

The narratives in this appendix describe environmental restoration progress and funding at 207 Department of Defense (DoD) installations and former properties. These narratives summarize Defense Environmental Restoration Program (DERP) activities at (1) active DoD installations and Formerly Used Defense Sites (FUDS) that are on, or proposed for, the U.S. Environmental Protection Agency's (EPA's) National Priorities List (NPL); and (2) Base Realignment and Closure (BRAC) installations that have undergone or have been identified for closure with significant environmental restoration costs as of September 30, 2006. The NPL is the list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States and its territories. Currently, unexploded ordnance and discarded military munitions are not part of consideration for placing sites on the NPL.

## Installation Narrative Format

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Each narrative provides key points of information about the installation and its restoration progress. The installation's Federal Facility Identification (FFID) number, size in acres, and mission are provided in the top box portion of each narrative, as are contaminants found at the installation, media affected, any Hazard Ranking System (HRS) scores, interagency agreement (IAG) status, five-year review status, total funding to date, estimated cost to complete (CTC), completion year (the year in which all response actions at the installation will be completed), and final remedy in place (RIP) or response complete (RC) dates for DERP sites in both the Installation Restoration Program (IRP) and Military Munitions Response Program (MMRP) sites.

The narrative text presents a description of the installation's past environmental restoration activities and planned efforts. The Progress to Date section provides background on the installation and summarizes

past environmental restoration-related activities and key environmental restoration events. In addition, this section contains detailed descriptions of environmental restoration progress at the installation under both the IRP and MMRP for Fiscal Year (FY) 2002 through FY2005. The next two sections of each narrative, FY2006 IRP Progress and FY2006 MMRP Progress, address environmental restoration progress in detail for both the IRP and MMRP categories, which took place during the reporting year. The final narrative section, entitled Plan of Action, provides information on activities that will be conducted at the installation during the next two years, and is distinguished by action items for the IRP and MMRP categories.

## Reporting Requirements

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This appendix fulfills the statutory reporting requirements of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) §120(e)(5) and the Superfund Amendments and Reauthorization Act (SARA) §211. Required elements of these installation narratives include a description of any hazardous materials present at each facility, plans and schedules for completing response actions, and an explanation of any postponements or failures to complete response actions as planned. All of these requirements are covered in the narrative text.

IAG and federal facility agreement status, and five-year review status are also statutorily required elements of the installation narratives. Reviews of the remedial action may be required for specific sites no less than every five years after initiating the remedy. Information on these elements can be found in the top box portion of each narrative, as well as in the narrative text.

Additionally, installation narratives include information on munitions response activity and MMRP progress to comply with Congressional

reporting requirements. Past MMRP accomplishments are described in the Progress to Date section of the narrative, while reporting year activities are discussed under the FY2006 MMRP Progress section. Site-level data are not available for all installations that have military munitions response actions. As the MMRP matures, additional data will be included to more accurately reflect the work that is completed or underway at these sites.

An installation may need to change its funding projections from year to year. Installations that have an estimated cost of completion greater than \$10 million must include an explanation for environmental cleanup cost estimate differences of greater than 10 percent from the previous year. Significant changes in an installation's CTC estimate are noted in the FY2006 IRP Progress section, along with an explanation of why the estimate has changed. There are three explanation categories of CTC changes: technical issues (including, but not limited to, additional sites found, incomplete site data, and additional or extended remedial action operations); regulatory issues (including, but not limited to, lowering an existing cleanup requirement and creating new regulations); and estimating criteria (including, but not limited to, the addition of cost data that were overlooked or previously unknown, database updates, and corrections).

Figure M-1 provides a summary of the status of the narratives for NPL, proposed NPL, and BRAC installations that have undergone or have been identified for closure or realignment organized by Component.

As environmental restoration progresses, some installations previously included in this appendix no longer require a narrative. A narrative may no

longer be needed for many reasons, including the installation's deletion from the NPL or a DoD determination of no further action (NFA) required for the property. Installations that do not require narratives after FY2006 are noted by a "last narrative" status in the IRP Progress section. Figure M-2 lists installations that previously had narratives in this appendix, the reason for each installation's removal from the appendix, and the year of the last Annual Report to Congress (ARC) in which a complete narrative for the installation appears. There are five narratives that appeared in the FY2005 Defense Environmental Programs (DEP) ARC that are not included in this year's report—Air Force Plant No. 85, Jet Propulsion Laboratory, National Presto Industries, San Bernardino Engineering Depot, and Naval Magazine Indian Island.

Nine other installations were recommended for closure under BRAC 2005 that require new narratives in the FY2006 DEP ARC—Brooks City Base, Galena Forward Operating Location, Deseret Chemical Depot, Fort Gillem, Fort McPherson, Fort Monroe, Kansas Army Ammunition Plant, Mississippi Army Ammunition Plant, and Newport Chemical Depot. The installation narrative for Concord Naval Weapons Station is identified as Naval Weapons Station Seal Beach, Detachment Concord, to reflect its BRAC 2005 status. Furthermore, the installation narrative for Naval Facilities on Vieques includes an additional site, resulting in an increased CTC estimate.

Figure M-3 provides an index to the Appendix M narratives, listing all of the installation narratives alphabetically, by Component. For each installation in this appendix, the index also includes the status of the installation (NPL, proposed NPL, or BRAC) and the page on which each restoration narrative is located. The installation narratives are arranged in alphabetical order by installation name.

Appendix Z of this report defines acronyms found in the installation narratives. More specific information about site status and program costs for each installation in this appendix can be found in Appendix N, the IRP and MMRP Status Tables. More detailed information on environmental restoration activities at an installation prior to FY2002 can be found in the installation narratives from earlier editions of the DEP ARC, which can be accessed through the Defense Environmental Management Network and Information Exchange (DENIX) Web site at <https://www.denix.osd.mil/>.

**Figure M-1**

Status of Installation Narratives by Component<sup>1</sup>

Component	Total Narratives	NPL	Proposed NPL	BRAC
Army	60	34	1	47
Navy	68	49	0	55
Air Force	60	40	4	46
DLA	5	4	0	2
FUDS	14	14	0	0
<b>Total</b>	<b>207</b>	<b>141</b>	<b>5</b>	<b>150</b>

<sup>1</sup> This report includes 207 installation narratives in Appendix M. The subtotals in the table above are higher, as some installations are both NPL and BRAC.

**Figure M-2**  
Installations No Longer Requiring Narratives

Installation	FFID	State	NPL/ BRAC	Reason Narrative Archived	Last ARC Full Narrative Appeared	IRP/MMRP Status Table Reference
<b>Army</b>						
Army Research Laboratory-Woodbridge	VA321382098100	VA	BRAC 1991	All remedies are in place at this installation and all property has been transferred.	FY2001	N-8-42
Cameron Station	VA321022013900	VA	BRAC 1988	All remedies are in place at this installation and all property has been transferred.	FY2000	N-7-34
Defense Distribution Depot Ogden	UT821002092200	UT	NPL/ BRAC 1995	All remedies are in place at this installation and all property has been transferred.	FY2003	N-6-241
Detroit Arsenal and Tank Plant	MI521382026800	MI	BRAC 1995	The Army has completed all required actions at the installation. The installation achieved RIP and RC status and all property has been transferred.	FY2002	N-8-22
Fitzsimons Army Medical Center	CO821162033300	CO	BRAC 1995	All remedies are in place at this installation and all property has been transferred.	FY2003	N-8-8
Fort Benjamin Harrison	IN521372040200	IN	BRAC 1991	The Army has completed all required actions at the installation. The installation achieved RIP/RC status and all property has been transferred.	FY2000	N-8-15
Fort Greely	AK021452215500	AK	BRAC 1995	The installation became part of the Strategic Missile Defense Command and is no longer a BRAC installation.	FY2002	N-6-3
Fort Totten	NY221022089700	NY	BRAC 1995	All remedies are in place at this installation and all property has been transferred.	FY2004	N-8-29
Hingham Annex	MA121402280500	MA	BRAC 1995	All remedies are in place at this installation and all property has been transferred.	FY2003	N-8-21
Military Ocean Terminal, Bayonne	NJ221352275200	NJ	BRAC 1995	All remedies are in place at this installation and all property has been transferred.	FY2002	N-8-27
Presidio of San Francisco	CA921402079100	CA	BRAC 1988	The Army is no longer responsible for restoration activities at this installation. Subsequent activities will be conducted by the Presidio Trust.	FY1999	N-8-5
Schofield Barracks	HI921452223900	HI	NPL	The installation has reached the construction complete milestone and has been delisted from the NPL.	FY2000	N-6-106
Sudbury Training Annex	MA121402300900	MA	NPL/ BRAC 1995	All remedies are in place at this installation and all property has been transferred.	FY2003	N-8-21
<b>Navy</b>						
Glenview Naval Air Station and Libertyville Training Site	IL517002293000/ IL517009999900	IL	BRAC 1993	The transfer of all property was completed and no further cleanup is required by Navy.	FY2003	N-8-14
Indianapolis Naval Air Warfare Center	IN517002349900	IN	BRAC 1995	The transfer of all land and offshore property was completed and no further cleanup is required by Navy.	FY2003	N-8-15
Kaho'olawe Island	N/A	HI	N/A	A narrative is not legally required.	FY2004	N/A
Midway Naval Air Facility	MQ917002758400	MQ	BRAC 1993	No further cleanup is required by Navy.	FY2004	N-8-23

Installation	FFID	State	NPL/ BRAC	Reason Narrative Archived	Last ARC Full Narrative Appeared	IRP/MMRP Status Table Reference
<b>Navy</b>						
Naval Magazine Indian Island	WA017002756800	WA	NPL	The installation was delisted from the NPL and all response actions are complete.	FY2005	N-7-34
Oakland Fleet and Industrial Supply Center	CA917002477600	CA	BRAC 1995	The transfer of all land and offshore property was completed and no further cleanup is required by Navy.	FY1999	N-8-5
Sabana Seca Naval Security Group Activity	PR217002753500	PR	NPL	The installation was delisted from the NPL and NFA is required for any sites.	FY1999	N-8-37
<b>Air Force</b>						
Air Force Plant No. 85	OH557172887000	OH	Proposed NPL	No further cleanup is required by Air Force.	FY2005	N-6-194
Luke Air Force Base	AZ957152413300	AZ	NPL	The installation was delisted from the NPL with only remedial action operations and long-term management.	FY2002	N-7-3
Minneapolis-St. Paul Air Reserve Base	MN557122427500	MN	NPL	The installation was delisted from the NPL and NFA is required for any sites.	FY1999	N-8-24
Roslyn Air Guard Station	NY257282429600	NY	BRAC 1995	RC has been achieved for all sites and no long-term monitoring is required. The Air Force does not plan to spend additional restoration funds at this installation.	FY1997	N-7-25
<b>FUDS</b>						
Avco Lycoming Superfund Site	PA39799F145100	PA	NPL	NFA is required of DoD at this site.	FY1996	N-8-36
Jet Propulsion Laboratory	CA99799F546700	CA	NPL	No current cleanup is conducted by the U.S. Army Corps of Engineers (USACE). NASA is managing the site remediation.	FY2005	N-7-7
Kingsbury (Fisher-Calo)	IN59799F357000	IN	NPL	No further action is required by DoD. EPA and the private potentially responsible parties are managing the site remediation.	FY1999	N-6-128
Malta Rocket Fuel Area	NY29799F128100	NY	NPL	DoD has no remaining liability at this property.	FY1999	N-7-26
Marathon Battery Corporation	NY29799F114200	NY	NPL	No further action is required by DoD. The property was delisted from the NPL.	FY1996	N-8-30
Middletown Air Field	PA39799F144500	PA	NPL	The property was delisted from the NPL.	FY1996	N-8-36
National Presto Industries	WI59799F244900	WI	NPL	No further cleanup is required by USACE.	FY2005	N-8-46
San Bernardino Engineering Depot	CA99799F558700	CA	NPL	No further cleanup is required by USACE.	FY2005	N-8-8
San Fernando Valley (Area 1)	CA99799F530400	CA	NPL	DoD has no remaining liability at this property.	FY2001	N-8-6
Strother Army Airfield	KS79799F031800	KS	NPL	DoD has no remaining liability at this property.	FY2001	N-7-17

**Figure M-3**

Installation Narrative Summaries Index

Installation Name	State	Status	Page
<b>Army</b>			
Aberdeen Proving Ground	MD	NPL/BRAC	M-9
Alabama Army Ammunition Plant	AL	NPL/BRAC	M-15
Anniston Army Depot	AL	NPL/BRAC	M-21
Army Research Laboratory-Watertown	MA	NPL/BRAC	M-22
Camp Bonneville	WA	BRAC	M-32
Cornhusker Army Ammunition Plant	NE	NPL	M-42
Deseret Chemical Depot	UT	BRAC	M-50
Fort Chaffee	AR	BRAC	M-66
Fort Devens	MA	NPL/BRAC	M-68
Fort Dix	NJ	NPL/BRAC	M-69
Fort Dix BRAC	NJ	BRAC	M-70
Fort Eustis	VA	NPL/BRAC	M-71
Fort George G. Meade	MD	NPL/BRAC	M-72
Fort Gillem	GA	BRAC	M-73
Fort Lewis	WA	NPL/BRAC	M-74
Fort McClellan	AL	BRAC	M-75
Fort McPherson	GA	BRAC	M-76
Fort Monmouth	NJ	BRAC	M-77
Fort Monroe	VA	BRAC	M-78
Fort Ord	CA	NPL/BRAC	M-79
Fort Pickett	VA	BRAC	M-80
Fort Richardson	AK	NPL/BRAC	M-81
Fort Riley	KS	NPL	M-82
Fort Ritchie	MD	BRAC	M-83
Fort Sheridan	IL	BRAC	M-84
Fort Wainwright	AK	NPL	M-85
Fort Wingate	NM	BRAC	M-86
Hamilton Army Airfield	CA	BRAC	M-94

Installation Name	State	Status	Page
<b>Army</b>			
Iowa Army Ammunition Plant	IA	NPL	M-101
Jefferson Proving Ground	IN	BRAC	M-103
Joliet Army Ammunition Plant	IL	NPL	M-104
Kansas Army Ammunition Plant	KS	BRAC	M-106
Lake City Army Ammunition Plant	MO	NPL	M-109
Letterkenny Army Depot	PA	NPL/BRAC	M-112
Lexington Facility, Lexington-Blue Grass Army Depot	KY	BRAC	M-113
Lone Star Army Ammunition Plant	TX	NPL/BRAC	M-114
Longhorn Army Ammunition Plant	TX	NPL	M-116
Louisiana Army Ammunition Plant	LA	NPL	M-118
Milan Army Ammunition Plant	TN	NPL	M-130
Mississippi Army Ammunition Plant	MS	BRAC	M-131
Newport Chemical Depot	IN	BRAC	M-151
Oakland Army Base	CA	BRAC	M-155
Pueblo Chemical Depot	CO	BRAC	M-168
Red River Army Depot	TX	BRAC	M-170
Redstone Arsenal	AL	NPL/BRAC	M-171
Riverbank Army Ammunition Plant	CA	NPL/BRAC	M-175
Rocky Mountain Arsenal	CO	NPL	M-177
Sacramento Army Depot	CA	NPL/BRAC	M-178
Savanna Army Depot	IL	NPL/BRAC	M-181
Seneca Army Depot	NY	NPL/BRAC	M-182
Sierra Army Depot	CA	BRAC	M-183
Stratford Army Engine Plant	CT	BRAC	M-186
Sunflower Army Ammunition Plant	KS	Proposed NPL	M-187
Tobyhanna Army Depot	PA	BRAC	M-189
Tooele Army Depot	UT	NPL/BRAC	M-190

Installation Name	State	Status	Page
<b>Army</b>			
Twin Cities Army Ammunition Plant	MN	NPL	M-196
U.S. Army Armament Research, Development and Engineering Center	NJ	BRAC	M-198
U.S. Army Soldiers Systems Center	MA	NPL/BRAC	M-199
Umatilla Chemical Depot	OR	NPL	M-200
Vint Hill Farms Station	VA	BRAC	M-201
<b>Navy</b>			
Adak Naval Air Facility	AK	NPL/BRAC	M-10
Agana Naval Air Station	GU	BRAC	M-11
Alameda Naval Air Station	CA	NPL/BRAC	M-16
Albany Marine Corps Logistics Base	GA	NPL/BRAC	M-17
Allegany Ballistics Laboratory	WV	NPL	M-18
Bangor Naval Submarine Base	WA	NPL/BRAC	M-25
Barbers Point Naval Air Station	HI	BRAC	M-26
Barstow Marine Corps Logistics Base	CA	NPL/BRAC	M-27
Bedford Naval Weapons Industrial Reserve Plant	MA	NPL	M-28
Camp Lejeune Marine Corps Base	NC	NPL/BRAC	M-33
Camp Pendleton Marine Corps Base	CA	NPL/BRAC	M-34
Cecil Field Naval Air Station	FL	NPL/BRAC	M-37
Charleston Naval Complex	SC	BRAC	M-39
Cherry Point Marine Corps Air Station	NC	NPL/BRAC	M-40
Dallas Naval Air Station	TX	BRAC	M-43
Davisville Naval Construction Battalion Center	RI	NPL/BRAC	M-44
Driver Naval Radio Transmitting Facility	VA	BRAC	M-52
Earle Naval Weapons Station	NJ	NPL/BRAC	M-54
El Toro Marine Corps Air Station	CA	NPL/BRAC	M-57
Fridley Naval Industrial Reserve Ordnance Plant	MN	NPL	M-87
Guam Apra Harbor Complex	GU	BRAC	M-93
Hunter's Point Annex-Treasure Island Naval Station	CA	NPL/BRAC	M-99

Installation Name	State	Status	Page
<b>Navy</b>			
Indian Head Naval Surface Warfare Center	MD	NPL/BRAC	M-100
Jacksonville Naval Air Station	FL	NPL/BRAC	M-102
Keyport Naval Undersea Warfare Center	WA	NPL	M-108
Lakehurst Naval Air Engineering Station	NJ	NPL	M-110
Long Beach Naval Complex	CA	BRAC	M-115
Louisville Naval Surface Warfare Center	KY	BRAC	M-119
Mare Island Naval Shipyard	CA	BRAC	M-122
Marine Corps Base Quantico	VA	NPL/BRAC	M-123
Mechanicsburg Naval Inventory Control Point	PA	NPL	M-129
Moffett Field Naval Air Station	CA	NPL/BRAC	M-132
Naval Activity Puerto Rico	PR	BRAC	M-136
Naval Air Station Brunswick	ME	NPL/BRAC	M-137
Naval Amphibious Base Little Creek	VA	NPL/BRAC	M-138
Naval Auxiliary Landing Field Crows Landing	CA	BRAC	M-139
Naval Computer and Telecommunications Area Master Station, Pacific	HI	NPL	M-140
Naval Facilities on Vieques	PR	NPL	M-141
Naval Fuel Depot, Point Molate	CA	BRAC	M-142
Naval Station Newport	RI	NPL	M-143
Naval Support Facility, Dahlgren	VA	NPL/BRAC	M-145
Naval Weapons Station Seal Beach, Detachment Concord	CA	NPL/BRAC	M-146
New London Naval Submarine Base	CT	NPL/BRAC	M-149
Norfolk Naval Base	VA	NPL/BRAC	M-152
Norfolk Naval Shipyard	VA	NPL/BRAC	M-153
Orlando Naval Training Center	FL	BRAC	M-158
Parris Island Marine Corps Recruit Depot	SC	NPL	M-160
Patuxent River Naval Air Station	MD	NPL/BRAC	M-161
Pearl Harbor Naval Complex	HI	NPL/BRAC	M-162
Pensacola Naval Air Station	FL	NPL/BRAC	M-164

