline survey at the 100/200 Series warehouses and a depotwide 5-year review. The installation also completed a 5-year review in FY04 for the Ammunition Demolition Area (ADA) and groundwater operable units (OUs).

Environmental studies identified Installation Restoration Program (IRP) sites at this installation, grouped into nine OUs. In FY03, the Army completed an inventory of Military Munitions Response Program (MMRP) sites. The Army has signed eight Records of Decision (RODs) to date. The cleanup progress at Umatilla CD for FY04 through FY07 is detailed below.

In FY04, the installation completed the addendum remedial action (RA) report for ADA Sites 19E and 19F. The installation completed the 5-year review for ADA and groundwater OUs. The Army completed a draft ROD for the Umatilla CD Landfill for selenium cleanup. The installation installed additional monitoring wells. The Army completed a draft revised monitoring plan for the Umatilla CD Landfill. The installation completed the proposed plan and draft ROD for the Quality Assurance Function Range (QAFR) under the MMRP.

In FY05, the installation completed an MMRP ROD for the QAFR.

In FY06, the installation completed the munitions and explosives of concern (MEC) work plan at the QAFR.

In FY07, Umatilla CD developed a scope of work for the groundwater pump-and-treat enhancement study and initiated the study. The study will evaluate through modeling the potential to increase efficiency of contaminant recovery by examining modification of the pumping rates of the existing wells. The impact of additional contaminant reduction by in situ source zone treatment will also be evaluated. The installation conducted groundwater pump-and-treat plant maintenance, which consisted of rebuilding extraction pumps, replacing vault covers, and replacing electronics.

FY08 IRP Progress

Umatilla CD completed the Washout Lagoons Enhancement Study and identified the need for two additional extraction wells at the groundwater treatment facility. The Army initiated development of a groundwater model for the installation as part of the exit strategy for the pump-and-treat system. The Army also approved the RA management plan for the QAFR and initiated the surplus property determination. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed completion of the ROD and revised monitoring plan for the Umatilla CD Landfill. Administrative issues also delayed completion of the RA report. Administrative issues delayed implementation of the groundwater pump-and-treat study results.

FY08 MMRP Progress

Umatilla CD reopened the 1,750-acre ADA for future MEC remediation. The installation completed the Explosives Site Safety Submission for the QAFR (Site UMAD-001-R-01), which was subsequently approved by the DoD Explosives Safety Board.

Regulatory issues delayed completing the RA report for groundwater treatment.

Plan of Action

Plan of action items for Umatilla Chemical Depot are grouped below according to program category.

IRP

- Complete ROD and revised monitoring plan for the Umatilla CD Landfill in FY09.
- Complete RA report for groundwater treatment in FY09.
- Initiate Environmental Condition of Property report in support of BRAC 2005 in FY09.
- Complete the third 5-year review in FY09.

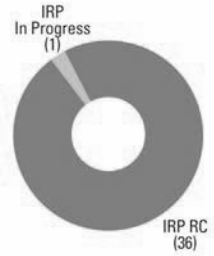
MMRP

- Initiate fieldwork and RA at the QAFR in FY09.

Vint Hill Farms Station

BRAC 1993

FFID:	VA321382093100	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Vint Hill Farms, Virginia (696 acres)	**Funding to Date:**	$ 11.9 million
Mission:	Supported logistics for signal intelligence and electronics warfare weapon systems and equipment; provide intelligence fusion material capability	**Est. CTC (Comp Year):**	$ 2.2 million (FY 2010)
		IRP Sites (Final RIP/RC):	37 (FY2007)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	Metals, VOCs, petroleum hydrocarbons, pesticides, PAHs, PCBs, asbestos, cyanide, photographic wastes	**IRP/MMRP Status Table:**	Refer to page M-7-43



Progress To Date

During the 1940s and 1950s, Vint Hill Farms Station served as a training center for Signal Corps personnel and as a refitting station for signal units. During FY90, a preliminary assessment (PA) identified 26 sites, including underground storage tanks (USTs), landfills, lagoons, storage areas, pit areas, fire training areas, disposal areas, spill sites, areas with asbestos-containing materials, lead-based paint areas, and transformers containing polychlorinated biphenyls (PCBs). In FY90, soil and groundwater sampling revealed petroleum and solvent contamination. The installation conducted removal actions for USTs, contaminated soil, and PCB-containing transformers. In 1993, the BRAC Commission recommended closure of Vint Hill Farms Station. Vint Hill Farms Station officially closed on October 1, 1997. The installation formed a Restoration Advisory Board (RAB) in FY95, which adjourned in FY06. The Army completed a 5-year review of Sites 1 and 39 in FY05.

Environmental studies following the PA identified Installation Restoration Program (IRP) sites at Vint Hill Farms Station requiring additional investigation or cleanup. With the exception of Area Requiring Environmental Evaluation (AREE) 34, which was discovered post-transfer, all environmental investigation and remediation is complete. The Army has transferred the entire 696 acres, including the final 5.3 acres transferred in FY03. In FY03, the Army completed its Military Munitions Response Program (MMRP) inventory for this installation. The cleanup progress at Vint Hill Farms Station for FY04 through FY07 is detailed below.

In FY04, the Army performed the final sampling of Site 20 (former Army/Air Force gas station) and received a no further action letter from the regulators. Environmental regulators reduced the Site 1 quarterly sampling to annual sampling and decreased the list of analytes required. The installation completed the remedial investigation of AREE 34 and used sensing technology and EPA's Triad approach to determine the extent of contamination. The installation completed the feasibility study and proposed plan for AREE 34. The installation held a public meeting to present the proposed remedy (monitored natural attenuation and land use controls [LUCs]) for AREE 34.

In FY05, the Army completed a 5-year review of Sites 1 and 39. All institutional controls were successfully maintained. The Army conducted annual sampling at Site 1, and results were consistent with past sampling events.

In FY06, Vint Hill Farms Station and the Virginia Department of Environmental Quality (VDEQ) signed a decision document and began the remediation process for AREE 34, requiring hot spot removal and long-term management. The installation awarded a performance-based contract (PBC) for in situ treatment and began fieldwork. The Army conducted annual sampling at Site 1. The Vint Hill Farms Station RAB offically adjourned.

In FY07, Vint Hill Farms Station continued the PBC work at AREE 34. The installation successfully treated the hot spot soil. The groundwater in the hot spot area showed a 94 percent reduction in chlorinated solvents. The Army and the VDEQ agreed to a sitewide long-term monitoring plan. The Army continued AREE 34 and Site 1 monitoring under this plan.

FY08 IRP Progress

Vint Hill Farms Station incorporated AREE 34 sampling into the annual long-term monitoring plan, with the exception of the quarterly sampling at two sentinel wells. The installation completed annual sampling requirements and annual LUC inspections at Sites 1 and 42; all LUCs were in compliance.

FY08 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Vint Hill Farms Station are grouped below according to program category.

IRP

- Perform annual sampling and LUC inspections at Sites 1 and 42 in FY09.

MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Warminster Naval Air Warfare Center Aircraft Division

FFID:	PA317002454500	**Media Affected:**	Groundwater, Surface Water, Soil
Location (Size):	Warminster Township, Pennsylvania (817 acres)	**Funding to Date:**	$ 27.3 million
Mission:	Perform research, development, testing, and evaluation for naval aircraft systems and antisubmarine warfare systems; perform associated software development	**Est. CTC (Comp Year):**	$ 19.3 million (FY 2031)
		IRP Sites (Final RIP/RC):	10 (FY2004)
		MMRP Sites (Final RIP/RC):	None
HRS Score:	57.93; placed on NPL in October 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in September 1990	**IRP/MMRP Status Table:**	Refer to page M-6-135
Contaminants:	Heavy metals, firing range wastes, fuels, land sewage sludges, non-industrial solid wastes, paints, PCBs, VOCs, SVOCs		

Progress To Date

In July 1991 and July 1995, the BRAC Commission recommended that Warminster Naval Air Warfare Center (NAWC) Aircraft Division be realigned and closed. The installation closed in March 1997. Site types include waste burn pits, sludge disposal pits, landfills, waste pits, and a fire training area. The installation was placed on the NPL in October 1989 and signed a federal facility agreement (FFA) in September 1990. The Navy formed a technical review committee in FY88 and converted it to a Restoration Advisory Board (RAB) in FY94. The installation also completed a community relations plan and established an administrative record in FY94. In FY99, the Navy prepared an Environmental Baseline Survey for property transfer for public benefit conveyance and economic development conveyance parcels for Phase I, which was completed in FY00. A 5-year review was completed in FY02 and in FY07.

Warminster NAWC Aircraft Division has identified Installation Restoration Program (IRP) sites and has signed Records of Decision (RODs) for Operable Unit (OU) 1, Area A, and Sites 6 and 7. In addition, No Further Action RODs have been signed for Sites 4 (OU 6), 5, 8, and Areas B and D. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at the installation. The cleanup progress at Warminster NAWC Aircraft Division for FY04 through FY07 is detailed below.

In FY04, the Navy conducted perimeter and off-base monitoring according to the long-term management (LTM) plan. It also maintained, optimized, and conducted sampling of the groundwater treatment system, and maintained and operated land use controls (LUCs).

In FY05, Warminster NAWC Aircraft Division continued perimeter and off-base monitoring according to the LTM plan. The well reduction strategy continued through discussions with the technical evaluation group. The Navy continued work on the groundwater treatment system and maintained and operated LUCs.

In FY06, Warminster NAWC Aircraft Division prepared a work plan to address the higher contaminant levels found at Area C. The Navy continued to streamline the monitoring program.

In FY07, Warminster NAWC Aircraft Division completed the work plan for the optimization study of the groundwater extraction system. The installation discussed alternatives for source removal and conducted field investigations at Area C. The Navy continued to streamline the monitoring program. Warminster NAWC Aircraft Division coordinated with EPA and the Pennsylvania Department of Environmental Protection (PADEP) to investigate potentially responsible parties located west of the former facility. Efforts were initiated to install a new extraction well at Area A. The Navy continued working with the Warminster Municipal Authority to provide contaminant protection of Water Supply Wells 13 and 26. Warminster NAWC Aircraft Division held four RAB meetings. The Navy completed a second 5-year review.

FY08 IRP Progress

Warminster NAWC Aircraft Division continued implementation of modifications to the groundwater treatment system as determined by the optimization study. The Navy coordinated with EPA Region III and PADEP to identify the source of off-site groundwater contamination. The installation continued operation and maintenance (O&M), and performance monitoring of the groundwater extraction and treatment system.

The Navy held four RAB meetings.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Warminster Naval Air Warfare Center Aircraft Division are grouped below according to program category.

IRP

- Install new extraction well at Area A in FY09.
- Continue to coordinate with EPA Region III and PADEP on off-site source investigation in FY09.
- Conduct quarterly RAB meetings in FY09.
- Continue (O&M) and performance monitoring of the groundwater extraction and treatment system in FY09.

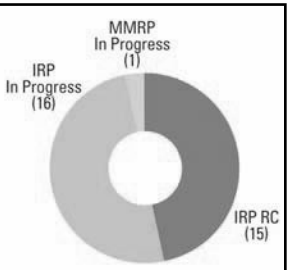
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Washington Navy Yard

NPL/BRAC 2005 Realignment

FFID:	DC317002431000	**Funding to Date:**	$ 31.7 million
Location (Size):	Washington, DC (63 acres)	**Est. CTC (Comp Year):**	$ 3.5 million (FY 2016)
Mission:	Provide resources, including administrative space, housing, training facilities, logistical support, and supplies, for Washington Navy Yard tenants and other assigned units	**IRP Sites (Final RIP/RC):**	31 (FY2012)
		MMRP Sites (Final RIP/RC):	1 (FY2009)
HRS Score:	48.57; placed on NPL in July 1998	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	FFA signed in June 1999	**IRP/MMRP Status Table:**	Refer to page M-7-13
Contaminants:	Solvents, metals, VOCs, SVOCs, PCBs, pesticides		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Contaminants released from past storage and disposal operations at Washington Navy Yard (NY) may have migrated into shallow and deep aquifers and the Anacostia River. The installation was placed on the NPL in July 1998. A RCRA consent order, signed in July 1997, was added into Washington NY's federal facility agreement (FFA), which was signed in June 1999. In 2005, the BRAC Commission recommended Washington NY for realignment. A community relations plan was developed in FY99.

Investigations at the Washington NY initially identified 18 sites and 3 leaking underground storage tank sites. To date, the installation has completed Records of Decision (RODs) for Sites 1 through 5, 7, 9, 11, 13, 14, and 16, and two No Further Action (NFA) RODs. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Washington NY for FY04 through FY07 is detailed below.

In FY04, the installation initiated a work plan for fill as a site screening area (SSA) at the installation and completed draft SSA investigation reports for several SSAs. It also completed an NFA ROD for Site 4 and continued removal actions for Site 10. The installation conducted fieldwork for installationwide groundwater data gaps and completed an installationwide groundwater draft remedial investigation (RI) report. The installation also conducted fieldwork for Site 5. The installation completed the preliminary assessment (PA) process for the Experimental Battery MMRP site, as well as the draft final report and a recommendations report.

In FY05, Washington NY continued removal actions for Site 10 and completed the SSA fill field investigation. The installation finalized the proposed remedial action plan and NFA ROD for Site 14. The Navy also finalized the RI and developed the NFA Proposed Plan (PP) for Site 16. The installation completed a final feasibility study (FS) and draft PP for Site 5. Washington NY provided a draft final PA to regulators and developed a Navy response to comments for regulators.

In FY06, Washington NY continued removal actions for Site 10. The installation finalized the Operable Unit (OU) 2 sediment work plan. The Navy finalized RODs for Sites 5 and 16. The installation also completed the work plan and field investigations for the Site 6 extended RI. The installation provided the Navy with a response to comments for regulators. Additionally, the Navy finalized a PA for the one MMRP site.

In FY07, Washington NY continued removal action for Site 10. The installation completed fieldwork for the Phase I OU 2 near the shore sediment investigation. The installation finalized the work plan for SSAs 3, 8, and 10 which are now Sites 21, 22, and 23. The Navy finalized RODs for Sites 1, 2, 3, 7, 9, 11, and 13. Washington NY finalized the work plan for the removal action at Site 6.

FY08 IRP Progress

Washington NY completed fieldwork for removal actions and a draft RI at Site 6. The Navy also completed fieldwork and a draft RI report for Sites 21, 22, and 23 (SSAs 3, 8, and 10). The installation completed the Phase I fill investigation report for SSA 12, and a Phase II draft work plan for OU 2. The Navy also completed an investigation report for SSAs 9 and 14. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed the final RI at Site 6.

FY08 MMRP Progress

Washington NY prepared a work plan for the site inspection (SI) at the Experimental Battery MMRP site.

Administrative issues delayed conducting the SI at the Experimental Battery MMRP site.

Plan of Action

Plan of action items for Washington Navy Yard are grouped below according to program category.

IRP

- Complete RI for Site 6 and SSA 12 in FY09.
- Complete RI/FS for SSA 14 in FY09.
- Complete Phase II field investigation for OU 2 in FY09.
- Complete removal action for SSA 12 in FY10.

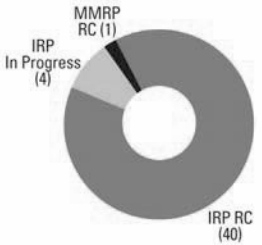
MMRP

- Complete SI for the Experimental Battery MMRP site in FY09.

West Virginia Ordnance Works

NPL

FFID:	WV39799F346100	**Funding to Date:**	$ 76.1 million
Location (Size):	Point Pleasant, West Virginia (2,704 acres)	**Est. CTC (Comp Year):**	$ 24.6 million (FY 2021)
Mission:	Manufactured TNT	**IRP Sites (Final RIP/RC):**	44 (FY2014)
HRS Score:	35.72; placed on NPL in September 1983	**MMRP Sites (Final RIP/RC):**	1 (FY2003)
IAG Status:	IAGs signed in September 1987 and July 1989	**Five-Year Review Status:**	Completed and planned
Contaminants:	TNT, DNT, organic compounds, VOCs, SVOCs, metals, propellants	**IRP/MMRP Status Table:**	Refer to page M-6-176
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

From 1941 to 1946, West Virginia Ordnance Works manufactured TNT from toluene, nitric acid, and sulfuric acid. By-products of the manufacturing process included TNT, dinitrotoluene, and organic compounds, which were released into groundwater, soil, surface water, and sediment. Principal sites include TNT manufacturing areas, wastewater sewer lines, and wastewater ponds known as the red and yellow water ponds. EPA placed West Virginia Ordnance Works on the NPL in September 1983. The Army and EPA signed the first interagency agreement (IAG) in September 1987 and signed a second IAG in July 1989. EPA partially delisted a 509-acre parcel from the NPL in FY03 and an additional 1,004 acres in FY04. The U.S. Army Corps of Engineers (USACE) converted the technical review committee to a Restoration Advisory Board in FY98. USACE completed 5-year reviews in FY95, FY00, and FY05.

The property has been consolidated into Operable Units (OUs) 1 through 5 and 7 through 13. To date, the Army and EPA have signed Records of Decision (RODs) for OUs 1, 2, and 11, and No Further Action (NFA) RODs for OUs 10 and 12. The former OU 6 was changed to Environmental Unit 06. OU 7 is a potentially responsible party project and OU 13 is under EPA management with NFA planned for the Army. In FY03, the Army conducted an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents at this property. The cleanup progress at West Virginia Ordnance Works for FY04 through FY07 is detailed below.