Installation Name	State	Status	Page
<b>Navy</b>			
Philadelphia Naval Complex	PA	BRAC	M-165
Portsmouth Naval Shipyard	ME	NPL/BRAC	M-167
Puget Sound Naval Shipyard	WA	NPL/BRAC	M-169
San Diego Naval Training Center	CA	BRAC	M-179
South Weymouth Naval Air Station	MA	NPL/BRAC	M-184
St. Juliens Creek Annex	VA	NPL	M-185
Treasure Island Naval Station	CA	BRAC	M-192
Trenton Naval Air Warfare Center Aircraft Division	NJ	BRAC	M-193
Tustin Marine Corps Air Station	CA	BRAC	M-195
Warminster Naval Air Warfare Center Aircraft Division	PA	NPL/BRAC	M-202
Washington Navy Yard	DC	NPL/BRAC	M-203
Whidbey Island Naval Station Ault Field and Seaplane Base	WA	NPL/BRAC	M-205
White Oak Naval Surface Warfare Center	MD	BRAC	M-206
Whiting Field Naval Air Station	FL	NPL	M-207
Williamsburg FISC, Cheatham Annex	VA	NPL	M-209
Willow Grove Naval Air Station Joint Reserve Base	PA	NPL/BRAC	M-211
Yorktown Naval Weapons Station	VA	NPL/BRAC	M-214
Yuma Marine Corps Air Station	AZ	NPL/BRAC	M-215
<b>Air Force</b>			
Air Force Plant No. 4	TX	NPL	M-12
Air Force Plant No. 44	AZ	NPL	M-13
Air Force Plant PJKS	CO	NPL	M-14
Andersen Air Force Base	GU	NPL/BRAC	M-19
Andrews Air Force Base	MD	NPL/BRAC	M-20
Arnold Engineering Development Center	TN	Proposed NPL	M-23
Atlantic City Air National Guard Base	NJ	NPL/BRAC	M-24

Installation Name	State	Status	Page
<b>Air Force</b>			
Bergstrom Air Force Base	TX	BRAC	M-29
Brandywine Defense Reutilization and Marketing Office	MD	NPL	M-30
Brooks City Base	TX	BRAC	M-31
Carswell Air Force Base	TX	BRAC	M-35
Castle Air Force Base	CA	NPL/BRAC	M-36
Chanute Air Force Base	IL	Proposed NPL/BRAC	M-38
Chicago O'Hare International Airport Air Reserve Station	IL	BRAC	M-41
Dover Air Force Base	DE	NPL/BRAC	M-51
Eaker Air Force Base	AR	BRAC	M-53
Edwards Air Force Base	CA	NPL/BRAC	M-55
Eielson Air Force Base	AK	NPL	M-56
Ellsworth Air Force Base	SD	NPL	M-58
Elmendorf Air Force Base	AK	NPL/BRAC	M-59
England Air Force Base	LA	BRAC	M-60
F.E. Warren Air Force Base	WY	NPL	M-61
Fairchild Air Force Base	WA	NPL/BRAC	M-62
Galena Forward Operating Location	AK	BRAC	M-88
Gentile Air Force Station	OH	BRAC	M-89
George Air Force Base	CA	NPL/BRAC	M-90
Griffiss Air Force Base	NY	NPL/BRAC	M-91
Grissom Air Force Base	IN	BRAC	M-92
Hanscom Air Force Base	MA	NPL	M-95
Hill Air Force Base	UT	NPL/BRAC	M-97
Homestead Air Force Base	FL	NPL/BRAC	M-98
K.I. Sawyer Air Force Base	MI	BRAC	M-105
Kelly Air Force Base	TX	BRAC	M-107
Langley Air Force Base	VA	NPL/BRAC	M-111

Installation Name	State	Status	Page
<b>Air Force</b>			
Loring Air Force Base	ME	NPL/BRAC	M-117
Lowry Air Force Base	CO	BRAC	M-120
March Air Force Base	CA	NPL/BRAC	M-121
Massachusetts Military Reservation	MA	NPL	M-124
Mather Air Force Base	CA	NPL/BRAC	M-125
McChord Air Force Base	WA	NPL/BRAC	M-126
McClellan Air Force Base	CA	NPL/BRAC	M-127
McGuire Air Force Base	NJ	NPL/BRAC	M-128
Mountain Home Air Force Base	ID	NPL/BRAC	M-134
Myrtle Beach Air Force Base	SC	BRAC	M-135
Newark Air Force Base	OH	BRAC	M-150
Norton Air Force Base	CA	NPL/BRAC	M-154
Pease Air Force Base	NH	NPL/BRAC	M-163
Plattsburgh Air Force Base	NY	NPL/BRAC	M-166
Reese Air Force Base	TX	BRAC	M-172
Richards-Gebaur Air Reserve Station	MO	BRAC	M-173
Rickenbacker Air National Guard Base	OH	Proposed NPL/BRAC	M-174
Robins Air Force Base	GA	NPL	M-176
Tinker Air Force Base	OK	NPL/BRAC	M-188
Travis Air Force Base	CA	NPL	M-191
Tucson International Airport	AZ	NPL	M-194
Tyndall Air Force Base	FL	NPL/BRAC	M-197
Williams Air Force Base	AZ	NPL/BRAC	M-208
Willow Grove Air Reserve Station	PA	NPL	M-210
Wright-Patterson Air Force Base	OH	NPL/BRAC	M-212
Wurtsmith Air Force Base	MI	Proposed NPL/BRAC	M-213

Installation Name	State	Status	Page
<b>DLA</b>			
Defense Distribution Depot Memphis	TN	NPL/BRAC	M-45
Defense Distribution Depot San Joaquin, Sharpe Facility	CA	NPL	M-46
Defense Distribution Depot San Joaquin, Tracy Facility	CA	NPL	M-47
Defense Supply Center Philadelphia	PA	BRAC	M-48
Defense Supply Center Richmond	VA	NPL	M-49
<b>FUDS</b>			
Fike-Artel Chemical	WV	NPL	M-63
Former Nansemond Ordnance Depot	VA	NPL	M-64
Former Weldon Spring Ordnance Works	MO	NPL	M-65
Fort Crowder	MO	NPL	M-67
Hastings Groundwater Contamination Site	NE	NPL	M-96
Moses Lake Wellfield Contamination Site	WA	NPL	M-133
Naval Station Todd-Tacoma	WA	NPL	M-144
Nebraska Ordnance Plant	NE	NPL	M-147
New Hanover County Airport	NC	NPL	M-148
Old Navy Dump/Manchester Annex	WA	NPL	M-156
Ordnance Works Disposal Areas	WV	NPL	M-157
Pantex Plant	TX	NPL	M-159
Sangamo Electric Dump/Crab Orchard National Wildlife Refuge	IL	NPL	M-180
West Virginia Ordnance Works	WV	NPL	M-206



<b>FFID:</b>	MD321382135500	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	72,516 acres	<b>Funding to Date:</b>	\$ 548.7 million
<b>Mission:</b>	Develop and test equipment and provide troop training	<b>Est. CTC (Comp Year):</b>	\$ 314.2 million(FY 2040)
<b>HRS Score:</b>	31.45 (Michaelsville Landfill); placed on NPL in October 1989 53.57 (Edgewood Area); placed on NPL in February 1990	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2018
<b>IAG Status:</b>	IAG signed in March 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, SVOCs, metals, PCBs, explosives, petroleum products, pesticides, radiation, CWM, UXO, potential biological warfare material		



Edgewood and Aberdeen, Maryland

**Progress To Date**

Studies have identified many areas of contamination at Aberdeen Proving Ground (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 (UXO); closure of Nike missile silos, an adamsite vault, and pilot plant sumps; and cleanup of open dump sites. EPA placed two areas of Aberdeen 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. During FY95, the installation converted its technical review committee to a Restoration Advisory Board. The Army completed 5-year reviews in FY99 and FY04.

The Army has signed 23 Records of Decision (RODs) to date. The cleanup progress at APG for FY02 through FY05 is detailed below.

In FY02, the Army began construction of the Canal Creek (CC) groundwater treatment system. The installation submitted draft 5-year reviews for the Edgewood and Aberdeen Areas to EPA. The installation completed design and initiated construction of the shoreline stabilization for Carroll Island/Graces Quarters Operable Unit (OU) B. Construction began on the Western Boundary Study Area (WBSA) OU 1 groundwater treatment facility. The draft technical evaluation and proposed plan (PP) for Old O-Field (OU 1 and OU 2) were completed. The installation completed a time-critical removal action of munitions in D-Field (Other Edgewood Areas).

In FY03, the installation continued removal actions at New O-Field. It used direct push technology to delineate the location of dense non-aqueous phase liquid (DNAPL) in J-Field and installed two DNAPL recovery wells. The ecological risk assessment (ERA) for the west branch of CC began. The installation completed construction and began operations at both the CC and WBSA OU 1 groundwater treatment facilities.

The installation completed the chemical warfare material (CWM) Lauderick Creek removal action and delineated a perchlorate groundwater plume located in the WBSA. The installation signed two decision documents (DDs): one for shoreline protection in D-Field and one to remove chemical waste from I-Field Japanese Bunker. The installation completed the technical evaluation and continued work towards the PP and ROD for Old O-Field. The installation completed the Edgewood Area and the Aberdeen Area 5-year reviews. The Army conducted an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents and identified 19 Military Munitions Response Program (MMRP) sites.

In FY04, EPA approved the 5-year reviews for the Edgewood and Aberdeen Areas. The installation began DNAPL removal at J-Field and continued operations of the CC, Old O-Field, and WBSA 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 to reduce monitoring. The Army closed out the Lauderick Creek CWM site. The Army signed RODs for the Cluster 5 blast slab and other Lauderick Creek Clusters, and Graces Quarters groundwater. The Army completed its range inventory report/preliminary assessment for MMRP.

In FY05, the installation awarded performance-based contracts (PBCs) for Bush River Study Areas OU 2 and 3, Edgewood Area groundwater, and the Westwood Study Area; and completed a ROD for Cluster 3 Bush River lead-contaminated soil. Additionally, the Army 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, PP, and draft ROD for Westwood Study Area. The Army completed a draft ERA for Aberdeen Area, a human health risk assessment (HHRA) for OAA and Western Boundary, and a final Phase II RI for OAA.

**FY06 IRP Progress**

The Army completed 4 RODs during FY06, which included 32 sites in the Westwood Study Area; 6 groundwater and 4

sediments sites in the OAA Study Area; and 13 sites in the CC Study Area. The installation finalized No Further Action DDs 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. The Army 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. The Army awarded a PBC for the former G Street Salvage Yard, an HHRA for WBSA OU 2, and a remedial design for five sediment sites in OAA.

**FY06 MMRP Progress**

APG completed a historical record review and initiated installationwide site inspections.

**Plan of Action**

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

**IRP**

- Complete the RI/FS for the Bush River groundwater and land disposal units in FY07.
- Complete ROD for Old Dump on Woodrest Creek , Old Dump at Swan Creek, and Building 700 B in FY07.
- Complete RIP at six groundwater sites in the OAA Study Area in FY07.
- Complete PP for Edgewood Groundwater Cluster 9 and 19 in FY07.
- Complete RA at five sediment sites in the OAA Study Area in FY07.
- Complete ROD and RA for known distance and pistol ranges and OAA in FY07.
- Complete RI/FS and PP for Canal Creek and Kings Creek Sediments in FY07.

**MMRP**

- Complete preliminary work plan and field work in FY07.

<b>FFID:</b>	AK017002432300	<b>Funding to Date:</b>	\$ 251.2 million
<b>Size:</b>	76,800 acres	<b>Est. CTC (Comp Year):</b>	\$ 46.6 million(FY 2021)
<b>Mission:</b>	Provided services and materials to support aviation activities and operating forces of the Navy	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2011
<b>HRS Score:</b>	51.37; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in November 1993		
<b>Contaminants:</b>	UXO, heavy metals, PCBs, VOCs, petroleum products		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Adak, Alaska

## 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, soil, surface water, and sediments. 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 and FY99. In FY92, Adak NAF formed a technical review committee, which was converted to a Restoration Advisory Board in FY96. In FY01, the installation completed a 5-year review.

Adak NAF has identified 97 sites. The installation has completed interim Records of Decision (RODs) for Operable Units (OUs) A and B1, and two no further actions for SWMUs 4 and 27, and several sites originally included in OU B. In addition, the installation has completed a finding of suitability to transfer (FOST) and transferred approximately 47,000 acres for private reuse in FY04. The installation completed the environmental cleanup on an additional 24,300 acres that was transferred to the Department of the Interior (DOI) in FY04. The cleanup progress at Adak NAF for FY02 through FY05 is detailed below.

In FY02, the installation completed fieldwork to support the remedial investigation and feasibility study (RI/FS) for OU B-2 Sites and the FOST for Parcel 1A. It also completed remedial actions (RAs) for the remaining OU B-1 sites. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site has been identified at this installation. The installation completed RAs for all munitions

and explosives of concern (MEC) contaminated sites in OU B1 for transfer to private ownership (Parcels 1A and 1B) and DOI (Parcels 2 and 3).

In FY03, the installation completed the draft RI/FS report for OU B2 and an amendment to the OU A ROD to accommodate the framework of the state regulations. The Navy began the NPL delisting process for OU A for all Alaska regulations. Adak NAF completed the draft evaluations for 6 of the 14 media other than groundwater. The installation finalized a FOST that documents the completion of all MMRP actions for real estate planned to be transferred to private reuse (Parcels 1A and 1B). The Navy inspected the institutional controls and enhanced access restrictions for areas that are off limits due to potential ordnance contamination. MEC scrap that was generated from previous investigation and RAs was documented as free of explosives and transported off the island for recycling.

In FY04, the installation 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 has 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 of 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 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.

## FY06 IRP Progress

Adak NAF continued long-term management (LTM) at 29 CERCLA and petroleum release sites under the OU A ROD. The installation completed DDs and RAs for three petroleum release sites and characterization was completed at another site.

Regulatory issues delayed completion of the 5-year review and partial deletion for the 29 CERCLA and petroleum release sites.

## FY06 MMRP Progress

A partial non-time critical removal action was completed at MEC site RG 01.

## Plan of Action

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

### IRP

- Continue LTM and complete partial deletion of 29 CERCLA and petroleum release sites in FY07.
- Complete PP and DD at remaining petroleum sites in FY07.
- Continue free product recovery at three petroleum sites in FY07.
- Complete confirmatory soil sampling at 16 sites with no further RAs planned in FY07.
- Complete 5-year review in FY07.

### MMRP

- Finish MEC clearance at Lake Jean (LJ 01) and Rifle Grenade Range (RG 01) in FY07.
- Resolve disagreement that military reservation is a viable land use for Parcel 4 in FY07.
- Resolve cost and institutional control disagreement on the proposed OU B 1 ROD amendment in FY07.
- Complete FS and PP for OU B1 and OU B2 sites in FY07.

<b>FFID:</b>	GU917002755700	<b>Funding to Date:</b>	\$ 63.5 million
<b>Size:</b>	1,809 acres	<b>Est. CTC (Comp Year):</b>	\$ 5.5 million(FY 2009)
<b>Mission:</b>	Provided services and material support for transition of aircraft and tenant commands	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Asbestos, paints, solvents, liquids and sludges, heavy metals		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Agana, Guam

## 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 38 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, 5 parcels of the NAS, totaling 1,179 acres, have been transferred to the Government of Guam (GovGuam) and GIAA. The cleanup progress at Agana NAS for FY02 through FY05 is detailed below.

In FY02, an investigation found no contaminants at the abandoned drum sites. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, Agana NAS completed collecting and analyzing fish and sediment samples for polychlorinated biphenyls (PCBs) from a private residence fish pond located near the Agana Power Plant as requested at a RAB meeting. Regulators requested additional fish samples in the Agana Swamp to determine if PCB levels in fish have decreased. The installation negotiated with the BCT to install two additional monitoring wells at Site 37. One RAB meeting and three BCT meetings were held.

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 was re-evaluated to support an additional round of required fish sampling to determine if PCB levels have decreased at Site 35. The installation completed planning documents for addition of two 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 drum and piping. The draft site investigation (SI) work plans were completed under site 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 Site 1, Site 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 PP and both EPA and Guam EPA attended Navy public meetings providing cooperative regulator support.

## FY06 IRP Progress

Agana NAS completed monitoring of the well network installation at Site 1. The Navy completed PCB remedial actions (RAs) at Agana Power Plant Site 37 and included these actions in the remedial investigation 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.

Regulatory issues concerning land use control language delayed the DDs and RA work plans for Site 1, Site 38, and OU 2 (28 sites).

The installation held one RAB and one BCT meeting.

## FY06 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 RA work plans for Site 1, Site 38, and OU 2 (28 sites) in FY07.
- Complete long-term monitoring plan for Site 1 in FY07.
- Conduct fish sampling at the Agana Swamp and complete RI report at the Agana Power Plant in FY07.
- Perform pipeline removal at Building 15-46a in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	TX657172460500	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	706 acres	<b>Funding to Date:</b>	\$ 65.5 million
<b>Mission:</b>	Manufacture aircraft (F-16, partial F-22, and the F-35 Joint Strike Fighter) and associated equipment; testing of electronics	<b>Est. CTC (Comp Year):</b>	\$ 11.9 million(FY 2013)
<b>HRS Score:</b>	39.92; placed on NPL in August 1990	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/None
<b>IAG Status:</b>	IAG signed in FY90	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Solvents, paint residues, spent process chemicals, PCBs, waste oils and fuels, heavy metals, VOCs, cyanide, DNAPL, TCE		



Fort Worth, Texas

## Progress To Date

Air Force Plant No. 4 (AFP 4) has been a primary manufacturer of military aircraft and related equipment since 1942. In August 1990, EPA placed the installation on the NPL. The Air Force signed an interagency agreement (IAG) in FY90. Studies have confirmed groundwater, surface water, and soil contamination. Specifically, trichloroethylene (TCE) was found in groundwater underneath six spill sites and four landfills. In FY95, AFP 4 converted its technical review committee to a Restoration Advisory Board (RAB). The installation completed a 5-year review in FY04.

Thirty sites have been identified at the installation. To date, Records of Decision (RODs) have been completed for all sites. The cleanup progress at AFP 4 for FY02 through FY05 is detailed below.

In FY02, the installation completed the construction of a 3-phase heating array for the soil and groundwater below Building 181 and the heating continued for over 20 weeks. The Air Force drafted and reviewed the 5-year review report. A radioisotope study of TCE along the groundwater flow path to Carswell Air Force Base (AFB) was conducted. AFP 4 and Carswell AFB maintained a close partnership with regulators, the Air Force Center for Environmental Excellence (AFCEE), and BRAC personnel, to include partial funding for the permeable reactive barrier wall, which shut down the Landfill 4/5 treatment system. The RAB met quarterly.

In FY03, the installation submitted the 5-year review and is awaiting comments from regulators. Characterization of the Northeast Parking Lot plume was completed and no source areas were found. AFCEE conducted vegetable oil injection on the north lobe of the plume.

In FY04, EPA provided written concurrence on the first 5-year review. The installation turned off the Building 181 soil vapor extraction system in order 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; however, a water line break caused damage to some equipment, and as a result the East Parking Lot groundwater

system was off-line for two months. AFP 4 continued to partner with AFCEE and the Air Force Real Property Agency (AFRPA) on the proposed Carswell golf course transfer and plume management.