In FY04, USACE completed the removal of contaminated soils from OU 5. In addition, the property completed the second NPL partial delisting of 1,004 acres, decreasing the size of the NPL boundary to 1,184 acres. USACE also completed the draft third 5-year review report and a remedial system evaluation on the groundwater extraction and treatment facilities to address optimization of the system. USACE initiated a treatability study (TS) for in situ treatment of groundwater for OU 9 that uses a hydrogen release compound injection to cleanup the groundwater.

In FY05, the Army completed the third 5-year review report on schedule. USACE also completed the TS for OU 9.

In FY06, USACE completed the draft feasibility study and initiated proposed plans (PPs) for OUs 8 and 9. USACE also received regulatory concurrence on the OU 4 revised evaluation report.

In FY07, USACE continued the PP for OUs 8 and 9. USACE continued the long-term management (LTM) program. The team received EPA concurrence on the OU 4 groundwater extraction and treatment system operating properly and successfully.

FY08 IRP Progress

USACE continued LTM actions and conducted in situ soil remediation using a TS within OU 1.

Regulatory issues delayed the completion of the PP and NFA ROD for OUs 8 and 9 (Southeast Area). Regulatory issues changed the requirement for a ROD amendment because it is not required for a TS remedial action.

FY08 MMRP Progress

No MMRP actions were conducted at this property.

Plan of Action

Plan of action items for West Virginia Ordnance Works are grouped below according to program category.

IRP

- Complete PP and NFA ROD for OUs 8 and 9 in FY09.
- Continue LTM in FY09.
- Continue operations and maintenance of groundwater extraction and treatment systems in accordance with the OU 2 ROD in FY09.

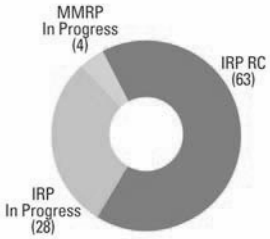
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Whidbey Island Naval Air Station Ault Field and Seaplane Base

NPL/BRAC 2005 Realignment

FFID:	WA017002336100	**Contaminants:**	PCBs, PAHs, chlorinated solvents, VOCs, SVOCs, metals
Location (Size):	Oak Harbor, Washington (7,000 acres)	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Mission:	Serve as host to training and operations center for two squadrons: Center for U.S. Marine Corps and Navy Reserve training in the Pacific Northwest	**Funding to Date:**	$ 96.4 million
		Est. CTC (Comp Year):	$ 38.0 million (FY 2044)
HRS Score:	39.64 (Seaplane Base), placed on NPL in February 1990, delisted in 1995; 48.48 (Ault Field), placed on NPL in February 1990	**IRP Sites (Final RIP/RC):**	91 (FY2007)
		MMRP Sites (Final RIP/RC):	4 (FY2018)
IAG Status:	FFA signed in September 1990	**Five-Year Review Status:**	Completed and planned
		IRP/MMRP Status Table:	Refer to page M-6-174



Progress To Date

Whidbey Island Naval Air Station (NAS) occupies four areas on Whidbey Island, Washington: Ault Field, Seaplane Base, Coupville Outlying Field, and Lake Hancock Target Range. The Seaplane Base and Ault Field were placed on the NPL in February 1990. The installation signed a federal facility agreement (FFA) in September 1990. The Seaplane Base was delisted from the NPL in 1995. In 2005, the BRAC Commission recommended Whidbey Island NAS for realignment. Past disposal practices from aircraft maintenance, vehicle maintenance, public works shop activities, and fire fighting training activities have contributed to contamination. In FY94, the installation converted its technical review committee to the Navy's first Restoration Advisory Board. The community relations plan was updated in FY96. The installation completed 5-year reviews in FY98 and FY04.

Whidbey Island NAS has identified Installation Restoration Program (IRP) sites at the installation. Initial investigations at the installation identified and grouped sites into five operable units (OUs) . The installation has completed five Records of Decision. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Whidbey Island NAS for FY04 through FY07 is detailed below.

In FY04, the installation completed a 5-year review and continued treatment operations at OUs 1 and 5. The Navy also supported EPA in delisting Ault Field OUs 2, 3, and 5.

In FY05, Whidbey Island NAS began investigating the potential for a new contaminant of concern from Area 6. The installation initiated an optimization study (OS) on a pump-and-treat system and a free-product recovery system.

In FY06, Whidbey NAS continued treatment operations at OUs 1 and 5, and upgraded hardware at OU 1. Pump-and-treat and fuel recovery operations at Sites 6 and 52 provided continued treatment. The installation confirmed contamination in one off-site well. The Navy also completed re-sampling of Site 16 Runway Ditches. The installation conducted preliminary assessments (PAs) at Lake Hancock Target Range, Polnell Point, Crescent Harbor Practice Range, and Aviation Fleet Gunnery School (Machine Gun Ranges).

In FY07, Whidbey Island NAS continued treatment operations at OUs 1 and 5. The installation conducted 1,4-dioxane sampling to define plume boundaries. The Navy initiated a 5-year review. Whidbey Island NAS completed an explanation of significant differences (ESD) for land use controls (LUCs) and completed an OS at Sites 6 and 52. The installation suspended fuel recovery at Site 52. Whidbey Island NAS obtained regulatory concurrence, completed PAs of four MMRP sites, and identified three additional areas of concern.

FY08 IRP Progress

Whidbey Island NAS completed an ESD document. The Navy completed installation of off-site wells to monitor 1,4-dioxane plume and replaced a private well contaminated with 1,4-dioxane. The installation continued treatment operations at OU 1.

Regulatory issues delayed the third 5-year review.

FY08 MMRP Progress

Whidbey Island NAS developed work plans for site inspections (SIs) at six MMRP sites.

Plan of Action

Plan of action items for Whidbey Island Naval Air Station Ault Field and Seaplane Base are grouped below according to program category.

IRP

- Continue treatment operations and monitoring at OU 1 in FY09.
- Complete third 5-year review in FY09.
- Complete installation of bioventing treatment system in an abandoned underground storage tank to treat petroleum-contaminated soil in FY09.
- Complete LUC implementation plan in FY09-FY10.
- Conduct PA on private property to identify possible sources of 1,4-dioxane contamination in FY09-FY10.

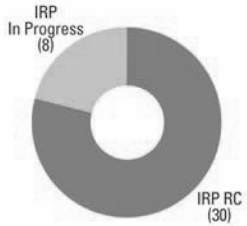
MMRP

- Conduct SIs at six MMRP sites in FY09-FY10.

White Oak Naval Surface Warfare Center

BRAC 1995

FFID:	MD317002344400	**Funding to Date:**	$ 38.0 million
Location (Size):	Silver Spring, Maryland (710 acres)	**Est. CTC (Comp Year):**	$ 2.5 million (FY 2021)
Mission:	Research, develop, test, and evaluate ordnance technology	**IRP Sites (Final RIP/RC):**	38 (FY2006)
HRS Score:	N/A	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	N/A	**Five-Year Review Status:**	Completed and planned
Contaminants:	Explosive compounds, waste oils, PCBs, heavy metals, VOCs, SVOCs, propellants, radioactive materials	**IRP/MMRP Status Table:**	Refer to page M-7-22
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

White Oak Naval Surface Warfare Center (NSWC) researched, developed, tested, and evaluated ordnance technology. In July 1995, the BRAC Commission recommended closure of White Oak NSWC. The facility closed in July 1997. Past activities at the installation included landfill disposal of oils, polychlorinated biphenyls (PCBs), solvents, paint residue, and other chemicals (including mercury); disposal of chemical research wastewater in dry wells; burning of explosive ordnance; and composting of sludge. Records also indicate that a radium spill occurred. Contaminants of concern are volatile organic compounds (VOCs), PCBs, cadmium, chromium, lead, mercury, nickel, and ordnance compounds. The installation's technical review committee, formed in FY89, was converted to a Restoration Advisory Board (RAB) in FY96. The Navy established an administrative record, an information repository, and a community relations plan (CRP) in FY94. The installation formed a BRAC cleanup team in FY98. The BRAC cleanup plan and the CRP were updated in FY02. White Oak NSWC completed a 5-year review in FY06.

Installation Restoration Program (IRP) sites have been identified at White Oak NSWC. The installation has completed 12 Records of Decision (RODs) to date. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at White Oak NSWC for FY04 through FY07 is detailed below.

In FY04, White Oak NSWC completed two RODs for Sites 7 and 11, and prepared four draft RODs for Sites 4, 5, 9, and 13. The Navy completed all certifications and demilitarizations of ordnance shapes. The RAB reduced meetings from bimonthly to quarterly. The Navy continued partnering with EPA and the Maryland Department of Environment.

In FY05, White Oak NSWC completed and signed all remaining RODs (Area of Concern (AOC) 2, and Sites 4, 5/13, and 9), and remedial actions (RAs) were initiated at Sites 5/13, 7, 9, and 11.

In FY06, White Oak NSWC continued RA operation (RA-O) at Sites 5/13, 7, 9, and 11, and initiated RA at Sites 4, 49, and AOC 2. A Navy Tiger Team optimized the remedy at Site 11. The installation completed a 5-year review.

The Navy awarded a contract for RA at Solid Waste Management Unit (SWMU) 87.

The RAB continued to meet biannually.

In FY07, White Oak NSWC completed the active phase of remediation at Sites 5/13, 7, 9, 11, 49, and SWMU 87 (AOC 2), and continued RA-O performance monitoring at these sites. The installation continued the RA at Site 4. The Navy successfully negotiated the discontinuation of the facility's pump-and-treat system. EPA rescinded the unilateral RCRA administrative order, Section 7003, which previously governed the environmental restoration of White Oak NSWC. The installation held two RAB meetings, and made the decision to reduce future RAB meetings from biannually to annually.

FY08 IRP Progress

White Oak NSWC continued RA-O performance monitoring at Sites 5/13, 7, 9, 11, 46, 49, and SWMU 87 (AOC 2), and continued the RA at Site 4. The cost of completing environmental restoration has changed significantly due to technical issues.

The installation held one RAB meeting, which voted to continue annual RAB meetings.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for White Oak Naval Surface Warfare Center are grouped below according to program category.

IRP

- Continue RA for Site 4 in FY09.
- Continue RA-O at Sites 5/13, 7, 9, 11, 46, 49, and SWMU 87 (AOC 2) in FY09.
- Generate land use control remedial designs for Sites 4, 7, 9, 11, 13, 49, and SWMU 87 (AOC 2) in FY09-FY10.

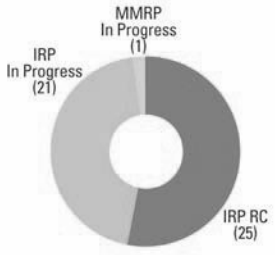
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Whiting Field Naval Air Station

NPL

FFID:	FL417002324400	**Funding to Date:**	$ 38.5 million
Location (Size):	Milton, Florida (3,842 acres)	**Est. CTC (Comp Year):**	$ 20.0 million (FY 2050)
Mission:	Train student naval aviators	**IRP Sites (Final RIP/RC):**	46 (FY2010)
HRS Score:	50.00; placed on NPL in May 1994	**MMRP Sites (Final RIP/RC):**	1 (FY2010)
IAG Status:	FFA under negotiation	**Five-Year Review Status:**	Completed and planned
Contaminants:	Pesticides, PCBs, VOCs, heavy metals, chlorinated hydrocarbons, SVOCs, radioactive materials	**IRP/MMRP Status Table:**	Refer to page M-6-52
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Beginning in FY85, studies at this installation identified sites at Whiting Field Naval Air Station (NAS) and the Outlying Landing Field (OLF) Barin. Whiting Field NAS has administrative responsibility for OLF Barin, located in Alabama. Site types include disposal areas and pits, storage areas, spill areas, landfills, a disposal and burning area, a maintenance area, underground storage tanks (USTs), fuel pits, fire training areas, and drainage ditches. The installation was placed on the NPL in May 1994. The installation is currently negotiating a federal facility agreement (FFA). Whiting Field NAS formed a technical review committee (TRC) in FY89. The installation updated the community relations plan (CRP) in FY93 and FY03. Whiting Field NAS formed a TRC for the OLF Barin in FY92 and completed the OLF Barin's CRP in FY93. In FY95, TRCs were converted to Restoration Advisory Boards. The Navy completed 5-year reviews for Sites 1 and 2 in FY06.

Whiting Field NAS has closed 12 sites: Sites 3, 5/5A, 8, 9, 12, 14, 36, and 37 were closed with no action (NA); Sites 6, 29, 31, and 38 were closed with no further action (NFA). Six sites were determined to have land use control (LUC) and engineering control (EC) remedies: 17, 18, 30, 32, 33, and 35. The Navy determined six other sites required LUC remedies: 1, 2, 10, 11, 13, and 15. Ten sites have been closed at OLF Barin. To date, the installation has signed 22 Records of Decision (RODs). In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Whiting Field NAS for FY04 through FY07 is detailed below.

In FY04, the installation initiated the remedial action (RA) for Site 7 and continued monitoring LUCs for Sites 1, 2, 4, 30, 32, and 33. The installation also initiated operations at UST 000002 and monitoring at UST 000005. The installation completed RODs on five sites. The installation completed draft 5-year reviews for Sites 1 and 2.

In FY05, Whiting Field NAS continued RA for Site 7; continued monitoring LUCs for Sites 1, 2, 30, 32, and 33; signed five NA or NFA RODs; and completed three remedial designs (RDs) and RAs. The installation also continued operations at UST 000002 and monitoring at UST 000005.

In FY06, Whiting Field NAS continued RA at Site 7 and UST 000002. The installation completed six RODs: one NA ROD, two LUC RODs, and three EC/LUC RODs. The Navy completed 5-year reviews for Sites 1 and 2. The installation continued monitoring Sites 1, 2, 30, 32, 33, and UST 000005, and conducted RA operations at UST 000002. Whiting Field NAS submitted the preliminary assessment (PA) for the MMRP site.

In FY07, Whiting Field NAS completed LUC RODs for Sites 10 and 11. The installation prepared LUC RDs for Sites 13, 15, 17, 18, and 35. The Navy performed basewide groundwater sampling for an updated Site 40 remediation status. Whiting Field NAS continued monitoring at Sites 1, 2, 30, 32, and 33. Whiting Field NAS identified two new MMRP sites (Former Gunnery Area and Skeet Range) in the PA. The Navy awarded the site inspection (SI).

FY08 IRP Progress

Whiting Field NAS completed RODs for Sites 2 and 16. The Navy continued RA activities for Sites 4 and 7, including installation and sampling of new groundwater and soil vapor extraction wells. The installation completed the LUC RD for Sites 10 and 11. The Navy completed the remedial investigation (RI) for Site 41. The installation continued RI activities for Site 40, including installation and sampling of new monitoring wells. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed FFA negotiations. Administrative issues delayed the ROD at Site 41.

FY08 MMRP Progress

The Navy drafted a Uniform Federal Policy Quality Assurance Project Plan, and the SI for the former Gunnery Area and Skeet Range.

Plan of Action

Plan of action items for Whiting Field Naval Air Station are grouped below according to program category.

IRP

- Continue RA for Sites 4 and 7 in FY09-FY10.
- Complete RA and ROD for Site 39 in FY09-FY10.
- Complete RI for Site 40 in FY09-FY10.
- Complete ROD and interim RA for Site 41 in FY09-FY10.

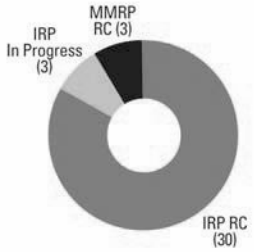
MMRP

- Complete SI for the former Gunnery Area and Skeet Range in FY09-FY10.

Williams Air Force Base

NPL/BRAC 1991

FFID:	AZ957002858200	**Est. CTC (Comp Year):**	$ 44.8 million (FY 2061)
Location (Size):	Mesa, Arizona (4,043 acres)	**IRP Sites (Final RIP/RC):**	33 (FY2010)
Mission:	Supported pilot training and ground equipment maintenance	**MMRP Sites (Final RIP/RC):**	3 (FY2008)
HRS Score:	37.93; placed on NPL in November 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in FY 1990	**IRP/MMRP Status Table:**	Refer to page M-6-15
Contaminants:	VOCs, POLs, heavy metals, pesticides, UXO, SVOCs		
Media Affected:	Soil and Groundwater		
Funding to Date:	$ 64.5 million		



Progress To Date

EPA placed Williams Air Force Base (AFB) on the NPL in 1989, and the Air Force signed a federal facility agreement (FFA) in FY90. In July 1991, the BRAC Commission recommended closure of the installation. The installation closed in September 1993. Sites identified at the installation include the liquid fuels storage area, Fire Protection Training Area No. 2, a collapsed stormwater line, and the old pesticide/paint shop. The installation updated the BRAC cleanup plan in FY97 and FY05. The Air Force completed a 5-year review in FY01.

Sites have been consolidated into three operable units (OUs). In FY93, an environmental assessment of 30 additional areas resulted in the creation of 2 more OUs. A sixth OU was created by consensus statement. To date, Records of Decision (RODs) have been signed for OUs 1 through 5. Approximately 3,888 acres have been transferred to date. In FY04, the Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. The cleanup progress at Williams AFB for FY04 through FY07 is detailed below.

In FY04, the installation transferred 39 acres and planned for the construction and operation of the initial phase of thermal enhanced extraction at OU 2 Site ST 012. The installation also conducted an engineering evaluation and cost assessment for the Bullet Fragment Area of Concern (AOC). Regulators continued to review the OU 6 ROD. The Air Force conducted an inventory of MMRP sites. MMRP sites were identified at this installation.