In FY05, the installation continued operations and maintenance (O&M) and long-term monitoring of treatment systems. The Air Force completed Phase III fieldwork on dense nonaqueous phase liquid/polychlorinated biphenyls (PCBs) near the creek, landfills, 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, showcasing the aggressive, proactive work the Air Force has led concerning Lake Worth sediment and sewer sampling at AFP 4. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

## FY06 IRP Progress

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 Carswell Golf Course transfer via AFRPA activities. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Issue TMDL Implementation Plan in FY07.
- Work with AFRPA to complete the explanation of significant differences and transfer the former Carswell Golf Course in FY07.
- Continue long-term monitoring in FY07-FY08.
- Complete the second 5-year review in FY07-FY08.
- Continue treatment system O&M in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	AZ957172462900
<b>Size:</b>	1,374 acres
<b>Mission:</b>	Research, design, and manufacture missiles
<b>HRS Score:</b>	57.86; placed on NPL in 1983
<b>IAG Status:</b>	Negotiations underway
<b>Contaminants:</b>	Machine coolants, machine lubricants, paint sludges, paint thinners, heavy metals, solvents
<b>Media Affected:</b>	Groundwater and soil

<b>Funding to Date:</b>	\$ 75.6 million
<b>Est. CTC (Comp Year):</b>	\$ 43.9 million(FY 2030)
<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
<b>Five-Year Review Status:</b>	Completed



Tucson, Arizona

## Progress To Date

Air Force Plant No. 44 (AFP 44), located adjacent to Tucson International Airport, was constructed in 1951 to manufacture Falcon air-to-air missiles. Over the years, industrial facilities were constructed to support several other missile systems. EPA placed the entire Tucson International Airport Area, including AFP 44, on the NPL in 1983. Contaminants identified at the installation 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 (UCAB). The installation conducted a 5-year review for six soil sites in FY04.

AFP 44 occupies approximately 27.5 acres of the Tucson International Airport, which totals 1,374 acres. To date, Records of Decision (RODs) have been signed 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 FY02 through FY05 is detailed below.

In FY02, the installation completed the closeout of the Site 2 system and determined that the remaining trace concentrations of trichloroethylene (TCE) would not adversely affect groundwater quality. Operation and maintenance (O&M) of the groundwater reclamation system, SVE systems, and dual-phase extraction (DPE) systems continued. The installation analyzed groundwater samples for the presence of 1,4-dioxane. A draft of the 5-year review was completed and the installation awaited stakeholder comments on the document before finalizing it. Several actions of the remedial process optimization Phase III were implemented. The installation maintained an active role in the joint UCAB that represents parties responsible for the Tucson International Airport Area Superfund Site (TIAASS). The Air Force issued an updated draft community relations plan (CRP), and updated a workshop and notebook that summarizes information about TIAASS.

In FY03, the installation conducted an expanded in situ pilot project at Site 2 using potassium permanganate. EPA Region 9 submitted a limited draft risk assessment for 1,4-dioxane. O&M of the groundwater reclamation system, SVE systems, and DPE systems continued. The installation submitted the draft final Site 2 closure report to regulators for review and

concurrence. Comments were received from the regulators on the draft final 5-year review, which was under revision.

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 1 year. In addition, the installation completed the 1,4-dioxane risk assessment and determined the necessary future actions. The Air Force submitted the findings to regulators and is awaiting comments. AFP 44 continued O&M of the groundwater reclamation system, SVE systems, and DPE systems. The installation continued the Site 2 in situ pilot, 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 posed no threat to the groundwater. AFP 44 completed the 5-year review for six soil sites. The installation updated and finalized the AFP 44 CRP.

In FY05, AFP 44 completed the Site 3 permanganate injection and future monitoring results will determine the effectiveness of the permanganate injections. The installation conducted soil gas monitoring for Sites 3 and 5. The results indicate most of the wells are non-detect. AFP 44 continued O&M of groundwater reclamation system and the 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.

## FY06 IRP Progress

AFP 44 submitted the closure documents for Sites 3 and 5. The Air Force is updating 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 TCE concentrations in the monitoring wells. The Air Force is using soybean and lactic acid to clean up the chromium and TCE source areas that migrated from Solid Waste Management Unit D (SWMU D), the former chromium plating area in Building 801. The installation continued O&M of the groundwater reclamation system. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed completion of the closure reports for Sites 3 and 5.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Complete the closure reports for Sites 3 and 5 in FY07.
- Reduce the mass of source areas for Sites 2 and 3 by permanganate injection in FY07.
- Continue cleanup of the chromium and TCE plume underneath Building 801 which is migrating from SWMU D in FY07.
- Continue O&M of the groundwater reclamation system in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CO857172553700	<b>Funding to Date:</b>	\$ 35.9 million
<b>Size:</b>	464 acres	<b>Est. CTC (Comp Year):</b>	\$ 25.7 million(FY 2020)
<b>Mission:</b>	Research, develop, and assemble missiles and missile components; test engines	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/FY 2005
<b>HRS Score:</b>	42.93; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Chlorinated organic solvents, VOCs, nitrate, fuel, hydrazine, TCEs, PCBs, PAHs		
<b>Media Affected:</b>	Groundwater and soil		



Waterton, Colorado

## 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), benzene, other volatile organic compounds (VOCs), and n-nitrosodimethylamine (NDMA), and soil with polychlorinated biphenyls (PCBs) and polynuclear aromatic hydrocarbons (PAHs). The installation formed a Restoration Advisory Board (RAB) in FY96, and signed a RAB charter in FY97.

Studies have identified 61 sites, which were grouped into 6 operable units (OUs). Twelve of 14 underground storage tanks have been removed from the installation and closures were completed at 2 sites. The cleanup progress at AFP PJKS from FY02 through FY05 is detailed below.

In FY02, the installation obtained regulatory approval of the supplemental remedial investigation (RI) for six sites requiring no further action (NFA). A closure plan at one site was implemented, and regulatory approval of the closure was obtained. Periodic groundwater monitoring was performed. The installation received regulatory comments on the supplemental RI for three OUs and developed work plans to address the comments. The installation continued to use the Defense and State Memorandum of Agreement/Cooperative Agreement process to maintain Colorado Department of Public Health and Environment coordination and concurrence with its cleanup program. Quarterly RAB meetings were held.

In FY03, regulators granted NFA determinations for 12 sites. By accepting the OU 5 addendum and granting approval for the OU 4 additional investigation, regulators indicated that the installation can proceed into the corrective measures stage for both groundwater OUs. The installation received approval for a bedrock groundwater pilot study. The installation conducted two investigations, one at OU 1 and one at OU 3, and two rounds of groundwater monitoring. RAB meetings were held quarterly.

In FY04, the installation conducted bedrock pilot studies in three locations to evaluate bioremediation techniques to treat TCE, and 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/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 an NDMA study to evaluate the 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.

## FY06 IRP Progress

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 Interim Corrective Measure Study Report following a public comment period. AFP PJKS completed implementation of the combined soils interim corrective measure, 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 cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed the draft Record of Decision for soil sites.

The installation held RAB meetings quarterly.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Continue sitewide groundwater monitoring in FY07.
- Continue implementation of ICMs for two groundwater sites and collect ICM performance data in FY07.
- Implement groundwater treatability tests for multiple source areas in FY07.
- Submit groundwater feasibility study work plan in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	AL421382000800	<b>Funding to Date:</b>	\$ 62.2 million
<b>Size:</b>	2,235 acres	<b>Est. CTC (Comp Year):</b>	\$ 4.2 million(FY 2036)
<b>Mission:</b>	Manufactured explosives	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/None
<b>HRS Score:</b>	36.83; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA signed in December 1989		
<b>Contaminants:</b>	Nitroaromatic compounds, heavy metals, munitions-related wastes		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Childersburg, Alabama

## 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 installation has six operable units in Area A and Area B. 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.

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. The cleanup progress at Alabama AAP for FY02 through FY05 is detailed below.

In FY02, the installation submitted the draft final soil feasibility study (FS) for regulatory review and the groundwater remedial investigation (RI) work continued. Final fieldwork, to include an off-site potable well survey, was underway. The process for early transfer of the remaining property to the City of Childersburg continued. The installation completed the finding of suitability for early transfer for Area B and closed groundwater monitoring wells in Area A. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY03, the installation completed the early transfer of property to the City of Childersburg. The installation completed a potable well survey and groundwater RI fieldwork. The Army completed the CTT ranges and sites inventory that identified no Military Munitions Response Program (MMRP) sites at this installation. The technical review committee discussed the soil and groundwater past actions, as well as future documented actions.

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

In FY05, the installation completed the draft soils proposed plan.

## FY06 IRP Progress

Alabama AAP prepared a soils PP for regulatory review and completed a work plan addendum for additional groundwater sampling.

Technical issues delayed the groundwater RI/FS and ROD.

## FY06 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 FY07.
- Complete groundwater RI/FS and ROD in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA917002323600	<b>Contaminants:</b>	BTEX, chlorinated solvents, radium, heavy metals, herbicides, pesticides, petroleum hydrocarbons, PAHs, PCBs, VOCs, SVOCs
<b>Size:</b>	2,675 acres	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Mission:</b>	Maintained and operated facilities and provided services and material support for naval aviation activities and operating forces	<b>Funding to Date:</b>	\$ 250.8 million
<b>HRS Score:</b>	50.0; placed on NPL in July 1999	<b>Est. CTC (Comp Year):</b>	\$ 185.0 million(FY 2016)
<b>IAG Status:</b>	FFA signed in FY01	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/None
		<b>Five-Year Review Status:</b>	Planned



Alameda, California

## Progress To Date

In September 1993, the BRAC Commission recommended closure of Alameda Naval Air Station (NAS). Prominent site types are landfills, offshore sediment areas, plating and cleaning shops, pesticide control areas, 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. The installation closed in 1997. 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. EPA placed the installation on the NPL in July 1999, and the installation signed a federal facility agreement (FFA) in FY01. The Navy awarded the installation TAPP grants in FY03 and FY04. The installation also completed the initial community relations plan (CRP), which was revised in FY03 to reflect community interests and concerns.

Alameda NAS has identified 35 Installation Restoration Program (IRP) sites. The installation completed a Record of Decision (ROD) for Marsh Crust in FY00, a No Further Action (NFA) ROD for Site 29 in FY05, and RODs for sites 15 and 26 in FY06. The cleanup progress at Alameda NAS for FY02 through FY05 is detailed below.

In FY02, the installation completed removal actions at Sites 5, 14, and 25, and 40 percent of the polycyclic aromatic hydrocarbon (PAH) cleanup and the RI for OU 5 soil. PAH sampling concluded in the non-CERCLA sites and the site investigation progressed. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed removal actions at Sites 4, 5 (groundwater), 9, 11, 16, and 21, and the RI and feasibility studies (FSs) for Sites 14 and 15. The Navy completed a time-critical removal action (TCRA) for PAHs in the West Housing Area, and a non-TCRA for lead discussed in the soil and for the water and antennae towers. The Navy completed petroleum removal actions at Site CAA 6 and Building 397. It also used six-phase heating to treat the dense non-aqueous

phase liquid and dissolve phase chlorinated solvents. The Navy used chemical oxidation to treat dissolved phase chlorinated solvents, and dual vacuum extraction and bio-sparging to treat petroleum contaminants. The CRP for the installation was revised to reflect community interests and concerns. The Navy awarded a TAPP to review the groundwater RI/FS for OU 5. The Navy also produced a comprehensive newsletter updating all site activities for all interested parties.

In FY04, the installation completed an action memo (AM) and TCRA for Site 13 and prepared an AM for a TCRA memorandum for Site 9 to supplement the previous AM. The Navy initiated the RI for Site 30, the Miller school and child care facility, earlier than planned. The installation began planning a TCRA for containment of PAH contaminated soil at Site 30. The Navy completed RIs for OU 4B (Site 17) and OU 6 (Site 26). The installation completed the RI for OU 4C (Site 29) and determined that the FS was not needed for this NFA site. The RAB held 12 meetings and reviewed numerous environmental documents. The RAB received a TAPP grant for the review of the draft groundwater RI/FS for OU 5. The BCT met once a month, and focused on technical issues related to IRP documents and strategies for reaching closure at the sites.

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 PAH 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 OU 4B (Site 17) and OU 6 (Site 28). The RAB held 12 meetings and reviewed numerous 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.

## FY06 IRP Progress

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 cost of completing environmental restoration has changed significantly due to technical issues, regulatory issues, and changes in estimating criteria.

RODs for Sites 14 and 17, and OU 5 and 1 were not finalized due to regulatory review and Navy extensions. The RI report for Sites 20 and 24 and FSs for OUs 2A and 2B were delayed due to additional data-gap sampling. The Site 30 FS was not finalized due to regulatory issues.

The RAB held 11 meetings, applied for a TAPP grant, reviewed numerous environmental documents, and conducted a RAB tour of two sites with active remediation. The BCT met once a month and focused on technical issues related to IRP documents and strategies for reaching closure at the sites.

## FY06 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 14 and 17, and OUs 1 (Sites 6, 7, 8, and 16) and OU 5 in FY07.
- Complete FS for Site 30 and OUs 2A and 2B in FY07.
- Complete PP for Sites 1 and 27 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	GA417302369400	<b>Media Affected:</b>	Groundwater, sediment, soil
<b>Size:</b>	3,579 acres	<b>Funding to Date:</b>	\$ 42.0 million
<b>Mission:</b>	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	<b>Est. CTC (Comp Year):</b>	\$ 4.5 million(FY 2015)
<b>HRS Score:</b>	44.65; placed on NPL in December 1989	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/None
<b>IAG Status:</b>	FFA signed in July 1991	<b>Five-Year Review Status:</b>	Underway and planned
<b>Contaminants:</b>	VOCs, PCBs, heavy metals, pesticides, PAHs		



Albany, Georgia

## 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.

The installation has identified 32 sites. A No Further Action Record of Decision (ROD) at OU 2 was signed. Final RODs for four sites at OU 1 and two sites at OUs 3, 4, 5, and 6 have been completed. In addition, the installation has signed an interim ROD at solid waste management unit (SWMU) 3. The cleanup progress at Albany MCLB for FY02 through FY05 is detailed below.

In FY02, the installation completed an enhanced bioremediation pilot study. Innovative technologies of hydraulic and pneumatic fracturing were utilized to increase the effective treatment zone. The installation began the remedial design (RD) for source control. A zero-valent iron (ZVI) and potassium permanganate pilot study for groundwater remediation was initiated. Preliminary results of the evapotranspiration (ET) cap pilot study, comparing an ET cap (hybrid poplar tree cap) with a compacted clay cap, favored the ET cap. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, Albany completed the ZVI and potassium permanganate pilot studies. The installation planned to repaint the water tower over one of the SWMUs, and included both SWMUs as part of one contract action. Albany MCLB completed the ET cap pilot study and initiated the RD for groundwater.

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

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 RD for source areas and awarded the contract for the construction of the cap.

## FY06 IRP Progress

Albany MCLB completed injections of permanganate and ZVI 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 ET cap.

## FY06 MMRP Progress

The Navy conducted no MMRP actions at this installation.

## Plan of Action

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

### IRP

- Monitor the effectiveness of the groundwater treatments in FY07.
- Complete construction of the ET cap in FY07.
- Continue natural attenuation monitoring in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	WV317002369100	<b>Funding to Date:</b>	\$ 32.5 million
<b>Size:</b>	1,628 acres	<b>Est. CTC (Comp Year):</b>	\$ 40.7 million(FY 2021)
<b>Mission:</b>	Research, develop, and produce solid propellant rocket motors for DoD and NASA	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/None
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in January 1998		
<b>Contaminants:</b>	VOCs, RDX, HMX, perchlorate, silver		
<b>Media Affected:</b>	Groundwater and soil		



Mineral County, West Virginia

## Progress To Date

The Allegany Ballistics Laboratory 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 FY02, the installation completed a 5-year review.

In FY83, environmental studies identified 11 sites at this government-owned, contractor-operated installation. A confirmation study recommended further investigation at eight of these 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, 5, and 10. In addition, a No Further Action (NFA) ROD was signed for Site 7. The cleanup progress at Allegany Ballistics Laboratory for FY02 through FY05 is detailed below.

In FY02, the installation received regulatory concurrence to conduct a Site 4B X-ray fluorescence pilot study in lieu of an engineering evaluation and cost analysis (EE/CA) and remedial action (RA) to expedite closure. Remedial investigation (RI) continued on AOC N and SWMUs 27A and 37V. The installation discovered significant solvent contamination of groundwater at AOC N. The RIs for Sites 5 and 11 continued. The installation issued two human health risk assessments (HHRAs) for comment to regulators. Additionally, the installation selected a final remedy for Site 10 and issued a proposed RA plan (PRAP). It also performed a 5-year review for Site 5. The installation performed closure and issued final closeout documents for Installation Restoration Site 6, SWMUs 24E, 24R, 26, 37A, 37BB, 37C, 37F, 37G, 37J, 37S, 37T, 58, and 40 AOC H. It also issued an investigation work plan for Phase III SWMUs and AOCs, the 2002 Site Management Plan, and the Construction, Excavation and Groundwater Use Restriction Plan. The Navy completed an inventory of

all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation developed background levels for inorganic contaminants and completed draft risk assessments for Site 1, and RIs for Sites 5 and 11. The installation also commenced RIs for SWMUs 27A, 37E, 37V, and Site 12. The installation continued to make progress on the RI for AOC N, and SWMUs 27A and 37V. The installation issued a draft risk assessment for Sites 1, 2, 3, and 10.

In FY04, Allegany Ballistics Laboratory initiated work to fill in data gaps for Site 1 soils, and the HHRA and ecological risk assessments (ERA) for Site 1. The installation completed the review of the RI/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 EE/CA 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 Ballistic 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 PRAP is final. The installation completed a soil removal action for Site 12. In addition, the installation signed the ROD for Site 10.

## FY06 IRP Progress

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. The Navy signed a ROD and constructed a permeable reactive barrier wall to treat groundwater at the Site 5 landfill.

Regulatory review of the EE/CA delayed completion of the Site 1 non-time critical removal action (NTCRA).

## FY06 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

- Finalize RODs for Sites 2, 3 and 10 in FY07.
- Finalize the EE/CA for Site 1 soils and conduct a NTCRA in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	GU957309951900	<b>Est. CTC (Comp Year):</b>	\$ 45.0 million(FY 2014)
<b>Size:</b>	15,000 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2013
<b>Mission:</b>	Provide troops, equipment, and facilities in the Pacific	<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	50.00; placed on NPL in October 1992		
<b>IAG Status:</b>	FFA signed in March 1993		
<b>Contaminants:</b>	Metals, asphalt, dioxins, PCBs, VOCs		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 100.4 million		



Yigo, Guam

## 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 Anderson AFB for realignment. Preliminary assessments (PAs) have identified landfills, waste piles, fire training areas, hazardous waste storage areas, and spill sites. In 1995, the technical review committee was converted to a Restoration Advisory Board (RAB). The base community relations plan was updated in FY98. A 5-year review was completed in FY04.

The 50 sites identified at Andersen AFB were consolidated into 39 sites and grouped into 6 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, and the Urunao OU. The cleanup progress at Andersen AFB for FY02 through FY05 is detailed below.

In FY02, the installation submitted engineering evaluation and cost analysis (EE/CA) reports for Sites FTA 2 and Landfill (LF) 8 for review by regulators. Groundwater monitoring continued at the installation. The Harmon OU ROD was approved and signed by EPA Region 9 and awaited signature by the Guam EPA and the Air Force.