In FY05, the installation completed a removal action at the Bullet Fragment AOC and restored the site. The Air Force began evaluating requirements at MMRP sites at this installation.

In FY06, Williams AFB initiated construction of a thermal treatability study (TS) pilot at OU 2 (Site ST 012). The Air Force installed additional groundwater monitoring wells and awarded a supplemental remedial investigation (RI) at OU 1 (Landfill (LF) 004). The installation submitted the 5-year review to regulators for review. Williams AFB continued to evaluate requirements for MMRP sites.

In FY07, the installation continued long-term management (LTM) at OU 1 (LF 004) and remedial action operation (RA-O) at OU 2 (Site ST 012). The installation initiated fieldwork for a supplemental investigation at OU 1 (LF 004), and continued construction of the pilot TS at OU 2 (Site ST 012). The Air Force began preparing a ROD amendment for OU 3 (Site FT 002) and a ROD for OU 6 (Site SS 017). The Air Force continued to evaluate requirements for identified MMRP sites.

FY08 IRP Progress

Williams AFB completed construction and initiated operation of the pilot TS at OU 2 (Site ST 12). The Air Force continued fieldwork for an RI and feasibility study (FS) at OU 1 (LF 004). The installation continued LTM at OU 1 (LF 004), RA-O at OU 2 (Site ST 012), and work on a ROD for OU 6 (Site SS 017). The Air Force initiated a preliminary assessment (PA) and site inspection (SI) at an AOC. The installation transferred 31.3 acres for reuse. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical and regulatory issues delayed the completion of a ROD amendment for OU 3 (Site FT 002). Technical issues delayed completion of the ROD for OU 6 (Site SS 017).

FY08 MMRP Progress

Williams AFB completed closure of three MMRP sites.

Plan of Action

Plan of action items for Williams Air Force Base are grouped below according to program category.

IRP

- Complete the ROD for OU 6 (Site SS 017) and ROD amendment for OU 3 (Site FT 002) in FY09.
- Complete the RI/FS report and ROD amendment at OU 1 (LF 004) in FY09-FY10.
- Complete operation and evaluation of the pilot TS at OU 2 (Site ST 12) in FY09-FY10.
- Complete the PA/SI at the Parcel N Debris Area AOC in FY09-FY10.

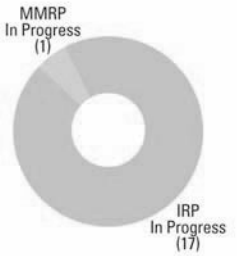
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Williamsburg FISC, Cheatham Annex

NPL

FFID:	VA317002460500	**Funding to Date:**	$ 10.4 million
Location (Size):	Yorktown, Virginia (1,578 acres)	**Est. CTC (Comp Year):**	$ 16.9 million (FY 2025)
Mission:	Supply Atlantic Fleet ships and provide recreational opportunities to military and civilian personnel	**IRP Sites (Final RIP/RC):**	17 (FY2014)
		MMRP Sites (Final RIP/RC):	1 (FY2016)
HRS Score:	48.72; placed on NPL in December 2000	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	FFA signed in March 2005	**IRP/MMRP Status Table:**	Refer to page M-6-169
Contaminants:	VOCs, explosives, propellants, PAHs, metals, PCBs, SVOCs		
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

Williamsburg Fleet Industrial Supply Center (FISC) was placed on the NPL in December 2000 because eight of its Installation Restoration Program (IRP) sites are hydrologically connected to the Chesapeake Bay. The Navy signed a federal facility agreement (FFA) in FY05. Contaminants at the installation include semivolatile organic compounds (SVOCs), polyaromatic hydrocarbons (PAHs), metals, and polychlorinated biphenyls (PCBs). These primarily affect groundwater, surface water, and sediment. The Naval Weapons Station Yorktown Restoration Advisory Board meets semiannually and addresses IRP issues for Williamsburg FISC.

To date, Sites 1, 4, 7, 9, 10, and 11, and Areas of Concern (AOCs) 1 and 2 have been investigated. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. In FY03, the installation completed a No Further Response Action Plan (NFRAP) Decision Document (DD) for Sites 2, 3, 5, 6, 8, and 10. The cleanup progress at Williamsburg FISC for FY04 through FY07 is detailed below.

In FY04, the installation initiated a Round 2 remedial investigation (RI) for sediments at Site 1 and issued a draft RI with screening level ecological risk assessment (SLERA) Steps 1 and 2 for Site 11. The installation finalized an environmental geographic information system for Cheatham Annex (CAX) and completed an NFRAP DD for Site 12. Williamsburg FISC initiated an FFA for CAX and a time-critical removal action (TCRA) for shoreline protection at Site 7. The Agency for Toxic Substances and Disease Registry completed the CAX public health assessment. The installation initiated the Site 1 Soil removal action, which included debris uncovered during Hurricane Isabel.

In FY05, Williamsburg FISC signed an FFA for CAX. The installation initiated remediation and restoration for the area of debris discovered in the treeline, south of the original Soil removal action at Site 1. The Navy completed a sediment work plan for a Round 2 RI at Site 1 and initiated sampling. The Navy completed the RI with SLERA Steps 1 and 2 at Sites 4 and 9. The Navy submitted a draft final MMRP preliminary assessment (PA) for the Marine Pistol and Rifle Range to regulators.

In FY06, Williamsburg FISC completed the TCRA shoreline stabilization project at Site 7. The installation completed a PA and initiated a site inspection (SI) for the Marine Pistol and Rifle Range.

In FY07, Williamsburg FISC completed an RI with SLERA Steps 1, 2, and 3a at Site 11. The Navy initiated a removal action for sediments at Site 1. The installation completed a surface debris removal at AOC 7 (Drum and Can Disposal Area). The Navy conducted investigations at the AOC north of CAX Depot Building 14. The installation completed a field investigation of the closed Marine Pistol and Rifle Range, and initiated the SI report.

FY08 IRP Progress

Williamsburg FISC completed an RI with a baseline ecological risk assessment, and initiated an engineering evaluation and cost analysis at Site 11. The installation completed a final removal action for sediments at Site 1.

Regulatory issues delayed the No Further Action (NFA) Record of Decision (ROD) for Site 1. Administrative issues delayed a hot spot removal action at Site 11.

FY08 MMRP Progress

Williamsburg FISC completed the SI report for the closed Marine Pistol and Rifle Range, recommending NFA.

Plan of Action

Plan of action items for Williamsburg FISC, Cheatham Annex are grouped below according to program category.

IRP

- Complete NFA ROD at Site 1 in FY09.
- Complete hot spot removal of sediments at Site 11 in FY09.
- Complete SIs for Penniman AOCs in FY09.
- Complete RIs at Sites 4 and 9 in FY10.

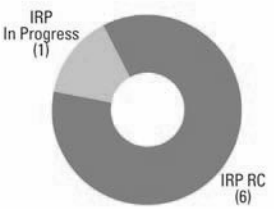
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Willow Grove Air Reserve Station

NPL

FFID:	PA357122534900	**Est. CTC (Comp Year):**	$ 2.2 million (FY 2013)
Location (Size):	Willow Grove, Pennsylvania (210 acres)	**IRP Sites (Final RIP/RC):**	7 (FY2007)
Mission:	Train personnel for air transport and air evacuation activities	**MMRP Sites (Final RIP/RC):**	None
HRS Score:	50.00; placed on NPL in September 1995	**Five-Year Review Status:**	A 5-year review is not required for this installation.
IAG Status:	None	**IRP/MMRP Status Table:**	Refer to page M-7-36
Contaminants:	SVOCs, chlorinated solvents, jet fuel, VOCs		
Media Affected:	Sediment, Soil, Groundwater		
Funding to Date:	$ 6.3 million		



Progress To Date

The primary mission of the 913th Airlift Wing at the Willow Grove Air Reserve Station (ARS) is to train personnel for various air transport and air evacuation activities; to operate base facilities and air terminals; and to provide support to assigned units. EPA jointly placed the installation and the adjacent Willow Grove Naval Air Station on the NPL in September 1995. Industrial activities at Willow Grove ARS include aircraft maintenance, base civil engineering, and fuel storage. Aircraft maintenance operations involve the full range of repair and maintenance activities for aircraft and aerospace ground equipment. Base civil engineering operations involve generation of waste solvents, oils, miscellaneous chemicals, and paints from various shops, including a paint shop, plumbing shop, photography lab, carpentry shop, and several flammable-material storage facilities. Fuel storage operations include the bulk storage of jet fuel. The installation formed a joint Restoration Advisory Board (RAB) with the Navy in August 1994.

Installation Restoration Program (IRP) sites have been identified at this installation. The cleanup progress at Willow Grove ARS for FY04 through FY07 is detailed below.

In FY04, the installation implemented the chemical oxidation process at two out of eight area zones of the petroleum/oil/lubricants (POL) Site (ST 01). The installation also completed groundwater sampling (compliance and performance) and completed a biosparging pilot test. The test was successful within the limitations imposed by field conditions. The installation held two RAB meetings.