In FY03, the installation continued long-term operations for Sites LF 2 and FTA 2, as well as groundwater monitoring for the MARBO and Main Base OUs. Negotiations with regulators resulted in reducing the required number of wells, frequency of sampling, and number of analytes. The base finalized two EE/CA reports for LFs 8 and 17, and FTA 2, the no further remedial action (RA) planned report for Site CSA 1, and two remediation verification reports (RVRs) for the polychlorinated biphenyl (PCB) storage area and LF 2, and converted three areas of concern (AOCs) to Installation Restoration Program (IRP) sites. Additionally, 23 AOCs were added to the IRP. The installation initiated the MARBO 5-year review. RAB activities continued and the installation maintained good communication with regulators.

In FY04, Andersen AFB initiated the preliminary design of the Urunao dump site remediation. The installation completed the

RA for Site WP 6 and obtained regulatory inspection and approval. The interim RA (IRA) involving the fence installation land use control for Site LF 10 was completed. The installation finalized Sites WP 6 and LF 10 RVRs. Groundwater sampling was conducted as scheduled for MARBO and the Main Base. The installation finalized the 5-year review for final coordination and signatures.

In FY05, Andersen AFB began EE/CA investigations for former AOC Sites DA 52, 53, and 54, completed fieldwork for 13 of 23 former AOCs [Northeast (NE) sites], and began drafting PA/site inspection (SI) reports. The installation converted 33 AOCs (NE sites) to IRP sites, bringing the total site count to 76. The Urunao ROD was signed by all three parties. The remedial design for the Urunao Dump site was completed. In addition, the no action ROD for the Harmon OU was signed by the Air Force. The installation continued Main Base and MARBO groundwater monitoring and completed two new borings in MARBO and one new boring at Site 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.

## FY06 IRP Progress

Andersen AFB completed the IRA and RVR for the Ritidian Dump site. 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 and feasibility study (RI/FS) for former AOC Sites DA 52, 53, 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 the \$8.4 million RA-construction Part 1 for the Urunao dump sites, and signed a 30-month right of entry between the landowner and the Air Force to enter the site for cleanup. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed the RA project for the Urunao Dump site and LFs 8, 13, and 17. Technical issues delayed the IRA for LFs 19 and 20. Technical issues also delayed finalization of the ROD for Main Base Sites FTA 2, WPs 1 and 2, and LFs 14, 19, and 20. Administrative issues delayed the

finalization of the RI/FS report and no action ROD for the Northwest (NW) Field OU.

## FY06 MMRP Progress

The Air Force continued the PAs at all identified sites. Cost estimates were updated and the initial Munitions Response Site Prioritization Protocol rating for each MMRP site was developed.

## Plan of Action

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

### IRP

- Continue the IRA for LFs 19 and 20 in FY07.
- Obtain signatures on two RODs for the Main Base OU in FY07.
- Award cleanup contracts for LFs 8, 13, and 17 in FY07.
- Develop exit strategy and shutdown of Site FTA 2 remedial system (soil vapor extraction) in FY07.
- Finalize the ROD for Main Base Sites FTA 2, WPs 1, and 2, and LFs 14, 19, and 20 in FY07.
- Finalize the RI/FS report and a no action ROD for the NW Field OU in FY07.
- Execute the Urunao Dump site cleanup action in FY07-FY10.

### MMRP

- Complete the PAs and SIs at all identified sites by the end of FY07 and FY10, respectively.

<b>FFID:</b>	MD357182400000	<b>Est. CTC (Comp Year):</b>	\$ 66.0 million(FY 2017)
<b>Size:</b>	4,300 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/FY 2016
<b>Mission:</b>	Provide Presidential airlift support	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	50.00; placed on NPL in June 1999		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Metals, SVOCs, VOCs, PAHs, PCBs, pesticides		
<b>Media Affected:</b>	Surface water		
<b>Funding to Date:</b>	\$ 67.6 million		



Camp Springs, Maryland

## 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, 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 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 Landfill (LF 05) is a former landfill used for disposal of general refuse, construction rubble, and fly ash. Source 5 consists of two landfills (LF 06 and LF 07) used primarily for disposal of construction wastes, as well as small quantities of household waste and shop wastes (oils, paint thinner, and cleaning solvents). In June 1999, the base was placed on the NPL. In 2005, the BRAC Commission recommended Andrews AFB for realignment. An administrative record and an information repository were created on CD-ROM in FY00, and is updated regularly.

To date, 27 Installation Restoration Program (IRP) sites and 6 areas of concern (AOCs) have been identified. Eight sites have been closed under the petroleum program and two Records of Decision (RODs) have been signed. The cleanup progress at Andrews AFB for FY02 through FY05 is detailed below.

In FY02, the installation began remedial investigation (RI) fieldwork at LF 05 and signed a memorandum of agreement with the Maryland Department of the Environment (MDE) to conduct RI work on adjacent private property affected by LF 05. A basewide background study was initiated, and work plans for a basewide ecological risk assessment (ERA) were developed. The RI at Site ST 14 continued. The Air Force Medical Operation Agency issued approval to release AOC 23 (a former low level radioactive burial site) for unrestricted use after review of the removal activities performed in 1999. The MDE Oil Control program issued case closure letters for Sites SS 12 and SS 13.

In FY03, the installation submitted the draft basewide background study for review. Fieldwork commenced for the

basewide ERA and RIs at Sites FT 04, LF 06/07, and ST 10. Andrews AFB awarded a performance-based contract (PBC) for closure of Site ST 17 (Army and Air Force Exchange Service gas station plume). The installation also received regulatory closure for Sites ST 18 and ST 20 petroleum sites.

In FY04, the installation submitted draft RIs at LF 05, Site ST 14, Site ST 10, and Site FT 04 to the partnering group, which consisted of representatives from EPA, MDE, 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, 3, and Site SS 22. The installation conducted interim actions at the Site SS 11 fuel spill site and a removal action at the 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 PBC mechanism.

In FY05, Andrews AFB completed RIs at 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 Sites SS 12/13 and FT 04, and signed a ROD at Site ST 10. A no further response action planned (NFRAP) document for Site SS 13 was completed. NFRAP documents for Site SS 12 and ST 20 were sent for review and signature. The installation submitted a draft proposed plan (PP) for Site FT 04 for legal review. The TS at 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 installation successfully completed a PBC with the regulatory closure of Site ST 17 and also awarded a PBC to obtain remedy in place plus three years of operation at Sites ST 14 and SS 22. The Air Force submitted draft RIs to the regulatory team for Sites LF 05, ST 14, and LF 06/07. 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.

## FY06 IRP Progress

Andrews AFB completed RIs at Sites LF 05 and ST 14, and submitted a draft RI to the regulatory team for Site SD 23. The installation initiated FSs for LF 06/07 and SD 23. The

installation signed a ROD for CERCLA Site FT 04 and finalized decision documents for four RCRA sites: ST 17, ST 18, ST 20 and SS 21. Andrews AFB initiated and completed Triad field investigation for WP 16. Additionally, the installation completed Triad field investigation for FT 02 and initiated Triad field investigation for SS 27. The Air Force awarded a PBC for Triad investigations of SS 11, SS 26, and AOC 32. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Andrews AFB completed a draft RI for Site FT 03; however, contractual issues delayed completion. Technical issues delayed completion of an RI at Site FT 02. Technical issues also delayed finalization of an FS at LF 05. Regulatory and contractual issues delayed finalization of an FS at Site FT 14, initiation of FSs at Sites FT 02 and 03, and completion of RODs at LF 05 and Sites ST 14 and ST 20.

## FY06 MMRP Progress

The Air Force continued the PA at the Skeet and Trap Club (TS 345). Cost estimates were updated and the initial Munitions Response Site Prioritization Protocol rating for the MMRP site was developed.

## Plan of Action

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

### IRP

- Complete data gap efforts to complete RI at LF 06/07 in FY07.
- Complete site investigation (SI) for SS 27 and initiate Triad effort for SIs at SS 11, SS 26, and AOC 32 in FY07.
- Complete RIs at FT 02 and FT 03 in FY07.
- Issue PP and ROD for LF 05 via a PBC in FY07.
- Issue no further action RODs for WP 16 and SD 23 in FY07.

### MMRP

- Complete PA and SI for the Skeet and Trap Club (TS 345) by the end of FY07 and FY10, respectively.

<b>FFID:</b>	AL421382002700	<b>Funding to Date:</b>	\$ 62.8 million
<b>Size:</b>	600 acres	<b>Est. CTC (Comp Year):</b>	\$ 31.4 million(FY 2037)
<b>Mission:</b>	Maintain combat vehicles	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/FY 2014
<b>HRS Score:</b>	51.91; placed on NPL in March 1989	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	IAG signed in June 1990		
<b>Contaminants:</b>	Heavy metals, phenols, petroleum products, acids, VOCs, caustics		
<b>Media Affected:</b>	Groundwater and soil		



Anniston, Alabama

## 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). Painting, degreasing, and plating operations at the installation generated wastes containing volatile organic compounds (VOCs), phenols, heavy metals, and petroleum distillates. EPA placed 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. Prior to FY01, the Army cleanup activities included pumping waste from an unlined lagoon into a lined lagoon, removing sludge and contaminated soil at RCRA corrective action sites, installing groundwater interception and treatment systems to remove VOCs and phenols, and sampling off-post private wells and springs surrounding the installation. The latter addressed community concerns regarding residential groundwater wells. During FY98, the installation formed a Restoration Advisory Board (RAB) and updated the community relations plan. In FY01, operation of the new centralized groundwater treatment facility began. The installation completed 5-year reviews in FY99 and FY04.

Studies at the installation revealed soil and groundwater contamination at 47 sites. To date, two interim Records of Decision (RODs) have been completed by the installation. The cleanup progress at Anniston AD for FY02 through FY05 is detailed below.

In FY02, the installation completed the Alabama risk-based corrective action for Solid Waste Management Unit (SWMU) 46. The Army completed the Ammunition Storage Area (ASA) remedial investigation and feasibility study (RI/FS), proposed plan (PP), and draft ROD. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents under the Military Munitions Response Program (MMRP).

In FY03, the installation drafted Alabama risk-based corrective actions for SWMUs 45 and 46 (Building 6) and submitted them to the Alabama Department of Environmental Management (ADEM) for review. The installation completed the draft Phase II of the combined groundwater remedial investigation (RI) and

submitted it to regulatory agencies for review. The installation used a preliminary groundwater flow-and-transport model to generate a prioritized list of sample locations for monitoring points and wells. The Anniston Water Works and Sewer Board (AWWSB) and the Army completed an agreement for the installation of treatment equipment necessary to remove trichloroethylene (TCE) from Coldwater Spring, which is the source of water for AWWSB. As part of the agreement, the Army funded air stripping equipment at the Coldwater Spring Treatment Plant. Anniston AD identified two sites during the MMRP inventory. Anniston AD continued to provide public education through the RAB on the health effects of TCE. The installation formed two tiers of partnering teams with the U.S. Army Corps of Engineers, the U.S. Army Environmental Center, ADEM, EPA, and selected contractors.

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

In FY05, the installation completed Phase III comprehensive groundwater RI and submitted it to regulatory agencies for comment. The installation initiated the 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 that provide gravel caps to reduce exposure. The installation developed a partnership with Jacksonville State University to compile and analyze data relevant to 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 the three MMRP sites.

## FY06 IRP Progress

Anniston AD 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, ADEM and EPA. The installation completed the draft comprehensive groundwater FS for OU 1. Anniston AD submitted the draft technical impracticability (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.

Regulatory issues delayed the interim groundwater ROD and the SIA Soils OU ROD.

The installation held quarterly RAB meetings. The RAB discussed the availability of technical assistance for public participation contracts.

## FY06 MMRP Progress

Anniston AD completed the MMRP SIs, with the sites evaluated as low priority. Three sites were recommended for RI.

## Plan of Action

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

### IRP

- Complete final groundwater interim ROD amendment in FY07.
- Complete final comprehensive groundwater Phase III RI in FY07.
- Complete final comprehensive groundwater FS in FY07.
- Complete the SIA Soil OU ROD in FY07.
- Complete the TI evaluation report in FY07.
- Submit draft PP for comprehensive groundwater OU in FY07.

### MMRP

- Begin RIs for 3 sites in FY08.

<b>FFID:</b>	MA121382093900	<b>Funding to Date:</b>	\$ 100.9 million
<b>Size:</b>	48 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.7 million(FY 2005)
<b>Mission:</b>	Conducted materials research and development	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/None
<b>HRS Score:</b>	48.60; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	IAG signed in July 1995		
<b>Contaminants:</b>	Radionuclides, heavy metals, petroleum products, solvents, pesticides, PCBs		
<b>Media Affected:</b>	Surface water and soil		



Watertown, Massachusetts

## Progress To Date

In December 1988, the BRAC Commission recommended closure of the Army Materials Technology Laboratory (Army Research Laboratory [ARL]), Watertown. 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. EPA placed the installation on the NPL in 1994. The installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB) in FY94. The Army and EPA signed an interagency agreement (IAG) in July 1995. The installation closed as scheduled on September 30, 1995. 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. EPA delisted a 37-acre parcel from the NPL in FY00. 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 cleanup progress at ARL Watertown for FY02 through FY05 is detailed below.

In FY02, the Army completed the first 5-year review of the 37-acre parcel. The development of the environmental baseline for the Charles River Operable Unit (OU) continued. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The inventory identified no Military Munitions Response Program (MMRP) sites.

In FY03, the installation collected sediment samples from the Charles River for the ecological risk assessment (ERA). All institutional controls (ICs) are in place for River Park. The Army completed the Environmental Baseline Survey, a finding of suitability to transfer, and additional transfer documents. The RAB continued to review documents and make site visits.

In FY04, the installation completed the baseline ERA and awaited final regulatory concurrence. The Army transferred 11 acres to the Massachusetts Department of Conservation and Recreation (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 baseline ERA for Charles River OU. EPA concurred with the ERA 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.

## FY06 IRP Progress

ARL Watertown completed the second 5-year review with continued annual inspections of all ICs 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 found all to be in compliance. The installation also began the delisting process with EPA for the remaining 11 acres that were previously transferred to MDCR in FY04. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY06 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 delisting of 11 acres on the ARL Watertown site along the Charles River in FY07.
- Conduct operation and maintenance of bank stabilization project in FY07-FY09.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	TN457172404400	<b>Funding to Date:</b>	\$ 88.1 million
<b>Size:</b>	40,000 acres	<b>Est. CTC (Comp Year):</b>	\$ 62.7 million(FY 2032)
<b>Mission:</b>	Simulate flight conditions	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/FY 2015
<b>HRS Score:</b>	50.00; proposed for NPL in August 1994	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	VOCs, PCBs, heavy metals, acids, oleum hydrocarbons, asbestos, solvents		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Coffee and Franklin Counties, Tennessee

## 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 analyses, and technical evaluations for research, system development, and operational programs that simulate operational conditions. Sites at the installation include a landfill, 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 FY02 through FY05 is detailed below.

In FY02, the installation completed fieldwork and data analysis for the RCRA facility investigations (RFIs) for Sites WP 2, 8, and 11 and initiated fieldwork for the Landfill (LF) 1 RFI. The installation conducted a site tour for the RAB. RAB members also participated in the installation action plan meetings. The installation volunteered to participate in a new process initiated by the State to streamline the investigation and cleanup processes for hazardous waste sites.

In FY03, the installation completed the corrective measure study (CMS) for LF 3. LF 3 also achieved remedy in place (RIP) during the fourth quarter. The interim measure (IM) upgrade for Sites WP 6 and 8 was completed and an IM for installing access controls at Site SS 19 was initiated. Site WP 20 achieved RIP and response complete (RC). Risk at Site WP 8 was reduced from high to medium. Risk at Sites WP 6, and SDs 4 and 9 was reduced from medium to low. RFIs for Sites SS 25 and 26 began. The IM for SS 22 was deleted with regulatory acceptance. AEDC achieved a "Yes" for both of the EPA's Government Performance and Results Act environmental indicators. Human Exposures Under Control and Migration of Contaminated Groundwater Under Control were achieved.

In FY04, AEDC completed RFIs for Sites LF 1 and SS 19. The installation completed CMSs for Sites LF 1, WP 2, WP 6, WP 11, and WP 12. Sites SD 4 and 9 achieved RIP and RC. The installation also designed and initiated construction of an IM for

contaminate mass removal associated with Site SS 22 chlorinated solvent plume.

In FY05, AEDC completed draft statements of basis describing RIP and RC for Sites WP 02 and 11, and FT 10, as well as completed an RFI for Site SS 26. The Air Force also completed a CMS for Site LF 03; and bench-scale treatability studies of in situ treatment using zero-valent iron (ZVI), chemical oxidation, and enhanced bioremediation were completed for Site WP 6. The Air Force began the 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.

## FY06 IRP Progress

AEDC completed the IM construction effort at Site SS 22, reducing risk from high to low. The installation also completed the in situ reductive dechlorination IM utilizing ZVI at Site WP 12. The installation continued to investigate the extent of contamination for the RFI for Site SS 25 and continued CMSs at Sites LF 01, WP 02, WP 06, WP 08, and WP 11. Additionally, the Air Force awarded a contract for IM expansion at Site LF 01. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The RAB conducted a tour for local university students.

## FY06 MMRP Progress

The Air Force continued the PAs at all identified sites. Cost estimates were updated and the initial Munitions Response Site Prioritization Protocol rating for each MMRP site was developed.

## Plan of Action

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

### IRP

- Complete IM expansion at LF 01 and meet DoD DERP risk reduction goal in FY07.
- Complete IM design for thermal treatment of source area at WP 08 in FY07.

- Initiate IM efforts at SS 19, reducing risk from medium to low in FY07.
- Complete RFI for SS 25 in FY07.

### MMRP

- Complete PAs and SIs at all identified sites by the end of FY07 and FY10, respectively.

<b>FFID:</b>	NJ257282844900	<b>Est. CTC (Comp Year):</b>	\$ 3.5 million(FY 2017)
<b>Size:</b>	280 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/None
<b>Mission:</b>	Provide Air National Guard training	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	39.65; placed on NPL in August 1991		
<b>IAG Status:</b>	FFA signed in July 1993		
<b>Contaminants:</b>	VOCs, SVOCs, lead, copper, pesticides		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 2.1 million		



Pleasantville, New Jersey

### **Progress To Date**

Atlantic City International Airport is a Federal Aviation Administration (FAA) facility. It houses the New Jersey Air National Guard (ANG) Base, whose mission is to maintain fighter aircraft on continuous peacetime air defense alert to preserve U.S. air sovereignty. The installation was placed on the NPL in 1991 and signed a federal facility agreement (FFA) in July 1993. In 2005, the BRAC Commission recommended Atlantic City ANG Base for realignment. Volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), lead, copper, and pesticides were detected on site. The installation 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. Sites located at the facility are the FAA salvage yard, the FAA jet fuel farm, the FAA fire training facility, and the FAA's old landfill.

To date, four sites have been identified at the installation. The cleanup progress at the Atlantic City ANG Base for FY02 through FY05 is detailed below.

In FY02, the FAA initiated additional field investigations in response to EPA comments on the site inspection (SI) addendum.

In FY03, the installation completed field investigations in response to EPA comments on the SI addendum and ANG assumed lead agency control of site investigations.

In FY04, the installation initiated a remedial investigation (RI).

In FY05, Atlantic City ANG 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.