In FY05, Willow Grove ARS completed implementation of the chemical oxidation process at Zones B, D, and H. The installation completed quarterly groundwater sampling from the monitoring wells and three events of performance sampling at Zones B, D, and H. Willow Grove ARS performed a remedial process optimization study for Site ST 01 and completed a site preliminary biosparge design reconnaissance of Site ST 01 to evaluate site conditions. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. Willow Grove ARS held four RAB meetings.

In FY06, Willow Grove ARS completed two quarterly compliance samplings. The installation also completed the final biosparge design reconnaissance of the POL site, abandoned 13 monitoring wells, and developed a work plan for a supplemental investigation on the POL site to fill in data gaps and complete site characterization. The installation held quarterly RAB meetings.

In FY07, Willow Grove ARS constructed a biosparge system. The installation performed biosparge system operations and maintenance, and performance sampling at Zone H. The Air Force completed three compliance samplings. The installation also conducted a right-of-way field investigation (soil boring, temporary monitoring wells, trenches, soil and groundwater sampling).

FY08 IRP Progress

Willow Grove ARS performed biosparge system operations and maintenance, and performance sampling at Zone H associated with the POL Site (ST 01). The installation also completed four compliance samplings and a follow-on investigation and alternatives analysis at this site. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed relocation of the Site ST 01 biosparge system to off-base leased property.

FY08 MMRP Progress

The Air Force has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Willow Grove Air Reserve Station are grouped below according to program category.

IRP

- Relocate Site ST 01 biosparge system to off-base leased property in FY09.
- Remove contaminated soils at Site ST 01 in FY09.
- Complete four compliance samplings in FY09.
- Conduct a pilot treatability study (TS) on the contaminated soils and implement recommendations in FY09-FY10.

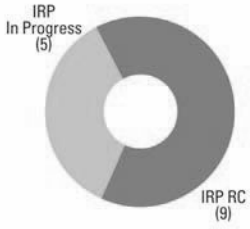
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Willow Grove Naval Air Station Joint Reserve Base

NPL/BRAC 2005 Closure

FFID:	PA317002231200	**Funding to Date:**	$ 10.9 million
Location (Size):	Willow Grove, Pennsylvania (1,090 acres)	**Est. CTC (Comp Year):**	$ 5.5 million (FY 2023)
Mission:	Serve as Reserve naval air station for aviation training activities	**IRP Sites (Final RIP/RC):**	14 (FY2013)
HRS Score:	50.00; placed on NPL in September 1995	**MMRP Sites (Final RIP/RC):**	None
IAG Status:	FFA signed in 2005	**Five-Year Review Status:**	A 5-year review is not required for this installation.
Contaminants:	Heavy metals, PCBs, POLs, solvents, VOCs, SVOCs, explosives, propellants, radioactive materials	**IRP/MMRP Status Table:**	Refer to page M-7-36
Media Affected:	Groundwater, Surface Water, Sediment, Soil		



Progress To Date

The 2005 BRAC Commission recommended closure of Willow Grove Naval Air Station (NAS) Joint Reserve Base. The installation served as a reserve NAS for aviation training activities. Site types include landfills (LFs), underground storage tanks, and a fire training area. The installation formed a technical review committee in FY90. In FY91, it established an administrative record and information repository. The installation was placed on the NPL in September 1995. The Navy completed a federal facility agreement (FFA) for Site 2 in FY05. In FY95, the installation established a Restoration Advisory Board (RAB), which meets regularly. A community relations plan was developed in FY97.

Installation Restoration Program (IRP) sites have been identified at Willow Grove NAS Joint Reserve Base. The installation signed a No Further Action (NFA) Record of Decision (ROD) for Site 1 Soil in FY06. In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Willow Grove NAS Joint Reserve Base for FY04 through FY07 is detailed below.

In FY04, Willow Grove NAS Joint Reserve Base completed a proposed remedial action plan (PRAP) for Site 1 Soil. The Navy received NFA letters from the Pennsylvania Department of Environmental Protection (PADEP) for Sites 10 and 11. The installation completed the draft Site 5 feasibility study for groundwater and the draft Site 1 remedial investigation (RI) for groundwater. The Navy also completed a draft RI at Site 2.

In FY05, the BRAC Commission recommended closure of Willow Grove NAS Joint Reserve Base. The installation submitted an NFA ROD for Site 1 Soil. The Navy completed the FFA.

In FY06, the Navy and EPA, with concurrence from the PADEP, signed an NFA ROD for Site 1 Soil. Willow Grove NAS Joint Reserve Base completed a work plan and fieldwork for Site 3 RI. Technical developments eliminated the need for Site 1 groundwater monitoring.

In FY07, Willow Grove NAS Joint Reserve Base completed the CERFA identification of uncontaminated parcels, and EPA concurred with the determination. The Navy and EPA, with concurrence from the PADEP, completed the PRAP and signed an NFA ROD for Site 5 Soil. The installation completed the test pits and sampling fieldwork for Site 3 RI to locate LF waste.

FY08 IRP Progress

Willow Grove NAS Joint Reserve Base completed a groundwater PRAP and ROD for Site 1 and follow-on geophysical surveys at Site 3. The Navy submitted a revised draft RI report for Site 2 and initiated a groundwater biostimulation/augmentation pilot study at Site 5. The cost of completing environmental restoration has changed significantly due to technical issues.

The installation conducted three RAB meetings, held a tour of environmental restoration sites for RAB members, and continued partnering efforts with regulators.

FY08 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Willow Grove Naval Air Station Joint Reserve Base are grouped below according to program category.

IRP

- Complete groundwater land use control remedial design for Site 1 in FY09.
- Complete RI and NFA ROD for Site 2 in FY09.
- Complete additional test pits for RI at Site 3 in FY09.
- Complete groundwater pilot study operations at Site 5 in FY10.

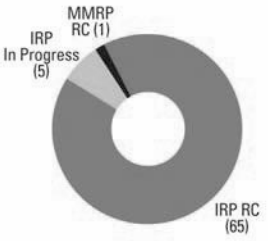
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Wright-Patterson Air Force Base

NPL/BRAC 2005 Realignment

FFID:	OH557172431200	**Funding to Date:**	$ 194.7 million
Location (Size):	Dayton, Ohio (8,145 acres)	**Est. CTC (Comp Year):**	$ 19.1 million (FY 2028)
Mission:	Serve as host to many organizations, including headquarters Air Force Materiel Command	**IRP Sites (Final RIP/RC):**	70 (FY2010)
		MMRP Sites (Final RIP/RC):	1 (FY2003)
HRS Score:	57.85; placed on NPL in October 1989	**Five-Year Review Status:**	Completed and planned
IAG Status:	FFA signed in March 1991	**IRP/MMRP Status Table:**	Refer to page M-6-126
Contaminants:	Acids, plating wastes, VOCs, waste oils and fuels, SVOCs, solvents, TCE		
Media Affected:	Groundwater and Soil		



Progress To Date

Past activities at Wright-Patterson Air Force Base (AFB) created spill sites and unlined waste disposal areas, including landfills (LFs), fire training areas, underground storage tanks, earth fill disposal areas, and coal storage areas. Soil and groundwater have been contaminated with volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), trichloroethylene (TCE), benzene, toluene, ethyl benzene, and xylene compounds. Fire training exercises conducted in unlined pits contaminated soil and groundwater with fuel and its combustion by-products. EPA placed the installation on the NPL in October 1989 and the Air Force signed a federal facility agreement (FFA) in March 1991. In FY97, two new sites, Contaminated Groundwater Area A/C and Contaminated Groundwater Area B, were added to address commingled groundwater plumes and to expedite source area site closure. The installation completed 5-year reviews in FY00 and FY06.

To date, 65 sites and 5 areas of concern (AOCs) have been identified. The Air Force signed Records of Decision (RODs) for LFs 8 and 10; Operable Unit (OU) 1, Spill Sites 2, 3, and 10 (OU 2 ROD), no further action (NFA) for 41 Sites (38 sites, 2 AOCs, and an explosive ordnance disposal range) and an additional NFA for 21 sites for soils. In FY97, the Air Force signed the Groundwater OU (GWOU) ROD, under which all groundwater issues fall. The installation discovered one site and three AOCs after the RODs were signed (AOC Building 79/95, AOC Building 59, AOC Building 25, and AOC Building 55). Wright-Patterson AFB conducted interim soil removal actions on AOC Building 59 and AOC Building 25. The installation addressed potential sources at AOC Building 79/95 during demolition and conducted associated compliance actions at the facility. The Air Force completed a preliminary assessment for AOC Building 55. The cleanup progress for Wright-Patterson AFB for FY04 through FY07 is detailed below.

In FY04, Wright-Patterson AFB continued system operation and maintenance (O&M) and long-term management (LTM) activities.