### **FY06 IRP Progress**

Atlantic City ANG continued the RI. No regulatory comments have been received to date.

### **FY06 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**

- Complete RI in FY07.
- Begin feasibility study in FY07.

#### **MMRP**

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	WA017002729100	<b>Funding to Date:</b>	\$ 85.8 million
<b>Size:</b>	7,201 acres	<b>Est. CTC (Comp Year):</b>	\$ 35.0 million(FY 2035)
<b>Mission:</b>	Provide support base for Trident submarines	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2001/FY 2010
<b>HRS Score:</b>	30.42 (Bangor Ordnance Disposal), placed on NPL in July 1987; 55.91 (Bangor Naval Submarine Base), placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in January 1990		
<b>Contaminants:</b>	Residual TNT, RDX, Otto fuel, VOCs		
<b>Media Affected:</b>	Groundwater and soil		



Silverdale, Washington

## Progress To Date

From the early 1940s until it was commissioned as a submarine base in 1977, Bangor Naval Submarine Base 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 Naval Submarine Base 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 Naval Submarine Base for realignment. The installation completed 5-year reviews in FY00 and FY05.

Forty-three sites have been identified at this installation. These sites were grouped into eight operable units (OUs). The installation has 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. The cleanup progress for Bangor Naval Submarine Base for FY02 through FY05 is detailed below.

In FY02, the installation submitted a proposal for partial deletion from the NPL for all media with the exception of groundwater for OUs 1 and 2. Ordnance monitored natural attenuation (MNA) and downgradient aquifer conditions were evaluated at OU 1. The installation continued long-term operations (LTOs) and long-term management (LTM) at OUs 1, 2, and 8, and implemented and maintained land use controls (LUCs). The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites and identified one MMRP site at this installation.

In FY03, the installation collected additional data to demonstrate that the site treatment system could be shut down. The installation continued LTO and LTM at OUs 1, 2, and 8. LUCs and institutional controls (ICs) were implemented and maintained. MNA was demonstrated as a viable alternative remedy at OU 1.

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 LTM and 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 LUCs and ICs.

In FY05, Bangor Naval Submarine Base 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.

## FY06 IRP Progress

Bangor Naval Submarine Base 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 OU 1, 2, and 7, and did not detect perchlorate.

## FY06 MMRP Progress

The Navy completed a preliminary investigation and report at MMRP Site EO 300.

## Plan of Action

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

### IRP

- Implement optimization study recommendations in FY07.
- Continue LTO and LTM at OU 1, 2, and 8 in FY07.
- Install new wells at OU 1 and repair or close wells at OUs 2 and 8 in FY07.
- Delist soil at OU 1, 2, and 8 in FY07-FY08.

### MMRP

- Conduct remedial investigation at Site EO 300 in FY07-FY08.

<b>FFID:</b>	HI917002432600	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	3,816 acres	<b>Funding to Date:</b>	\$ 61.2 million
<b>Mission:</b>	Maintain and operate facilities and provide services and material support to aviation activities and units of the operating forces	<b>Est. CTC (Comp Year):</b>	\$ 3.2 million(FY 2011)
<b>HRS Score:</b>	N/A	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Heavy metals, petroleum hydrocarbons, pesticides, solvents, asbestos, PCBs		



Barbers Point, Hawaii

## 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. 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.

A preliminary assessment identified nine sites at the installation; however, after an expanded site inspection, it was determined that only one site required further investigation. The installation 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. Site 1 was transferred in FY02. The cleanup progress for Barbers Point NAS for FY02 through FY05 is detailed below.

In FY02, the installation completed a remedial investigation at Site 2. Long-term management continued for Site 19 groundwater. An interim remedial action (IRA) was completed at Site 1 and the site was transferred. The IRA at Site 18 was completed. Archeological sites containing lead contamination were preserved with berms and fences. The installation completed the investigation for the IRA at Site 20. The Navy completed an inventory of all Military Munitions Response Program (MMRP) site and identified no MMRP sites at this installation.

In FY03, Barbers Point NAS continued the ecological risk assessment (ERA) for non-BRAC Sites 6, 7, 17, and 26 through 31. The installation continued removal actions on Site 18 firing ranges. The installation performed a human health risk assessment for Site 2. In addition, the IRA and conservation plan at Northern Trap and Skeet Range (Site 18) were negotiated with the U.S. Fish and Wildlife Service (FWS) to ensure the protection of the endangered Ewa Plains akoko plant.

In FY04, the Hawaii Department of Health and FWS 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 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.

## FY06 IRP Progress

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

Technical issues delayed the closeout of Site 18. The installation successfully abandoned the monitoring wells at Ordy Pond; however, scheduling delayed complete site closeout. Barber's Point completed additional identifications to the consolidation unit; however, regulatory issues delayed closeout.

## FY06 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 the remaining site closeout for Ordy Pond BRAC Site 2, Site 18, and the consolidation unit in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA917302426100	<b>Funding to Date:</b>	\$ 104.4 million
<b>Size:</b>	5,688 acres	<b>Est. CTC (Comp Year):</b>	\$ 27.1 million(FY 2029)
<b>Mission:</b>	Maintain, repair, rebuild, store, and distribute supplies and equipment; formerly conducted industrial operations	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/None
<b>HRS Score:</b>	37.93; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA signed in October 1990		
<b>Contaminants:</b>	Heavy metals, PCBs, petroleum hydrocarbons, pesticides, herbicides, MTBE, VOCs		
<b>Media Affected:</b>	Groundwater and soil		



Barstow, California

## 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. In FY03, the installation completed a 5-year review.

To date, 39 CERCLA and 3 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. The cleanup progress at Barstow MCLB for FY02 through FY05 is detailed below.

In FY02, the installation completed closeout of OUs 5 and 6. The extended RCRA facility assessment report for CERCLA Area of Concern (CAOC) 39 was finalized. The CRP was revised. A 5-year review and an explanation of significant differences (ESDs) to not install the OUs 1 and 2 off-base groundwater extraction system began. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites and identified no MMRP sites at this installation.

In FY03, the installation completed a 5-year review. The OU 7 remedial investigation (RI) and OU 2 Nebo North air sampling/soil vapor extraction (AS/SVE) treatability study fieldwork was completed. The system at OU 2 Nebo South was expanded. The installation tracked the methyl tertiary-butyl ether (MTBE) plume that has commingled with the base volatile

organic compound (VOC) plume and determined that a private entity was the source.

In FY04, the installation completed the OU 2 Nebo North AS/SVE report. Remedial action (RA) operations (RA-O) and long-term management (LTM) continued at CAOCs 37 and 38, and landfill caps. The installation worked with Regional Water Quality Control Board and the private entity to manage the MTBE plume. The installation requested compensation from the private entity. The installation submitted the draft OU 7 RI report. Technical memorandums in support of an 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 was started. 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.

## FY06 IRP Progress

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. Coordination with OGC to recapture funds related to the MTBE plume continued. The installation initiated an ecological risk assessment (ERA) and RI for OU 7.

The ESD for OU 1 was delayed due to regulatory review. Regulatory issues also delayed the remedial design (RD)/RA work plan and design sampling activities at CAOCs 37 and 38.

## FY06 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, RI/feasibility study, and removal actions for OU 7 in FY07-FY08.
- Conduct a 5-year review for OU 1 and OU 2, and address regulatory ESD concerns in FY08.
- Complete RD/RA work plan and remediation technology installation at Nebo North in FY08.
- Continue RA-O and LTM activities for groundwater and soil (landfills) in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	MA117002357000	<b>Funding to Date:</b>	\$ 20.1 million
<b>Size:</b>	46 acres	<b>Est. CTC (Comp Year):</b>	\$ 31.7 million(FY 2031)
<b>Mission:</b>	Designed, fabricated, and tested prototype weapons and equipment	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/None
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	FFA signed in September 1999		
<b>Contaminants:</b>	Acids, BTEX, incinerator ash, industrial wastes, POLs, photographic wastes, solvents and VOCs, paints		
<b>Media Affected:</b>	Groundwater		



Bedford, Massachusetts

## Progress To Date

The Bedford Naval Weapons Industrial Reserve Plant (NWIRP), a former 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). A community relations plan was developed in FY89 and updated in FY92. 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. An information repository is maintained. The facility was declared excess and closed as a non-BRAC closure on December 31, 2000.

Four sites have been identified at the installation: Site 1: incinerator ash disposal area (potential soil contamination with ash and heavy metals); Site 2: components-laboratory fuel tank (potential soil contamination with low levels of POLs); Site 3: northwest groundwater plume (groundwater contaminated with VOCs); and Site 4: 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. The cleanup progress at Bedford NWIRP for FY02 through FY05 is detailed below.

In FY02, the Site 4 remedial action (RA) (in situ chemical oxidation process), which included three injection periods, each followed by confirmatory sampling was completed. The Site 4 feasibility study (FS) and the Site 3 draft FS were completed. The proposed plans (PPs) for Sites 3 and 4 were started. Pilot studies for Site 3 groundwater contamination were considered. Thermal treatment was determined to hold a great potential for success and work plans began. Regular monitoring of the Site 3 groundwater treatment facility continued. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the Site 4 RA continued and the Site 3 pilot study began. Thermal treatment, an innovative technology, was evaluated for groundwater remediation at Sites 3 and 4. The Site 3 pilot study began, with technology at Site 4 being applied as a continuation of the removal action. Regular monitoring of the Site 3 groundwater treatment facility continued.

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

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

## FY06 IRP Progress

Bedford NWIRP continued cool down of the Site 3 thermal treatment pilot study. The installation also continued regular monitoring at the Site 3 groundwater treatment facility.

Regulatory issues delayed the finalization of the Site 4 ROD and removal action plan closeout, and also delayed the groundwater model and MNA report for Site 3, which postponed the revised FS.

## FY06 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 Site 4 MNA Report, ROD, and RA plan closeout in FY07.
- Complete Site 3 revised FS and PP for pilot study in FY07.
- Continue regular monitoring of groundwater treatment facility in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	TX657002418800	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	3,197 acres	<b>Funding to Date:</b>	\$ 48.4 million
<b>Mission:</b>	Served as host to the 67th Reconnaissance Wing, 12th Air Force Headquarters, 12th Tactical Intelligence Squadron, 712th Air Support Operations Center, 10th Air Force Reserve	<b>Est. CTC (Comp Year):</b>	\$ 2.2 million(FY 2016)
<b>HRS Score:</b>	N/A	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 1999/FY 2007
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, pesticides, petroleum hydrocarbons, metals, TCE, low-level radioactive waste		



Austin, Texas

## Progress To Date

Bergstrom Air Force Base (AFB) began operations in 1942, maintaining troop carrier units. In July 1991, the BRAC Commission recommended closure of the installation and retirement of the assigned RF-4 aircraft. The installation closed in late FY93, and the local redevelopment authority (LRA) began to convert the installation to a civilian airport. Site types identified at the base include underground storage tanks (USTs), landfills, 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. Interim remedial actions (RAs) have included removal of 106 USTs, removal of contaminated soil and low-level radioactive wastes, and closure of 45 ASTs. A BRAC Cleanup Team (BCT) and a Restoration Advisory Board (RAB) were formed in FY94. The RAB was disbanded in FY97 because of the successful remediation efforts at the installation. Also in FY97, the latest Environmental Baseline Survey (EBS) was completed. The installation updated the community relations plan (CRP) in FY05 and completed the first 5-year review in FY06.

Environmental studies since FY83 have identified 30 CERCLA sites and 454 RCRA areas of concern (AOCs). To date, 478 out of a total of 484 sites and AOCs have been designated for no further action and all 3,197 acres have been transferred to the LRA. The cleanup progress at Bergstrom AFB for FY02 through FY05 is detailed below.

In FY02, the installation submitted a deed certification for Solid Waste Management Unit (SWMU) 216 to regulatory agencies for approval. The installation also submitted a finding of suitability to transfer (FOST) and supplemental EBS (SEBS) for five sites, and incorporated regulator comments. The pump-and-treat, air sparging, and soil vapor extraction (SVE) systems for the trichloroethylene (TCE) groundwater plume operated throughout the year, which lowered TCE plume levels from an average of 230 parts per billion (ppb) to an average of 35 ppb. The semiannual long-term monitoring of the combined Southeast Landfills (LFs) 3 through 7 (56 acres) was completed and included cutting the grass, repairing erosion as necessary, and inspecting the RCRA landfill caps to ensure their integrity was maintained. The BCT met to determine a cleanup strategy based upon the TCE plume remediation systems results. An

Explosive Ordnance Disposal (EOD) RA project was conducted to clear 200 anomalies that were identified during the investigative project. A draft final report for the EOD RA project was submitted for review and comment.

In FY03, the Air Force began processing the FOST/SEBS for the SWMU 76 Area 2 TCE plume (SS 032). Operation of the existing pump-and-treat, air sparging, and SVE remediation systems continued for the SWMU 76 Area 1 TCE Plume (SS 031). Long-term management (LTM) continued for the combined Southeast LFs 3 through 7 and documentation was developed to achieve operating properly and successfully (OP&S) determinations for the five sites. The EOD area (56 acres) Residential Clearance Certification was submitted to the Air Force Safety Center for processing, and to the DoD Explosive Safety Board (DDESB) for their review and approval. The DDESB safety clearance was approved, allowing for transfer of the EOD area.

In FY04, the installation transferred 161 acres. The Air Force produced SEBS, FOST, and deed for the 56-acre EOD area and the 59-acre SWMU 76 Area 2 TCE plume. Both properties were transferred to the City of Austin. Bergstrom AFB prepared FOST and OP&S documents for the combined Southeast LFs 3 through 7 and the SWMU 76 Area 1 TCE Plume. Operation and maintenance (O&M) and LTM were conducted for the combined Southeast LFs 3 through 7 and the Area 1 TCE plume. The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

In FY05, the installation obtained 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. The Air Force transferred the remaining two parcels (361 acres), and deactivated the SWMU 76 Area 1 SVE systems. O&M and LTM for the combined Southeast LFs 3 through 7 and the Area 1 TCE plume continued under a fixed-price remediation contract. The installation updated the CRP to indicate the status of remediation efforts and identify ongoing opportunities for community involvement. The Air Force completed the draft of the first 5-year review and submitted it for signature. The Air Force began evaluating requirements at MMRP sites at this installation.

## FY06 IRP Progress

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

## FY06 MMRP Progress

The installation completed evaluation of MMRP sites.

## Plan of Action

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

### IRP

- Award the annual regional fixed-price contract to continue LTM and O&M of the combined Southeast LFs 3 through 7 and the SWMU 76 Area 1 TCE plume in FY07.

### MMRP

- Prepare and submit documentation to DDESB to obtain administrative closure for seven MMRP sites in FY07.

<b>FFID:</b>	MD357182400000	<b>Est. CTC (Comp Year):</b>	\$ 10.9 million(FY 2017)
<b>Size:</b>	8 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/None
<b>Mission:</b>	None (inactive)	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	50.15; placed on NPL in June 1999		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	PCBs and solvents (including TCE)		
<b>Media Affected:</b>	Groundwater and sediment		
<b>Funding to Date:</b>	\$ 12.1 million		



Brandywine, Maryland

## 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. 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 on site since 1980. 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. To prevent access to the property, a locked chain-link fence was constructed around the site perimeter. The Air Force has performed 3 PCB removal actions, removing a total of 17,000 cubic yards of contaminated soil; the most recent PCB removal action was in 1994. Brandywine was placed on the NPL in June 1999.

To date, Brandywine DRMO has issued an interim Record of Decision (ROD). The cleanup progress at Brandywine DRMO for FY02 through FY05 is detailed below.

In FY02, Andrews AFB completed Phase I of remedial investigation (RI) and continued to operate the interim remedial action (IRA) pump-and-treat system. Approximately 2.7 million gallons of TCE-contaminated water have been remediated to date. A well survey and sampling has shown that no immediate risks are posed to private drinking water.

In FY03, the treatment system continued to operate as permissible during lulls in RI field efforts.

In FY04, the installation initiated the feasibility study (FS) and submitted the draft 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. 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. Approximately 6.6 million gallons of TCE-contaminated groundwater have been remediated as of September 2005. 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.

## FY06 IRP Progress

Brandywine DRMO continued operations of the existing IRA pump-and-treat system to remediate contaminated groundwater. The installation completed the focused FS, which evaluated and presented groundwater remedies for the aqueous phase plume and management of the dense non-aqueous phase liquid. 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 clean-up alternative. The installation completed the EE/CA and issued a contract to remediate the PCB-contaminated soils and initiate 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.

## FY06 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 PCB soil remediation efforts as defined within the EE/CA in FY07.
- Initiate the design and construction of the

groundwater remedy as defined within the interim ROD in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

**FFID:** TX657172430300  
**Size:** 1,309 acres  
**Mission:** Serve as host to the 311 Human System Wing, the USAF's agent for human-centered research, development, acquisition, education, and operational support at individual and total force levels  
**HRS Score:** N/A  
**IAG Status:** None

**Contaminants:** Aviation and motor fuels, POLs, cleaning solvents, paints, thinners, pesticides, hydraulics fluids, VOCs, SVOCs, TCE, PAHs, PCBs, metals  
**Media Affected:** Groundwater, surface water, sediment, soil  
**Funding to Date:** \$ 7.9 million  
**Est. CTC (Comp Year):** \$ 0.0 million(FY 2011)  
**IRP/MMRP Sites Final RIP/RC:** FY 2002/None  
**Five-Year Review Status:** Completed



San Antonio, Texas

## 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, 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 FY05.

To date, 7 areas of concern (AOCs) and 11 Installation Restoration Program (IRP) sites have been identified at Brooks AFB. Of these sites, 1 AOC and 10 IRP sites have been closed and require no further action (NFA). The remaining six AOCs have also been recommended for NFA. The remaining IRP site continues to undergo remediation. The cleanup progress at Brooks City Base for FY02 through FY05 is detailed below.

In FY02, Brooks City Base completed site inspections for industrial area AOCs, and a preliminary assessment and site investigation for the skeet and firing range (S&FR) AOCs. The Air Force awarded a remedial action (RA) contract for the S&FR AOCs. The installation completed the second round of post-closure compliance monitoring and continued long-term operations and maintenance (O&M) of Fire Protection Training Area (FPTA) 2. The data gap/bottom up review project received site closure approval from regulators. The installation completed three years of post-closure monitoring at Landfill (LF) 007 and submitted the final report. The Air Force completed soil removal actions at four former S&FR AOCs and submitted a final report to regulators. The installation installed a groundwater recovery system and a soil vapor extraction system as the final RA to address trichloroethylene (TCE) contamination and initiated monitored natural attenuation.

In FY03, the installation completed the third round of post-closure compliance monitoring and continued long-term O&M of FPTA 2. The installation conducted a groundwater

investigation of the oil-water separator at Building 1108. LF 007 received site closure approval from regulators for NFA.

In FY04, the installation continued long-term O&M of FPTA 2.

In FY05, the installation completed its first 5-year review for the remaining IRP site, FPTA 2. The Air Force updated its Military Munitions Response program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

## FY06 IRP Progress

The installation addressed regulatory concerns and made recommendations to close FPTA 2.