In FY05, Wright-Patterson AFB continued O&M and LTM activities. The installation initiated the second 5-year review and a time-critical removal action (TCRA) of contaminated soils at Facility 20055. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No new MMRP sites were identified during the inventory development.

In FY06, Wright-Patterson AFB completed the second 5-year review and optimized O&M and LTM requirements. Wright-Patterson AFB also completed the TCRA of contaminated soils at Facility 20055. The installation completed the quality assurance project plan, which was approved by the regulatory agencies.

In FY07, Wright-Patterson AFB accomplished a remedial process optimization (RPO) for LFs 8 and 10, reducing overall monitoring at these sites by 30 percent. The installation began implementing an NFA proposed plan (PP) and ROD for soils at AOC Building 79/95, AOC Building 25, and AOC Building 59. The Air Force initiated a soil cover system for the remainder of LF 7, and the groundwater monitoring wells abandonment project. The Air Force initiated an MMRP Phase I comprehensive site evaluation (CSE) at the installation.

FY08 IRP Progress

Wright-Patterson AFB continued O&M and LTM of groundwater and LF operations. The installation continued development of a PP for AOC Building 25, AOC Building 79/95, and AOC Building 59, with regulatory input. The Air Force completed the soil cover project at LF 7 and continued abandonment of groundwater monitoring wells. Wright-Patterson AFB received approval of the GWOU ROD RPO. The installation also initiated the groundwater treatment system (GWTS) RPO (pump-and-treat system at OU 5). The Air Force awarded and initiated an OU 2 ROD RPO. The Air Force completed a further interim action for VOCs in soil at AOC Building 55. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

FY08 MMRP Progress

Administrative issues delayed the completion of the CSE Phase I.

Plan of Action

Plan of action items for Wright-Patterson Air Force Base are grouped below according to program category.

IRP

- Prepare documentation of partial soils delisting from NPL in FY09.
- Continue O&M and LTM of groundwater and LF operations in FY09.
- Continue GWTS RPO initiative in FY09.
- Prepare the third 5-year review in FY09.

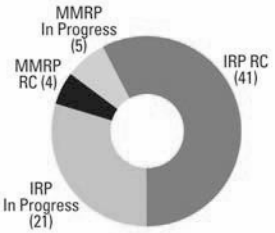
MMRP

- Complete CSE Phase I in FY09.

Wurtsmith Air Force Base

Proposed NPL/BRAC 1991

FFID:	MI557002427800	**Est. CTC (Comp Year):**	$ 23.4 million (FY 2047)
Location (Size):	Oscoda, Michigan (4,627 acres)	**IRP Sites (Final RIP/RC):**	62 (FY2009)
Mission:	Supported fighter, bomber, and cargo aircraft operations	**MMRP Sites (Final RIP/RC):**	9 (FY2009)
HRS Score:	50.00; proposed for NPL in January 1994	**Five-Year Review Status:**	Completed and planned
IAG Status:	N/A	**IRP/MMRP Status Table:**	Refer to page M-6-96
Contaminants:	Spent solvents, UXO, VOCs, SVOCs, metals, POLs		
Media Affected:	Groundwater, Surface Water, Soil		
Funding to Date:	$ 61.4 million		



Progress To Date

The mission of Wurtsmith Air Force Base (AFB) was to conduct tactical fighter and bomber training. In July 1991, the BRAC Commission recommended closure of Wurtsmith AFB, and the installation closed in June 1993. EPA proposed the installation for the NPL in January 1994. Sites at the installation include a waste solvent underground storage tank (UST), bulk storage areas for petroleum/oil/lubricants (POLs), aboveground storage tanks, fire training (FT) areas, landfills (LFs), and an aircraft crash site. Volatile organic compounds (VOCs) at the installation include trichloroethylene (TCE), dichloroethene, vinyl chloride, benzene, toluene, ethyl benzene, and xylenes, all of which primarily affect groundwater. A Restoration Advisory Board (RAB) was established in FY94. To address cleanup efforts, a BRAC cleanup plan was developed. The installation completed the first 5-year review in FY04.

Environmental studies identified Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites at Wurtsmith AFB. The cleanup progress at Wurtsmith AFB for FY04 through FY07 is detailed below.

In FY04, the Air Force completed the first 5-year review and carried out a screening for residual mercury vapors and radioactive materials. A remedial process optimization (RPO) study was conducted for three pump-and-treat systems, and a short-term RPO recommendation for a rebound study at the soil vapor extraction system at FT 002 was implemented. The installation removed a previously unknown 300-gallon UST. The installation created a project to fill data gaps at LFs 030 and 031 and issued a request for proposal. Site ST 069 attained the State's cleanup action levels. The Air Force also conducted an inventory of MMRP sites. The RAB met and was presented with the findings of the 5-year review and a description of the cleanup status at various sites.

In FY05, remedial investigation (RI) fieldwork at Spill Site (SS) 072 was completed, and the draft RI report was prepared. The Air Force began evaluating requirements at identified MMRP sites.

In FY06, the Air Force completed a site assessment for the UST at Building 5002 and fieldwork at LFs 030 and 031 to provide additional information to the Michigan Department of Environmental Quality (MDEQ) on the remedy. The Air Force also submitted a risk assessment to the MDEQ to modify the allowable discharge of perchloroethylene (PCE) to the wetland. An archive search report was completed to identify and evaluate all MMRP sites and determine necessary follow-on actions. Five additional MMRP sites were identified: Fire-In Butt, Skeet Range (South), Skeet Range (West), Grenade Range, and North Explosive Ordnance Disposal Range.

In FY07, the Air Force completed decision documents (DDs) for Sites ST 068, 069, and 071, and an investigation at Site OT 024 to delineate a PCE plume and clear a 52-acre parcel for transfer. The installation performed investigations at LFs 030 and 031, which cleared a 17-acre parcel for transfer. The Air Force initiated plans to resolve the RCRA cap issue at LFs 030 and 031 by proposing a DD to install a pump-and-treat system. Wurtsmith AFB completed a site inspection (SI) at the Fire-In Butt with a no further action (NFA) recommendation. The Air Force completed SI work plans for four other sites and completed munitions explosives of concern clearance for the North Explosive Ordnance Disposal Range. The Air Force placed land use controls (LUCs) on land transfers for two MMRP sites, the Bombing/Strafing Range and the Weapons Storage Area.

FY08 IRP Progress

Wurtsmith AFB awarded a contract for remedial design (RD) and remedial action (RA) at SS 072, implementation of remedies at LFs 030 and 031, and a qualitative risk assessment at LF 027. The Air Force completed an SI for FT 002. The installation completed operating properly and successfully documentation for SS 071, allowing for property transfer of two parcels located on the site. The Air Force issued a draft DD for LFs 030 and 031. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed RD/RA construction for SS 072, and the feasibility study (FS) for SS 072. Regulatory issues delayed completion of a risk assessment and DD for LF 027, and remedies and DDs for LFs 030 and 031. Regulatory issues also delayed an explanation of signifcant differences (ESD) for the Site OT 24 DD.

FY08 MMRP Progress

The installation completed SI fieldwork at four MMRP sites. The Air Force implemented LUCs on all property within the installation's boundaries.

Regulatory issues delayed NFA documents at four MMRP sites.

Plan of Action

Plan of action items for Wurtsmith Air Force Base are grouped below according to program category.

IRP

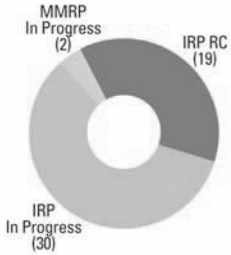
- Complete FS for SS 072 in FY09.
- Complete DD for LFs 030 and 031 in FY09.
- Initiate construction of remedies for LFs 030 and 031, and SS 072 in FY09.
- Complete qualitative risk assessment for LF 027 in FY09.
- Submit draft DD for FT 002 in FY09.
- Complete ESD for Site OT 024 in FY09.

MMRP

- Complete groundwater fieldwork at the Grenade Range in FY09.
- Complete DDs for four MMRP sites in FY09.
- Implement LUCs for off-base property in FY09.