## FY06 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

- Initiate site closure petition procedures for FPTA 2 in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	WA021402011200	<b>Est. CTC (Comp Year):</b>	\$ 2.0 million(FY 2010)
<b>Size:</b>	3,020 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2002/FY 2010
<b>Mission:</b>	Conducted training of active and reserve DoD personnel	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>HRS Score:</b>	N/A		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	POLs, solvents, UXO		
<b>Media Affected:</b>	Soil		
<b>Funding to Date:</b>	\$ 40.7 million		



Vancouver, Washington

## Progress To Date

In July 1995, the BRAC Commission recommended closure of Camp Bonneville. Prior to its closure, DoD personnel training was conducted at the installation. The Army identified 14 areas of concern (AOCs): a leaking underground storage tank (UST) site, 3 landfills, a burn site, a drum burial site, a paint and solvent burial site, 2 wash racks, a maintenance pit, grease pits, a pesticide storage facility, and an old sewage lagoon site. The Army initiated site investigation work at the leaking petroleum UST. In FY97 the Restoration Advisory Board (RAB) was established. In FY99, the installation also worked with regulators and the community to develop an unexploded ordnance (UXO) management plan.

To date, the installation has completed UXO clearance of 23 acres. The cleanup progress at Camp Bonneville for FY02 through FY05 is detailed below.

In FY02, the installation installed additional groundwater monitoring wells to continue monitoring the landfill for Demo 1. The Army conducted an instrument-aided site reconnaissance of over 70 UXO AOCs. Army investigations began in order to evaluate if past military training and the presence of UXO have adversely affected the groundwater. Work continued towards developing a UXO engineering evaluation and cost analysis for Camp Bonneville. The installation continued characterization work at three open burning and open detonation (OB/OD) sites. The Army initiated an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents. The RAB held monthly meetings and planned an open house.

In FY03, the installation installed and sampled 17 additional wells as part of the installation-wide groundwater investigations. The Army awarded a guaranteed fixed price contract for the removal action at Landfill 4, which was intended to remove any possible source of groundwater contamination. The Army completed characterization of the soil at all of the small arms ranges and two additional OB/OD sites. The installation conducted soils investigation for lead at small arms ranges, and residual explosives at two demolition sites. The Army completed the second phase of the UXO site reconnaissance, investigating more than 1,300 acres for signs of UXO or ordnance related activities.

In FY04, Camp Bonneville completed public review and regulatory closeout for 20 hazardous and toxic waste (HTW) sites, and continued quarterly monitoring of all 27 wells. The installation installed two additional wells as sentry wells for Landfill 4. The interim remedial action (IRA) for Landfill 4 underwent public review and comment. The installation completed the remedial investigation and feasibility study (RI/FS) for small-arms ranges under the Military Munitions Response Program (MMRP). The installation also completed the HTW investigation of Demolition Areas 2 and 3, and determined that neither posed a threat to human health or the environment.

In FY05, the installation continued quarterly groundwater monitoring of 27 wells. Results indicated contamination in groundwater near Landfill 4 only. The installation submitted the draft IRA report to regulators and removed contaminated soil from Landfill 4. The RI/FS for the groundwater plume at Landfill 4 was completed. The Army submitted a draft RI/FS for RA Unit 3 to regulators. The RAB conducted monthly meetings.

## FY06 IRP Progress

Camp Bonneville continued discussions with Clark County and the Washington Department of Ecology (WDOE) regarding the early transfer of Camp Bonneville. The installation received approval for the final IRA for Landfill 4 by WDOE and groundwater monitoring continued. The Army completed a finding of suitability for early transfer and negotiated an environmental services cooperative agreement (ESCA) with Clark County. The Army transferred the entire installation property to Clark County. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The Army delayed the RI/FS for the groundwater plume at Landfill 4 due to the potential early transfer of the installation property.

Since all property has been transferred and the remaining investigations/remediation will be conducted by Clark County, this is the last narrative for this installation.

## FY06 MMRP Progress

The Army included the previously scheduled MMRP work; to complete sampling at the central impact target areas and artillery firing point and to complete remedial action at the small arms ranges, in the ESCA with Clark County and delayed completing these activities due to the pending transfer.

## Plan of Action

Plan of action items for Camp Bonneville are grouped below according to program category.

### IRP

- There are no IRP actions scheduled for FY07 or FY08.

### MMRP

- There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	NC417302258000	<b>Contaminants:</b>	Battery acid, fuels and used oils, paints and thinners, PCBs, pesticides, metals, solvents
<b>Size:</b>	151,000 acres	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Mission:</b>	Provide housing, training facilities, logistical support, and administrative supplies for Fleet Marine Force units and other assigned units; conduct specialized schools and other training as directed	<b>Funding to Date:</b>	\$ 143.4 million
<b>HRS Score:</b>	36.84; placed on NPL in October 1989	<b>Est. CTC (Comp Year):</b>	\$ 161.2 million(FY 2057)
<b>IAG Status:</b>	FFA signed in February 1991	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2017
		<b>Five-Year Review Status:</b>	Completed



Jacksonville, North Carolina

## 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. 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. In February 1991, a federal facility agreement (FFA) was signed. Camp Lejeune MCB was placed on the NPL in October 1999. In 2005, the BRAC Commission recommended Camp Lejeune MCB for realignment. The installation placed its administrative record on the Web in FY00. The installation signed 5-year reviews in FY99 and FY05.

Investigations at Camp Lejeune MCB have identified 176 sites, including 86 leaking underground storage tank sites. Since signing the FFA, 18 operable units (OUs), comprising 42 of the 91 Installation Restoration Program (IRP) sites, have been identified as requiring additional investigation or remediation. To date, the installation has completed 34 Records of Decision (RODs). In addition, Camp Lejeune MCB completed an interim final ROD for Site 69. The installation requested closure with no further action at 26 sites. The cleanup progress at Camp Lejeune MCB for FY02 through FY05 is detailed below.

In FY02, the installation performed an interim remedial action (IRA) for Site 84, polychlorinated biphenyls (PCBs) at Building 45. The natural attenuation (NA) study for Site 73 was completed. The IRA for Site 89 was awarded and the environmental engineering and cost analysis was underway. Fieldwork for the focused NA study for the Site 35 wetland area continued. Removal actions moved forward for OU 6 and 19. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed technology evaluations and treatability study (TS) work plans for Sites 35, 73, 78, and 86. Remedial investigations (RIs) were awarded and work plans completed to address the dissolved phase in groundwater for

Sites 88 and 89. Pilot studies were initiated at Site 78 and work plans were completed for pilot studies at Sites 35, 73, and 86. Fieldwork was initiated at Sites 88 and 89.

In FY04, the installation initiated field pilot scale TSs at Sites 35, 73, and 86. Camp Lejeune MCB also completed the Phase II removal action for spills at Site 84 as scheduled. The installation completed the Site 94 preliminary assessment 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 source removal at Site 88, the former base dry cleaners. The installation completed an RI/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 (NORM) database. The MMRP sites are listed as unexploded ordnance for Sites 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, and 13, and cover 1,049 acres.

## FY06 IRP Progress

Camp Lejeune Marine Corps Base completed 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.

Technical issues delayed the RI/FS/RA plans for Sites 69, 73, 86, and 88, which also delayed the RODs for Sites 69, 84, 86, and 89.

## FY06 MMRP Progress

The Navy and Marine Corps continued site investigations, identification of all MMRP sites at this installation, and loading the sites into the NORM database.

## Plan of Action

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

### IRP

- Continue RI/FS/RA plan for Sites 69, 73, 86, 88, and 89 in FY07.
- Complete RODs for Sites 35, 84, and 89 in FY07.
- Conduct an optimization study on current pump-and-treat systems in FY07.
- Complete the Phase II TS at Site 73 in FY07.

### MMRP

- Initiate four new MMRP site investigations in FY07.

<b>FFID:</b>	CA917302353300	<b>Funding to Date:</b>	\$ 163.6 million
<b>Size:</b>	125,000 acres	<b>Est. CTC (Comp Year):</b>	\$ 114.1 million(FY 2015)
<b>Mission:</b>	Provide housing, training facilities, logistics support, and administrative support to Fleet Marine Force Units	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/None
<b>HRS Score:</b>	33.79; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in October 1990		
<b>Contaminants:</b>	Pesticides, herbicides, heavy metals, PCBs, VOCs		
<b>Media Affected:</b>	Groundwater and soil		



Oceanside, California

## 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 and FY04.

Of the 208 sites identified at the installation, 64 are CERCLA sites, 114 are RCRA sites, and 30 are UST program sites. The installation has completed three Records of Decision (RODs) since environmental restoration activities began. The cleanup progress at Camp Pendleton MCB for FY02 through FY05 is detailed below.

In FY02, the installation completed the evapotranspiration cover at Operable Unit (OU) 3. Corrective action plans (CAPs) for USTs in Areas 13, 16, 17, 22, and 53 were completed. Operation and maintenance (O&M) for remediation systems at nine sites and groundwater monitoring at UST sites in Areas 13, 21, 22, 24, 26, 43, and 53 continued. The installation received closure for UST Site 2404, and 40 UST sites in Area 62 that had been submitted in FY00 for regulatory review. The installation completed the 5-year review. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed CAPs for the Areas 13 and 22 gas stations and implemented an interim remedial action for the Area 62 gas station. The O&M for remediation systems at nine sites and groundwater monitoring at UST sites in Areas

13, 21, 22, 24, 26, 43, and 53 continued. The installation closed out Sites 1E, 1F, and 2A. The installation held a two-day partnering session with parties of the FFA, including the EPA, California Regional Water Quality Control Board (RWQCB), and the California Department of Toxic Substances Control. The installation also conducted CERCLA training for the FFA team.

In FY04, the installation completed the OU 4 draft final feasibility study (FS) for Sites 1D, 1E1, 1H, and 30, and obtained agency concurrence. The installation successfully completed the OU 5 draft final remedial investigation (RI) for Sites 1A1, 6A, 21, 1111, and Area 12 (Site 13), and obtained agency concurrence. The 5-year review for OU 1 and OU 3 was completed and the remedies remain protective. The installation used innovative technology to conduct 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 OU 4 and OU 5 sites to confirm validity of technical approaches. The installation used innovative techniques to develop OU 5 ecological risk assessment Tier 1 and human health risk assessment protocols. The installation also completed site assessments for USTs in Areas 11 and 21. Closure was achieved for 17 UST sites from the California RWQCB. The installation closed out 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, documenting the remedial alternatives selected in the FS. The installation completed and obtained agency concurrence on the OU 5 FS for Sites 1A1, 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 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, OU 4 PP, and general program status.

## FY06 IRP Progress

Camp Pendleton MCB completed fieldwork at Site 33 and installed 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 analytes 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.

Regulatory issues delayed the PPs for Site 1H and for OU 5. The Navy received regulatory comments on the draft ROD for OU 4, and initiated the OU 5 ROD, however, regulatory issues delayed their completion. Funding issues delayed the Fleet Service Support Group lot (Site 1115) supplemental RI work plan and the completion of fieldwork at Site 9 and Area 13.

## FY06 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 remedial design for Sites 1D and 30 in FY07.
- Complete RI/FS for Site 33 in FY07.
- Continue O&M at UST sites in Areas 11, 13, 21, 24, 26, 31 and 43 in FY07.
- Complete site assessment for Area 16 UST sites in FY07.
- Complete fieldwork on Site 9 and Area 13 in FY07.
- Begin landfill gas remediation for Site 7 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	TX657002404200	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	1,900 acres	<b>Funding to Date:</b>	\$ 51.4 million
<b>Mission:</b>	Served as host to the 7th Bombardment Wing, 436th Training Squadron and Detachment 1, and the 1365th Audiovisual Squadron	<b>Est. CTC (Comp Year):</b>	\$ 8.4 million(FY 2010)
<b>HRS Score:</b>	N/A	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/FY 2007
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Waste oils, POLs, JP-4 jet fuel, solvents, TCE cleaners, low-level radioactive material		



Fort Worth, Texas

**Progress To Date**

Carswell Air Force Base (AFB) housed the 7th Bombardment Wing, 436th Training Squadron and Detachment 1, and the 1365th Audiovisual Squadron. In July 1991, the BRAC Commission recommended closure of Carswell AFB. The installation closed in FY93, but approximately 1,900 acres were reactivated in FY94 after the BRAC Commission recommended its realignment as a Joint Reserve Base (JRB). The Air Force Real Property Agency (AFRPA) is responsible for restoration activities on the BRAC property, and the Air Force Center for Environmental Excellence is responsible for restoration activities on the JRB property. Studies have identified the following site types at the installation: 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 uses both BRAC and Environmental Restoration (ER) account funds to reach cleanup goals. The installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB) in FY94. In FY01, the decision document in support of attainment of the land reuse implementation plan milestone was completed. The installation completed a 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 active base were transferred to the ER program. To date, approximately 195 acres have been transferred to the local redevelopment authority (LRA). The cleanup progress at Carswell AFB for FY02 through FY05 is detailed below.

In FY02, a permeable reactive barrier was installed in order to reduce or eliminate contaminated groundwater flow onto BRAC property. The focused feasibility study (FFS) for the remediation of the TCE plume was completed and submitted for review. The final draft RCRA/Hazardous and Solid Waste Amendment permit renewal was approved and modified to include closure of all BRAC sites. The installation initiated a project to convert the clearance certification for the off-base weapons storage area (WSA) explosive ordnance disposal (EOD) area from agricultural to residential.

In FY03, the final draft finding of suitability to transfer (FOST) and supplemental environmental baseline survey for transfer of the WSA was completed.

In FY04, AFRPA reviewed current remedies installed to address the nearby Air Force Plant (AFP) No. 4 TCE plume and found those remedies sufficient to meet goals. The installation began the RA on the sanitary sewer system. A geophysical clearance survey of the WSA EOD range identified areas that could contain ordnance items; ordnance items were visually identified along a creek bed adjacent to the EOD range area. Additionally, the preliminary assessment and site inspection (PA/SI) indicated elevated radiation levels at a former storage bunker at the off-base WSA. AFRPA conducted an inventory of Military Munitions Response Program (MMRP) sites and identified MMRP sites on the BRAC portion of the installation.

In FY05, AFRPA investigated the radioactive contamination in the bunker at the off-base WSA. AFRPA also transferred approximately 37 acres to the LRA. In addition, completion of the FFS for the AFP No. 4 TCE plume was coordinated with the federal and state regulators. The regulators agreed to consider an explanation of significant differences (ESD) to the AFP No. 4 Record of Decision for the remedies proposed in the FFS, to support an operating properly and successfully (OP&S) determination and transfer of the property to the LRA. The installation discussed finalizing the completion of property transfer with the Navy. The installation completed the RA on the sanitary sewer system. Additionally, the installation awarded a contract for clearance of potential munitions and explosives of concern (MEC) located within the WSA property. AFRPA began evaluating requirements at MMRP sites at this installation. The RAB and BCT each met three times.

**FY06 IRP Progress**

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 No. 4 TCE plume. The installation completed the first 5-year review and submitted it to regulators. Regulators approved closure of the sanitary sewer system. The installation submitted a draft ESD, a draft FOST, and the OP&S determination report for the AFP No. 4 TCE plume to regulators. Regulatory issues delayed the transfer of 187 acres

to the LRA; the property will be transferred following regulator approval of the ESD, FOST, and OP&S determination report. Discussions with the Navy to transfer property continued.

The The RAB and BCT each met three times.

**FY06 MMRP Progress**

The installation completed MEC clearance activities on the WSA and prepared a report for submittal to regulators, the AFSC, and Department of Defense Explosives Safety Board for review.

**Plan of Action**

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

**IRP**

- Complete transfer via public sale of the 247-acre WSA property in FY07.
- Complete ESD for the AFP No. 4 TCE plume impacting the golf course area in FY07.
- Complete FOST and OP&S determination report for golf course area and transfer 187 acres to the LRA in FY07.
- Complete transfer of property to the Navy in FY07-FY08.

**MMRP**

- Obtain MEC clearance for the WSA property in FY07-FY08.

<b>FFID:</b>	CA957002455100	<b>Funding to Date:</b>	\$ 162.2 million
<b>Size:</b>	2,777 acres	<b>Est. CTC (Comp Year):</b>	\$ 60.7 million(FY 2044)
<b>Mission:</b>	Trained tanker crews and serviced KC-135 stratotanker	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/FY 2007
<b>HRS Score:</b>	27.93; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAGs signed in 1989 and 2004		
<b>Contaminants:</b>	Spent solvents, PCBs, POLs, pesticides, cyanide, cadmium, VOCs		
<b>Media Affected:</b>	Groundwater and soil		



Atwater, California

## Progress To Date

In July 1991, the BRAC Commission recommended closure of Castle Air Force Base (AFB), which formerly supported B-52 bomber and KC-135 tanker training and operations. The installation closed in September 1995. EPA placed the installation on the NPL in July 1987, and the Air Force signed interagency agreements (IAGs) in 1989 and 2004. 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. 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. 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 in 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). 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. The cleanup progress at Castle AFB for FY02 through FY05 is detailed below.

In FY02, the SCOU ROD 1 was completed. Design was completed for the conversion of four SCOU intrinsic remediation sites to soil vapor extraction (SVE) sites and construction commenced. Remedial actions (RAs) for petroleum-only and other remaining sites were initiated. The RAB met quarterly.

In FY03, the installation completed both the SCOU ROD 2 and CB Part 2 remedial investigation and feasibility study. The installation issued a draft proposed plan for the remaining SCOU sites. The draft 5-year review was submitted.

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 interagency agreement was signed for deed transfer of approximately 1,330 acres for aviation use. All remaining SVE sites were closed out, except one. The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

In FY05, the installation completed the SCOU ROD 3. RA 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.

## FY06 IRP Progress

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.

Regulatory issues delayed the transfer of all of Castle AFB.

## FY06 MMRP Progress

The Air Force evaluated, cleared, and closed one MMRP site.

## Plan of Action

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

### IRP

- Complete the last SVE site in FY07.
- Complete 100 percent property transfer in FY07.

### MMRP

- Document closure of MMRP site in FY07.

<b>FFID:</b>	FL417002247400	<b>Funding to Date:</b>	\$ 57.4 million
<b>Size:</b>	30,895 acres	<b>Est. CTC (Comp Year):</b>	\$ 10.3 million(FY 2026)
<b>Mission:</b>	Provide facilities, services, and material support for maintenance of Naval weapons and aircraft	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/FY 2007
<b>HRS Score:</b>	31.99; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in November 1990		
<b>Contaminants:</b>	Waste fuel oil, solvents, heavy metals, halogenated aliphatics, phthalate esters, SVOCs, lead		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Jacksonville, Florida

## 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 have identified 25 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 (RAB) 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 24 Records of Decision (RODs) and 12 findings of suitability to transfer (FOSTs), totaling 16,827 transferred acres, and delisted approximately 16,584 acres from the NPL. The cleanup progress at Cecil Field NAS for FY02 through FY05 is detailed below.

In FY02, the installation implemented a remedial action (RA) at Site 36/37. The remedial investigation and feasibility study (RI/FS) was completed for Sites 21 and 25. RODs for Sites 42, 44, and the old golf course were completed. The parks and recreation Phase II FOST (12 acres) was completed. The engineering evaluation and cost analysis for Sites 32 and 49 was completed. No further action (NFA) was achieved for Potential Source of Contamination 39, Sites 42 and 44, and 824 OW, Tanks 367 and 428, and Building 610. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, Cecil Field NAS completed the RI/FS for Site 57/58. The installation implemented RAs at Sites 21, 25, 32, 45, and 57/58 (without signed RODs), the jet engine test cell, and Tank 271. The installation completed 2 FOSTs for 18.2 acres. The installation achieved the groundwater cleanup criteria at Sites 7, 11, and Building 610, and regulators approved the NFA. The

installation delisted 16,584 acres from the NPL. Additionally, Site 15 was placed in the MMRP.