Yorktown Naval Weapons Station

FFID:	VA317002417000	**Media Affected:**	Groundwater, Surface Water, Sediment, Soil
Location (Size):	Yorktown, Virginia (10,624 acres)	**Funding to Date:**	$ 56.1 million
Mission:	Provide technical support and maintenance, modifications, production, loading, off-loading, and storage for Atlantic Fleet	**Est. CTC (Comp Year):**	$ 16.7 million (FY 2039)
		IRP Sites (Final RIP/RC):	49 (FY2012)
HRS Score:	50.00; placed on NPL in October 1992	**MMRP Sites (Final RIP/RC):**	2 (FY2016)
IAG Status:	FFA signed in August 1994	**Five-Year Review Status:**	Completed and planned
Contaminants:	Acids, asbestos, explosives, cadmium, zinc, lead, mercury, PAHs, VOCs, paint thinners, solvents, PCBs, waste oils, nickel, varnishes, SVOCs, metals, propellants, explosives	**IRP/MMRP Status Table:**	Refer to page M-6-170



Progress To Date

Yorktown Naval Weapons Station (NWS) provides ordnance technical support and related services to the Atlantic Fleet. EPA placed the installation on the NPL in October 1992, primarily because six sites are hydrologically connected to the Chesapeake Bay. A federal facility agreement (FFA) was signed in September 1994. In 2005, the BRAC Commission recommended Yorktown NWS for realignment. Contaminants include explosive nitramine compounds and volatile organic compounds (VOCs) that affect groundwater, surface water, and sediment. A technical review committee, formed in FY91, was converted to a Restoration Advisory Board in FY95. In FY02, the installation updated the community relations plan. Yorktown NWS completed 5-year reviews in FY02 and FY08.

To date, Yorktown NWS has completed 16 Records of Decision (RODs). In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The cleanup progress at Yorktown NWS for FY04 through FY07 is detailed below.

In FY04, the installation continued the Site 6 remedial action (RA) and finalized a site screening area (SSA) report for 10 SSAs. In addition, the installation completed a draft remedial investigation (RI) for Sites 27 through 30. Yorktown NWS also initiated an update of master project plans. The installation completed final Round II RIs for Sites 2, 8, 18, and SSA 14.

In FY05, Yorktown NWS finalized a No Further Action (NFA) ROD for soil at Site 4 and a No Action (NA) ROD for Site 18. Site 18 is complete for all media. The installation finalized work plans for Operable Unit (OU) 1 and initiated a Round I RI. The installation completed the draft final long-term monitoring report for Site 12, and work plans for investigation of mercury contamination in Ballard Creek downstream of Site 12. The installation finalized the RI for Sites 27 through 30. The Site 6 RA continued. The installation finalized master project plans.

In FY06, Yorktown NWS completed an NA ROD for Site 27. In addition, the installation completed long-term monitoring for Sites 1, 3, and 7. The installation initiated a baseline ecological risk assessment (BERA) for the wetlands downgradient of Site 12 (SSA 25). The installation completed the preliminary assessment and initiated the site inspection (SI) for the Morale, Welfare, and Recreation (MWR) Skeet Range.

In FY07, Yorktown NWS completed the Round I RI and initiated the Round II RI for groundwater OU 1. The installation also completed an engineering evaluation and cost analysis for Site 30. The Navy initiated the second 5-year review. Yorktown NWS completed the field investigation for the closed MWR Skeet Range and initiated the SI report.

FY08 IRP Progress

Yorktown NWS completed a second 5-year review, and determined that all sites were in compliance. The installation completed the removal action at Site 30.

Regulatory issues delayed the NA ROD for groundwater at Sites 11 and 17. Administrative issues delayed the Round II RI for groundwater OU 1, and the RI and BERA for the area upgradient of Site 12 (Site 31).

FY08 MMRP Progress

The Navy completed an SI report for the closed MWR Skeet Range with NFA required.

Plan of Action

Plan of action items for Yorktown Naval Weapons Station are grouped below according to program category.

IRP

- Complete Round II RI for groundwater OU 1 in FY09.
- Complete NA ROD for Site 29 and groundwater at Sites 11 and 17 in FY09.
- Complete RI for Site 31 in FY10.

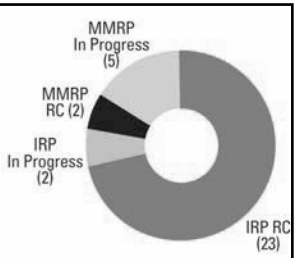
MMRP

There are no MMRP actions scheduled for FY09 or FY10.

Yuma Marine Corps Air Station

NPL/BRAC 2005 Realignment

FFID:	AZ917302449300	**Funding to Date:**	$ 51.4 million
Location (Size):	Yuma, Arizona (4,741 acres)	**Est. CTC (Comp Year):**	$ 13.9 million (FY 2021)
Mission:	Support tactical aircrew combat training for Pacific and Atlantic Fleet Marine Corps Forces	**IRP Sites (Final RIP/RC):**	25 (FY2001)
HRS Score:	32.24; placed on NPL in February 1990	**MMRP Sites (Final RIP/RC):**	7 (FY2017)
IAG Status:	FFA signed in January 1992	**Five-Year Review Status:**	Completed and planned
Contaminants:	Petroleum hydrocarbons, SVOCs, trihalomethanes, VOCs, metals, explosives, propellants, JP-5	**IRP/MMRP Status Table:**	Refer to page M-6-13
Media Affected:	Groundwater and Soil		



Progress To Date

The Yuma Marine Corps Air Station (MCAS) supports tactical aircrew combat training for Pacific and Atlantic Fleet Marine Corps Forces. Initial investigations conducted at the installation identified 20 CERCLA sites and 5 underground storage tank (UST) sites. Site types include landfills, sewage lagoons, liquid waste disposal areas, and ordnance and low-level radioactive material disposal sites. The installation was placed on the NPL in February 1990 and signed a federal facility agreement (FFA) in January 1992. In 2005, the BRAC Commission recommended Yuma MCAS for realignment. The installation completed a 5-year review for Operable Unit (OU) 2 in FY03 and updated it in FY04. The installation also completed a 5-year review for OU 1 in FY04.

Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites have been identified at Yuma MCAS. The installation signed Records of Decision for 25 IRP sites in the late 1990s. Fifteen of the 18 soil IRP sites have received clean closure and the remaining 3 soil sites have their remedies in place (RIP). Five UST IRP sites have received clean closure. One groundwater site (OU 1) is made up of four chlorinated solvent plumes (Areas 1, 2, 3, and 6) and two fuel plumes (4, 5, and 5a). OU 1 Plume Areas 4, 5, 5a, and 6 have received clean closure. In FY02, the installation completed an inventory of all MMRP sites. The cleanup progress at Yuma MCAS for FY04 through FY07 is detailed below.

In FY04, Yuma MCAS finalized the first 5-year review for OU 1 and updated the 5-year review for OU 2. The installation received Plume Areas 5a and 6 site closure. The Navy finalized the groundwater flow and transport model. The installation continued operation and maintenance (O&M) of one groundwater remedial system at OU 1. The Navy continued long-term management (LTM) of Plume Areas 1, 2, and 3 at OU 1, and one remedial action operation (RA-O) system located in the Leading Edge of Plume Area (LEPA) was in temporary shutdown status.

In FY05, the installation abandoned monitoring wells at Plume Areas 5a and 6. The Navy requested permanent shutdown of the RA-O system located at the LEPA and site closure at Plume Area 2. The installation continued O&M at one groundwater remedial system at OU 1 and continued LTM at Areas 1, 2, and 3. The installation investigated and found no significant contamination at Plume Area 3.

In FY06, Yuma MCAS requested and received site closures at Plume Areas 2 and 3. The Navy requested permanent shutdown of the RA-O system located at the LEPA, and shutdown was approved by EPA. The installation reduced LTM from quarterly to semiannually and reduced the number of monitoring wells by 50 percent. The installation also continued O&M at one groundwater remedial system at OU 1 and continued LTM at Plume Area 1. The installation began work plans for MMRP site inspections (SIs).

In FY07, Yuma MCAS continued LTM at Plume Area 1, and continued abandoning well monitoring in the LEPA of Area 1. The Navy abandoned monitoring wells at Plume Areas 2 and 3. The installation shutdown the air sampling (AS) and soil vapor extraction (SVE) system, but continued to maintain the hot spot AS/SVE system in temporary shutdown mode. The Navy performed groundwater sampling as detailed in the LTM work plan. Yuma MCAS applied the Munitions Response Site Prioritization Protocol at each MMRP site. The installation began fieldwork for MMRP SIs.

FY08 IRP Progress

Yuma MCAS continued LTM at Area 1. The installation continued to monitor groundwater rebound in the shutdown AS/SVE system. The Navy will continue groundwater monitoring and reporting in accordance with the LTM work plan prior to recommending closeout. The installation completed abandonment of groundwater monitoring wells. The Navy initiated a 5-year review.

FY08 MMRP Progress

The Navy continued to develop work plans for MMRP SIs. The installation published public notice of the SIs in the local newspaper.

Contractual issues delayed development, review, approval, and implementation of work plans.

Plan of Action

Plan of action items for Yuma Marine Corps Air Station are grouped below according to program category.

IRP

- Prepare well abandonment report for LEPA in FY09.
- Complete 5-year review in FY09-FY10.
- Complete basewide inventory and inspection of all wells installed to support monitoring and remediation efforts in FY09-FY10.
- Continue to monitor groundwater rebound for possible permanent AS/SVE shutdown in FY09-FY10.

MMRP

- Develop work plans for SIs with fieldwork scheduled to begin in FY09.
- Identify sites that require no further action and refine site characterization information in SI report in FY10.