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 also completed operating properly and successfully (OP&S) at Sites 1, 2, 3, 8, 16, and 17. The installation initiated the RA at North Fuel Farm and Day Tank 1, and completed RAs at Sites 49 and 58. The Navy installed and began operating air sparging systems at Building 271 and the jet engine test cell. Cecil Field NAS completed the preliminary assessment and site investigation for Site 59 and initiated the RI. The installation transferred 224 acres. The Florida Department of Environmental Protection issued a Hazardous and Solid Waste Amendments Corrective Action Permit to the installation.

In FY05, Cecil Field NAS completed the second 5-year review for all sites and completed RODs for Sites 21, 57, and 58. In addition, the facility signed a FOST that transferred 120.4 acres, and issued LUC RDs and OP&S documentation for Sites 1, 2, 3, 8, 16, and 17. The installation submitted draft OP&S documentation and draft LUC RDs for Sites 5, 21, 25, 32, 57, and 58 to regulators. Also, the facility completed Site 59 RI fieldwork and completed the Site 15 FS and proposed plan. The installation installed the North Fuel Farm air sparging system and continued long-term operations and long-term management (LTO/LTM) at 36 groundwater sites. The facility completed munitions and explosives of concern (MECs) investigation, and detonated found MECs at 20 acres of the North Apron Expansion site. The installation celebrated the 10-year anniversary of the RAB.

## FY06 IRP Progress

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 8 sites. The installation implemented the biostimulation/augmentation pilot study at Site 59.

Technical issues delayed the Site 15 RA. Regulatory concerns with OP&S documents and LUC language delayed the signing of FOSTs and deeds for 216 acres.

## FY06 MMRP Progress

The installation completed MEC investigation and removal for 20 acres at Hangar 860 and two additional acres at the North Apron Expansion site.

## Plan of Action

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

### IRP

- Implement RA at Site 59 in FY07.
- Sign three FOSTs totaling 216 acres in FY07.
- Implement RA at Site 15 in FY08.

### MMRP

- Complete MEC investigation and removal at Hangar 860 and North Apron Expansion, and submit after action reports in FY07.

<b>FFID:</b>	IL557002475700	<b>Est. CTC (Comp Year):</b>	\$ 52.3 million(FY 2017)
<b>Size:</b>	2,174 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/FY 2007
<b>Mission:</b>	Served as technical training center and airport	<b>Five-Year Review Status:</b>	Underway and planned
<b>HRS Score:</b>	Pending		
<b>IAG Status:</b>	IAG signed in 1990		
<b>Contaminants:</b>	POLs, chlorinated solvents, metals, UXO		
<b>Media Affected:</b>	Groundwater, sediment, soil		
<b>Funding to Date:</b>	\$ 110.3 million		



Rantoul, Illinois

## 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 installation was recommended 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. 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; removal of sludge and contaminated soil at a sludge pit; and removal of oil-water separators. The installation was proposed for the NPL in FY01 and formed both a BRAC cleanup team and a Restoration Advisory Board (RAB) in FY94. In FY04, the community relations plan (CRP) was updated to indicate the status of remediation efforts and identify ongoing opportunities for community involvement.

Currently, the installation is addressing a total of 78 Installation Restoration Program (IRP) sites and 14 areas of concern (AOCs). To date, an interim Record of Decision (ROD) has been signed for the construction of landfill caps. The cleanup progress at Chanute AFB for FY02 through FY05 is detailed below.

In FY02, construction of the caps at Landfills (LFs) 1 and 3 was completed, and construction of the cap at LF 2 continued. Through a cooperative agreement, excavation of soil for cap construction resulted in a stormwater detention basin for the Village of Rantoul. Documents summarizing investigations at the Landfills and Heritage Lake (SI 034) were completed. The DoD Explosive Safety Board approved an explosive safety submission, and a 27-acre unexploded ordnance removal action was completed.

In FY03, the installation completed remedial investigation (RI) planning documents for Operable Units (OUs) 1 and 2, including the basewide sampling and analysis plans, quality assurance project plans, and investigation work plans. RI field

work began for OUs 1 and 2. Cap construction at LF 2 continued. The Illinois EPA (IEPA) approved closure of 111 former fuel storage tank sites. Background studies were conducted for soils, groundwater, surface water, and sediments. An operational history was prepared. An outfalls investigation was initiated to determine the source of contamination entering Salt Fork Creek (SD 032), and a hydrogeologic conceptual site model supporting the groundwater investigation was developed.

In FY04, the installation completed the initial investigation of Salt Fork Creek and the initial RI field activities at OUs 1 and 2. The investigations discovered contamination at 43 new IRP sites. Cap construction at LF 2 was completed. Operation and maintenance for LFs 1, 2, and 3 began. A treatability study 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 Military Munitions Response Program (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 nine 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.

## FY06 IRP Progress

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 no further action (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. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Additional contamination was discovered requiring further investigation and more cleanup than anticipated, delaying closure requirement completion at the remaining environmental compliance-closure related sites.

## FY06 MMRP Progress

Chanute AFB continued to evaluate requirements at MMRP sites. The Air Force Safety Center concurred with the clearance of one suspected MMRP site.

## Plan of Action

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

### IRP

- Continue RI report preparation and resolution of comments for sites in OUs 1 and 2 in FY07-FY08.
- Initiate preparation of FSs, PPs, and RODs for sites in OUs 1 and 2 in FY07-FY08.
- Continue investigation report preparation and resolution of comments for IRP petroleum/oil/lubricant (POL) sites in FY07-FY08.
- Complete investigations at fuel storage tank sites and initiate soil remedial actions in FY07-FY08.

### MMRP

- Continue to evaluate requirements at MMRP sites in FY07-FY08.

<b>FFID:</b>	SC417002434300, SC417002757100, SC417002267000, SC417002425800, SC417002256000	<b>Media Affected:</b>	Groundwater, sediment, soil
<b>Size:</b>	2,922 acres	<b>Funding to Date:</b>	\$ 55.3 million
<b>Mission:</b>	Repaired, maintained, and overhauled Navy ships	<b>Est. CTC (Comp Year):</b>	\$ 3.7 million(FY 2008)
<b>HRS Score:</b>	N/A	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/FY 2007
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Asbestos, cyanide, decontaminating agents, heavy metals, paints, PCBs, pesticides, POLs, solvents, petroleum hydrocarbons		



Charleston, South Carolina

## Progress To Date

The Charleston Naval Complex (NC) housed five major naval commands (the Naval Shipyard, the Naval Station, the Naval Fleet and Industrial Supply Center, the Fleet and Mine Warfare Training Center, and the Naval Reserve Center) and several small organizations. In July 1993, the BRAC Commission recommended closure of the property and the majority of the commands. The installation 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. Operational closure of the Charleston NC occurred on April 1, 1996. A community relations plan was updated in FY01.

To date, the Navy has identified 133 RCRA solid waste management units (SWMUs) and areas of concern (AOCs) that required remedial action (RA). The BCT has completed 81 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 29 sites require long-term monitoring. The BCT has also identified 84 under- and above-ground storage tanks, of which 66 have received NFA concurrence. The Department of Navy (DON) divided transfer of Charleston NC's 2,922 acres into four phases, and all transfers are complete. The Navy completed the final economic development conveyance (EDC) 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 cleanup progress at the Charleston NC for FY02 through FY05 is detailed below.

In FY02, the BCT submitted the corrective measures study (CMS) report for the SWMU 9 landfill to the SCDHEC, implemented RAs at SWMU 166, completed asbestos surveys at EDC Phase III buildings, and accomplished most of the EDC Phase IV asbestos surveys. The BCT also completed the Phase III finding of suitability for transfer and environmental

baseline survey for transfer (EBST). Additionally, the DON inventoried suspected Military Munitions Response Program (MMRP) sites.

In FY03, the BCT submitted reports for SWMUs 9, 25, and 70 to SCDHEC, initiated a CMS for AOC 607, and completed the EDC Phase IV EBST. Additionally, the Navy submitted the Phase IV finding of suitability for early transfer to the State of South Carolina.

In FY04, the DON sold the 24 acres of the Chicora Tank Farm to a private entity. Additionally, the BCT 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 remedy of LUCs. In addition, the BCT 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 at the Charleston NC. The Navy transferred the final 436 acres to the local redevelopment authority. The BCT performed a pilot study injection of lactate solution and submitted a work plan for full-scale operation at AOC 607. The BCT also energized a biosparge/soil vapor extraction (SVE) system at SWMU 196. The BCT implemented lactate injection system for source area treatment at SWMU 39. The Navy received MNA concurrence from SCDHEC on SWMUs 25 and 70. The BCT submitted a pilot study work plan for SWMU 166 with the recommendation to perform injections of lactate and emulsified oil substrate. The BCT also submitted a CMS for SWMU 17 with the recommendation to perform air sparging, SVE, biosparging, and passive recovery. Additionally, the BCT submitted CMSs recommending MNA and lactate infection for AOCs 722 and 723, respectively.

## FY06 IRP Progress

Charleston NC 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 CMSs for SWMU 17 and AOC 723.

Regulatory issues delayed CMSs for SWMUs 163 and 166.

## FY06 MMRP Progress

The Navy conducted no MMRP actions at this installation.

## Plan of Action

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

### IRP

- Complete CMSs for SWMUs 163 and 166 in FY07.
- Close out all remaining petroleum sites in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	NC417302726100	<b>Funding to Date:</b>	\$ 78.9 million
<b>Size:</b>	29,139 acres	<b>Est. CTC (Comp Year):</b>	\$ 79.4 million(FY 2032)
<b>Mission:</b>	Maintain and operate support facilities; provide services and materials for marine aircraft	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/FY 2015
<b>HRS Score:</b>	70.71; placed on NPL in December 1994	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in 2005		
<b>Contaminants:</b>	PCBs, petroleum hydrocarbons, solvents		
<b>Media Affected:</b>	Groundwater and soil		



Cherry Point, North Carolina

## Progress To Date

The Cherry Point Marine Corps Air Station (MCAS) provides services and materials for marine aircraft. The installation conducted an initial assessment study in FY83, which identified 32 sites. A RCRA facility assessment performed in FY88 identified 114 solid waste management units. The Navy and EPA agreed to perform additional investigations at 32 of the 114 sites. A technical review committee was established in FY91 and two information repositories were established in FY93. EPA placed the installation on the NPL in December 1994. In 2005, the BRAC Commission recommended Cherry Point MCAS for realignment. The installation established a Restoration Advisory Board and completed a community relations plan in FY95. In FY03, the installation finalized the 5-year review. The community involvement plan (CIP) was updated in FY05. The Navy signed a federal facility agreement (FFA) in FY05.

To date, Cherry Point MCAS has identified 100 sites, including 22 underground storage tanks (USTs). The installation has completed eight Records of Decision (RODs), including two in FY06. The cleanup progress at Cherry Point MCAS for FY02 through FY05 is detailed below.

In FY02, the Operable Unit (OU) 1 remedial investigation (RI) report was submitted. An ecological risk assessment (ERA) and feasibility study (FS) were initiated for OU 1. The OU 2 and OU 3 long-term management work plans for groundwater were approved. OUs 4 and 13 RI reports were finalized. The installation submitted the FS for OUs 4 and 13 recommending no further action (NFA). The OU 5 work plan and investigation were finalized. The OU 14 RI work plan was approved and fieldwork began. An NFA ROD for OU 15 was initiated. Site 7 continued to be assessed for possible system shutdown. A remedial action (RA) operations optimization study was initiated for four remedial systems. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites and identified sites at this installation.

In FY03, the installation finalized the OU 1 RI report, 5-year review, Site 85 site specific plan, and RA operation optimization study. Shutdown of OUs 2 and 3, Site 7 AS, and Site 10 soil vapor extraction systems was completed as recommended by the study. The installation submitted the Step 3A portion of OU

1 ERA and Phase I portion of the OU 14 RI to EPA and the State. The groundwater portion of the OU 1 FS progressed. The Navy completed the hydrogen release compound pilot study at OU 1, Site 47. The OU 15 NFA ROD was completed and signed by all parties. The State and EPA concurred that contaminants at OU 7 were UST-related and that further investigation as an installation restoration site was not warranted. The State approved the Site 29 corrective action plan (CAP). The installation commenced the long-term groundwater monitoring at OUs 2 and 3.

In FY04, the installation obtained concurrence for the NFA 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 CAP. The installation finalized the FSs and initiated the RODs for OUs 4 and 13, and initiated the FS for OU 5. Cherry Point MCAS completed the Phase II 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 OU 4 and OU 13 RODs and the OU 1 ERA. The installation finalized the OU 5 and OU 6 RIs and initiated the FSs. The installation completed the OU 14 Phase III RI fieldwork. An enhanced bioremediation treatability study within OU 1 was conducted to test treatment technologies for chlorinated volatile organic compounds (VOCs) in groundwater. The installation finalized the CIP.

## FY06 IRP Progress

The Navy finalized the FS, proposed RA plan, 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. The cost of completing environmental restoration has changed significantly due to technical issues.

The installation delayed the OU 14 FS due to the discovery of an ecological habitat. Additional samples were collected and an ERA was conducted as part of the RI.

## FY06 MMRP Progress

The Navy conducted no MMRP actions at this installation.

## Plan of Action

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

### IRP

- Finalize the RI and initiate the FS for OUs 1 and 14 in FY07.
- Initiate the OU 1 ROD in FY08.
- Initiate and finalize the OU 14 ROD in FY08.

### MMRP

- Conduct site inspection at unexploded ordnance Sites 2 and 3 in FY08.



<b>FFID:</b>	IL557122427200	<b>Funding to Date:</b>	\$ 9.7 million
<b>Size:</b>	274 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.2 million(FY 2007)
<b>Mission:</b>	Serve as host to 126th Air Refueling Wing (Illinois National Guard) and 928th Airlift Wing (Air Force Reserve)	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/FY 2007
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	VOCs, SVOCs, PNAs, petroleum hydrocarbons, POLs, TCE, heavy metals		
<b>Media Affected:</b>	Groundwater and soil		



Chicago, Illinois

## Progress To Date

Chicago O'Hare International Airport (IAP) Air Reserve Station (ARS) began operations as an aircraft assembly plant and later housed the Air Force Reserve and the Air National Guard. Environmental cleanup studies at the installation began in 1983. In 1993, the BRAC Commission recommended closure of the station. This decision was modified by the 1995 BRAC round. In late 1996, the Air Force and the City of Chicago signed a purchase agreement. The city paid for replacement facilities at Scott Air Force Base, Illinois, in exchange for the Chicago O'Hare IAP ARS land. 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 semivolatle organic compounds (SVOCs), which have been released into soil and groundwater. Interim remedial actions have included removal of 19 USTs, contaminated soil, and low-level radioactive waste. In FY97, a stationwide Environmental Baseline Survey (EBS) was completed and in FY98 parcel-specific EBSs were completed for Parcels 2, 3, and 3A. The installation formed a Base Closure and Transition Team and a BRAC cleanup team (BCT).

Environmental cleanup studies have identified 19 Installation Restoration Program (IRP) sites and 23 areas of concern. To date, a basewide Record of Decision (ROD) and the LF 1 (LF 001) ROD have been signed, and all property has been transferred. The cleanup progress at Chicago O'Hare IAP ARS for FY02 through FY05 is detailed below.

In FY02, the installation submitted the basewide ROD, and developed a draft institutional control management plan (ICMP).

In FY03, the basewide ROD and subsequent deed addressed all areas except for LF 001. The BCT developed a risk assessment for LF 001 and the installation implemented the ICMP.

In FY04, Chicago IAP ARS completed a human health risk assessment and drafted a feasibility study and proposed plan for LF 001 in preparation for the final ROD. The installation

completed an EBS for the remaining property. The installation selected a remedy for LF 001. The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

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

## FY06 IRP Progress

The Air Force continued IC oversight.

## FY06 MMRP Progress

The evaluation of MMRP sites indicated no explosives safety hazards exist.

## 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 IC compliance in FY07.
- Conduct a 5-year review in FY07.

### MMRP

- Complete any required administrative closure actions in FY07.

<b>FFID:</b>	NE721382023400	<b>Est. CTC (Comp Year):</b>	\$ 28.1 million(FY 2018)
<b>Size:</b>	4,020 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2004/FY 2013
<b>Mission:</b>	Manufactured ammunition	<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	51.3; placed on NPL in July 1987		
<b>IAG Status:</b>	FFA signed in July 1990		
<b>Contaminants:</b>	Explosives and heavy metals		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 59.5 million		



Hall County, Nebraska

## 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, 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 (USACE). 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. To date, the installation has completed five Records of Decision. The cleanup progress at Cornhusker AAP for FY02 through FY05 is detailed below.

In FY02, the Army completed the draft CERCLA 5-year review. Long-term operations (LTO) and long-term management (LTM) continued at Operable Units (OUs) 1 and 3 (solvent contaminated plume). Explosive safety actions continued. The remediation of former underground storage tanks and aboveground storage tanks (ASTs), initiated in FY96, reached final closure with the State.

In FY03, USACE began remedial investigations and remedial actions (RAs) for an AST in the shop area. LTO and LTM continued at OU 1 and LTM continued at OU 3. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military

munitions, or munitions constituents that identified Military Munitions Response Program (MMRP) sites at Cornhusker. Explosive safety actions included the flashing of Load Line 2. The Army discovered explosives contamination in the Nitrate Area buildings and reprioritized the explosives safety removal schedule to accelerate real estate disposal.

In FY04, the installation completed RA for the AST site in the shop area and continued RA-operation (RA-O) of the explosives-contaminated groundwater plume at 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. Explosive 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.

## FY06 IRP Progress

Cornhusker AAP continued RA-O of the OU 1 groundwater explosives plume and LTM at OU 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.

Funding issues delayed chemical characterization and removal of contaminated soils at Load Line 3 but the installation accelerated a contract to award the work.

## FY06 MMRP Progress

Cornhusker AAP completed the installationwide SI. An engineering evaluation and cost analysis and Action Memorandum was initiated for future accelerated interim

removal action at the OU 5 open burning/open detonation ground.

## Plan of Action

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

### IRP

- Perform chemical characterization and removal of contaminated soils at Load Line 4 in FY07.
- Accelerate RA-O of the OU 1 groundwater explosives plume in FY07-FY09.

### MMRP

- Initiate a performance-based contract to remove environmental contaminants of concern, pending decision on interim removal action, in FY07-FY08.

**FFID:** TX617002278600  
**Size:** 832 acres  
**Mission:** Served as a pilot training center  
**HRS Score:** N/A  
**IAG Status:** None  
**Contaminants:** POLs, solvents, asbestos, heavy metals  
**Media Affected:** Groundwater, surface water, sediment, soil  
**Funding to Date:** \$ 80.7 million

**Est. CTC (Comp Year):** \$ 7.3 million(FY 2017)  
**IRP/MMRP Sites Final RIP/RC:** FY 2007/FY 2005  
**Five-Year Review Status:** Planned



Dallas, Texas

## 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 September 30, 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), which was adjourned in FY05, and established an information repository. 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 139 solid waste management units (SWMUs) and 44 areas of concern. To date, 47 sites have been identified at this installation requiring further action. The cleanup progress at Dallas NAS for FY02 through FY05 is detailed below.

In FY02, the installation continued monitoring and one pilot study to address compounds in groundwater. Negotiations with the City of Dallas regarding cleanup standards and activities were settled. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. Two MMRP sites were identified at this installation. One site was determined to require no further action through the RCRA facility investigation process.

In FY03, interim actions at one groundwater site continued. The rubble landfill and the Texas Air National Guard pond sediments were excavated and disposed of at an off-site landfill. Dallas NAS excavated soil across the installation that exceeded state closure criteria and disposed of it off-site as part of the source removal actions. The installation continued long-term management (LTM) of the remedy for the main fuel farm and conducted negotiations with the regulatory agencies to accept monitored natural attenuation (MNA) as the preferred remedy for groundwater contaminants. A RCRA permit renewal and compliance plan application were completed for the

remaining groundwater plumes. The second MMRP site was remediated in conjunction with the excavation and disposal activity at the Rubble Landfill. The BCT conducted team meetings and various site visits of ongoing remediation.

In FY04, the installation completed soil remediation, and continued 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)/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.

## FY06 IRP Progress

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.

## FY06 MMRP Progress

The Navy conducted no MMRP actions at this installation.

## Plan of Action

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

### IRP

- Submit completed groundwater MNA report in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	RI117002203600	<b>Funding to Date:</b>	\$ 55.8 million
<b>Size:</b>	1,285 acres	<b>Est. CTC (Comp Year):</b>	\$ 10.8 million(FY 2011)
<b>Mission:</b>	Provided mobilization support to Naval Construction Forces	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/None
<b>HRS Score:</b>	34.52; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in March 1992		
<b>Contaminants:</b>	Heavy metals, PCBs, pesticides, petroleum hydrocarbons, POLs, VOCs		
<b>Media Affected:</b>	Groundwater and soil		



Davisville, Rhode Island

## Progress To Date

The Davisville Naval Construction Battalion Center 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. The installation established an administrative record and information repository in FY89. EPA placed the installation on the NPL in November 1989. 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 Naval Construction Battalion Center, Port Hueneme, California. The Navy signed a federal facility agreement (FFA) in March 1992. The installation closed in April 1994. In FY94, the installation's technical review committee was converted to a Restoration Advisory Board 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, the installation completed a 5-year review.

To date, studies conducted at the installation have identified 25 sites. The installation has completed three Records of Decision (RODs). In addition, there have been five no further action RODs completed by the installation. The cleanup progress at Davisville Naval Construction Battalion Center for FY02 through FY05 is detailed below.

In FY02, the installation completed the Site 16 remedial investigation (RI). The installation completed the work plan and fieldwork for the Phase II RI. Additionally, the installation completed long-term management (LTM) at Sites 3, 7, 9, and Environmental Baseline Survey (EBS) Site 21. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed the draft Site 16 Phase II RI. LTM continued at Sites 3, 7, 9, and EBS Site 21. The installation completed a 5-year review.

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

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

## FY06 IRP Progress

Davisville Naval Construction Battalion Center 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 long-term monitoring and annual inspection reports to regulators.

Regulatory concerns delayed LTM efforts at Site 3.

## FY06 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 interim groundwater sampling at Site 3 in FY07.
- Work with U.S. Army Corps of Engineers on PR58 NIKE FUDS site in FY07.
- Revise conceptual site model for Site 7 and conduct additional source area investigation in FY07.
- Complete Phase III RI work plan at Site 16 in FY07.
- Perform pilot study fieldwork at Site 16 in FY07.

## MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	TN497152057000	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	642 acres	<b>Funding to Date:</b>	\$ 52.0 million
<b>Mission:</b>	Stored and distributed clothing, food, medical supplies, electronic equipment, petroleum products, and industrial chemicals	<b>Est. CTC (Comp Year):</b>	\$ 25.3 million(FY 2019)
<b>HRS Score:</b>	58.06; placed on NPL in October 1992	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/None
<b>IAG Status:</b>	FFA signed in March 1995	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	PCP, PCBs, chlorinated solvents, POLs, pesticides, heavy metals, chemical warfare agents		



Memphis, Tennessee

## Progress To Date

Defense Distribution Depot (DDD) Memphis is approximately 642 acres divided into two areas: the Main Installation (MI) and Dunn Field (DF). The installation divided all CERCLA sites and the remaining underground storage tanks (USTs) into four operable units. EPA placed DDD Memphis on the NPL in October 1992. In FY93, the installation formed a Restoration Advisory Board (RAB). 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 USTs were removed or closed in place. In FY98, DDD Memphis developed a community relations plan. The installation completed its first 5-year review in FY03.

Site studies beginning in FY81 identified approximately 93 sites, including a pentachlorophenol (PCP) wood preservative treatment vat and UST, and areas of contaminated soil and groundwater. The PCP vat and UST were removed in FY85. 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. In FY01, the RAB obtained a Technical Assistance for Public Participation (TAPP) grant. The cleanup progress at DDD Memphis for FY02 through FY05 is detailed below.

In FY02, DDD Memphis completed the DF remedial investigation (RI) and soil vapor extraction (SVE) treatability study. DDD Memphis completed the MI remedial design (RD) work plan, conducted the MI groundwater enhanced bioremediation treatment (EBT) pilot test and completed the DF Site 60 removal action memorandum. The Department of Army signed three deeds for property transferred in findings of suitability to transfer (FOSTs) 1 and 2. The RAB's TAPP contract was completed.

In FY03, DDD Memphis finalized the DF RI, two feasibility studies, a proposed plan and conducted a public comment period for the DF ROD. DDD Memphis completed the DF Site 60 removal action, installed additional monitoring wells to

determine the extent of increased volatile organic compound (VOC) concentrations down-gradient of DF, completed the MI EBT pilot test, completed the DF disposal sites pre-design investigation and work plan, completed the former PCP dip vat additional sampling work plan and fieldwork, completed the first 5-year review, and conducted a public meeting for the DF ROD. DDD Memphis also submitted FOST 3 for approximately 357 acres of the MI for public comment. DLA approved an ordnance and explosives statement of clearance for the Military Munitions Response Program (MMRP).

In FY04, DLA, EPA, and TDEC signed the DF ROD. The Department of Army signed FOST 3. DDD Memphis completed the MI and the DF disposal sites RD, submitted FOST 4 for approximately 41 acres at DF for public comment, and conducted the DF source areas pilot study of SVE and zero-valent iron (ZVI). The BRAC cleanup team initiated early implementation of the selected remedy (EISR) from the DF ROD to address contaminant concentrations down-gradient 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 remedial action RA contractor.

In FY05, DDD Memphis completed the FOST 4 public comment period, with the Department of the Army (Army) signature. DDD Memphis completed the MI RA work plan and received EPA/TDEC approval. DDD Memphis began the DF disposal sites RA. DDD Memphis completed the EISR fieldwork and submitted and received EPA/TDEC approval of the EISR Remedial Action Completion Report (RACR). DDD Memphis completed the MI land use control implementation plan (LUCIP) annual inspection.

## FY06 IRP Progress

The Army signed one deed and one letter of assignment to the Department of the Interior for the FOST 3 property. The Army 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/TDEC approval of the disposal sites RACR. DDD Memphis completed construction and initiated the MI RA EBT. 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.

DOD Memphis delayed initiation of DF off-depot groundwater RA until FY08 in order to modify the selected ZVI PRB component of the groundwater remedy. Additional information pertaining to the hydrology and contaminant extent since completion of the ROD has created a need to consider the selection of a ZVI permeable reactive barrier to remediate chlorinated volatile organic compounds (CVOCs) within the groundwater plume.

## FY06 MMRP Progress

DLA conducted no MMRP actions at this installation.

## Plan of Action

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

### IRP

- Complete DF source areas RD in FY07.
- Initiate DF source areas RA in FY07.
- Complete DF off-depot groundwater RD in FY07.
- Complete second 5-year review in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

# Defense Distribution Depot San Joaquin, Sharpe Facility

Formerly Sharpe Army Depot

NPL

<b>FFID:</b>	CA997152083200	<b>Funding to Date:</b>	\$ 70.3 million
<b>Size:</b>	724 acres	<b>Est. CTC (Comp Year):</b>	\$ 78.1 million(FY 2047)
<b>Mission:</b>	Receive, store, and distribute supplies, materials, and equipment	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/None
<b>HRS Score:</b>	42.24; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	IAG signed in March 1989		
<b>Contaminants:</b>	VOCs, heavy metals, POLs, TCE, pesticides		
<b>Media Affected:</b>	Groundwater and soil		



Lathrop, California

## Progress To Date

Defense Distribution Depot (DDD) San Joaquin, Sharpe Facility began operation in 1941 as a supply and maintenance center. Activities at the installation have included overhauls, repairs, painting, paint stripping, metal finishing, and degreasing of aircraft and heavy construction equipment. Investigations have identified contaminated and potentially contaminated groundwater plumes, 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 FY03. The installation completed a 5-year review in FY04.

The installation is approximately 724 acres. Of the 152 contaminated 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 remedy in FY96. The cleanup progress at DDD San Joaquin, Sharpe Facility for FY02 through FY05 is detailed below.

In FY02, the soil vapor extraction remedial action (RA) report was completed. A draft preferred alternatives report for underground storage tanks (USTs) was submitted recommending no further action (NFA) or natural attenuation (NA) for the remaining open UST sites. The completed sitewide preliminary closeout report was submitted. The Phase II remedial process optimization (RPO) evaluation was completed and the installation continued implementation of recommendations. Operation of OU 1 groundwater treatment systems continued. The sitewide environmental baseline survey was completed. The 3-D groundwater model boundary conditions and parameters were updated in preparation for the 5-year review.

In FY03, the installation completed an update of the CRP. The former UST sites preferred alternatives report was finalized. The report recommended NFA at 14 sites and monitored NA at 3 sites. The installation continued OU 1 groundwater RPO. The installation submitted a draft final 5-year review report.

In FY04, the installation completed the final 5-year review report, and continued OU 1 groundwater RPO. The installation

also developed an internal Response Completion and Resource Management Plan, formerly known as the exit strategy, for the final closeout report and delisting.

In FY05, DDD San Joaquin, Sharpe Facility completed the Response Completion and Resource Management Plan, which outlined the installation's plan for closure, and increased the number of sites achieving RC. EPA and California regulatory agencies concurred with the plan. The installation continued operations and maintenance (O&M), monitoring, and RPO of groundwater treatment systems and the groundwater monitoring program.

## FY06 IRP Progress

DDD San Joaquin, Sharpe Facility began the process to update the CRP. The installation continued O&M, monitoring, and optimization of groundwater treatment systems, and the groundwater monitoring well network. The installation started implementation of the Response Completion and Resource Management Plan for alternating technology studies. The installation started the work plan for completion of OU 2 Site S 26 RA.

## FY06 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

- Complete the update of CRP in FY07.
- Continue groundwater treatment and monitoring well network O&M, monitoring, and RPO in FY07.
- Complete OU 2 Site S 26 RA and RA Report, OU 2 ROD amendment in FY07.
- Continue the implementation of the Response Completion and Resource Management Plan, including alternate technology studies,

feasibility study and risk assessment, and OU 1 ROD amendment in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA997150682700	<b>Funding to Date:</b>	\$ 97.3 million
<b>Size:</b>	908 acres	<b>Est. CTC (Comp Year):</b>	\$ 59.3 million(FY 2045)
<b>Mission:</b>	Store and distribute medical, textile, food, electronic, industrial, construction, chemicals, and other supplies and equipment	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/None
<b>HRS Score:</b>	37.16; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in 1991		
<b>Contaminants:</b>	Chlorinated solvents, heavy metals, pesticides, POLs, VOCs		
<b>Media Affected:</b>	Groundwater and soil		



Tracy, California

## 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 (USTs), hazardous waste storage sites, and other areas of contamination. Contamination has been identified in on-site soil and off-site groundwater. The installation completed a 5-year review in FY05.

To date, response complete has been achieved at 61 of the 73 identified sites at this installation. Two Records of Decisions (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 FY02 through FY05 is detailed below.

In FY02, operation and optimization of the Operable Unit (OU) 1 groundwater treatment systems continued. The draft former UST sites preferred alternative report was submitted, recommending no further action (NFA) or monitored natural attenuation (MNA) for remaining open sites. The operation of the soil vapor extraction (SVE) system continued. Small excavation Sites 6, 20, and 27 were completed. The wet season controls Site 4 remedial action (RA) report was completed. The draft Site 67 northern depot area cover installation RA report was submitted. The Phase II remedial process optimization evaluation was completed.

In FY03, the installation completed a former UST sites preferred alternative report and recommended 12 sites for NFA and 1 site for MNA. RAs for Site 8 and SVE sites were completed. The installation completed an RA report for Site 27 and converted treatment plant (TP) 1 to granular activated carbon. The installation implemented pesticide treatment for TP 1. Operation and optimization of the OU 1 groundwater treatment systems continued.

In FY04, DDD San Joaquin, Tracy Facility completed the sitewide ROD amendment and the sitewide ROD explanation of significant differences for various sites. The installation also completed three 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 facility also continued operations and maintenance (O&M), monitoring, and optimization of groundwater treatment systems.

In FY05, installation completed the 5-year review, which included an outline of the draft Response Completion and Resource Management Plan (exit strategy). The installation continued O&M, monitoring, and optimization of groundwater treatment systems. Additionally, the installation continued trichloroethylene (TCE)/pertrachloroethylene (PCE) SVE and total petroleum hydrocarbons bioventing sites RA.

## FY06 IRP Progress

DDD San Joaquin, Tracy Facility completed the draft sitewide Preliminary Closeout Report (PCOR) and the draft Response Completion and Resource Management Plan. The installation shut down the pesticide treatment plant portion of the groundwater treatment System. The installation continued O&M, monitoring, and optimization of groundwater treatment systems and groundwater well monitoring network.

The installation initiated the update of the community relations plan (CRP). DDD San Joaquin, Tracy continued operation of the TCE PCE SVE system RA due to containment re-bound, delaying the completion of the RA report. The installation completed the TPH bioventing and will be reported in the same RA as SVE. DDD San Joaquin, Tracy also submitted the draft response plan (formerly known as the exit strategy) to the regulatory agencies with a schedule for a draft final and final plan.

## FY06 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 the update of the CRP in FY07.
- Complete the sitewide PCOR in FY07.
- Continue groundwater treatment system and monitoring well network O&M, monitoring, and optimization in FY07.
- Complete and implement the Response Completion and Resource Management Plan including alternative technology studies, feasibility study, and risk assessment, and OU 1 ROD in FY07-FY08.
- Complete the OU 2 TCE/PCE SVE system RA and RA report, OU 2 ROD amendment, and potential OU 2 delisting in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	PA397154266500	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	87 acres	<b>Funding to Date:</b>	\$ 28.3 million
<b>Mission:</b>	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	<b>Est. CTC (Comp Year):</b>	\$ 3.3 million(FY 2009)
		<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2003/None
		<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>HRS Score:</b>	N/A		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	POLs, PCBs, pesticides, asbestos		



Philadelphia, Pennsylvania

**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 Philadelphia (DSCP), 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 DSCP. 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 (RAB) was formed. From FY96 to FY00, DSCP 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, DSCP and the Department of the Army, requiring sole remediation responsibility of the government. 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.

DSCP is approximately 87 acres. To date, 52 IRP sites have been identified, including the subsurface hydrocarbon plume site that is the remaining open site undergoing remediation. DSCP closed five IRP sites in FY01, one IRP site in FY03, and three IRP sites in FY04. The cleanup progress at DSCP for FY02 through FY05 is detailed below.

In FY02, DLA finalized the human health risk assessment (HHRA). Public outreach sessions for the HHRA were conducted. The air rights to the property and ground lease were

transferred to the City of Philadelphia. Design for the vacuum-enhanced recovery system began.

In FY03, DSCP identified and closed one IRP site. The RAB held three meetings.

In FY04, construction began on the vacuum-enhanced remediation system at DSCP. Additionally, DSCP identified and closed three more IRP sites, bringing the total number of IRP sites to 52 (including the subsurface hydrocarbon plume site). DSCP and DLA held meetings and discussions with the Department of 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, DSCP completed the development of the file coding and began incorporating data into a draft administrative record. The installation also completed the construction of the vacuum-enhanced remediation system, and began testing operations. Additionally, DSCP, DLA, and the Defense Energy Support Center continued discussions with the Department of the Army regarding environmental responsibilities, actions, and timelines.

**FY06 IRP Progress**

DSCP completed testing of the vacuum-enhanced remediation system. The system is fully operational. The installation completed the first phase of the deep and intermediate well installation of six deep and four intermediate wells.

DSCP did not complete PA Act 2 requirements because it is waiting for development of a fate and transport model of the deep aquifer. Technical issues delayed discussions with the Department of the Army about transfer of the former DSCP South Philadelphia site. DSCP continued incorporating data into the draft administrative record.

**FY06 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**

- Complete Phase II of the deep and intermediate well installation. Install seven deep and up to seven intermediate wells in FY07.
- Complete public involvement plan in FY07.
- Apply for system operating properly and successfully certification from the PADEP in FY07.
- Conduct groundwater sampling and analysis of the deep and intermediate wells in FY07.

**MMRP**

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	VA397152075100	<b>Funding to Date:</b>	\$ 59.2 million
<b>Size:</b>	565 acres	<b>Est. CTC (Comp Year):</b>	\$ 23.5 million(FY 2035)
<b>Mission:</b>	Provide logistics support (aviation weapon system and environmental) for DoD	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/None
<b>HRS Score:</b>	33.85; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	IAG signed in 1991		
<b>Contaminants:</b>	POLs, chlorinated VOCs, PAHs, solvents, pesticides, metals		
<b>Media Affected:</b>	Groundwater and soil		



Richmond, Virginia

## Progress To Date

Defense Supply Center Richmond (DSCR) 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 DSCR have included soil vapor extraction, 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 (CRP) in FY02. Five-year reviews were completed in FY97, FY99, FY02, and FY05.

Studies at DSCR have identified 32 sites, 13 of which have been organized into operational units (OUs). To date, the installation has signed eight Records of Decision (RODs), some of which are interim RODs. The cleanup progress at DSCR for FY02 through FY05 is detailed below.

In FY02, remedial process optimization studies were conducted for OUs 8 and 9. A consolidated 5-year review was performed for OUs 1, 3, and 9. The installation formed a RAB and implemented the CRP. The RAB held various training exercises and meetings to inform the members of progress to date. The installation provided a tour of the facility to the RAB.

In FY03, the installation prepared a detailed supplemental focused feasibility study (FS) work plan and began the field activities at four sites (OUs 6, 7, 8, and 13). The supplemental FS work plan employs an investigation strategy based on systematic planning, a dynamic work plan, and the use of on-site analytical tools. A consolidated 5-year review report was completed for OUs 1, 3, and 9. An expanded basewide well survey was completed. Operations and maintenance monitoring of the OUs 8 and 9 remedial systems was optimized using suggestions from the Phase II remedial process optimization report. The installation completed a community involvement plan. Partnering activities with state and federal regulators were conducted.

In FY04, DSCR conducted a basewide supplemental 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. DSCR 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 DSCR's former fire training pit area at 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 risked-based action levels and long-term institutional controls. DSCR conducted a rebound study for the Acid Neutralization Pit groundwater OU 8 site.

In FY05, DSCR completed a time-critical principal threat source material removal action and associated closeout report at the OU 4. Over 1,200 tons of hazardous waste was removed. 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 DSCR CSM, and the management action plan to identify and manage the restoration program requirements. The proposed plan (PP) for OU 12 was completed. 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.

## FY06 IRP Progress

DSCR submitted the installation's first ROD for groundwater media OU 8. The installation submitted PPs for OUs 10 and 11 to the regulatory agencies which prescribed LUCs for former pesticide sites. DSCR also completed the FFSs for OUs 10 and 11. DSCR completed the FFS for OU 2, a former landfill in the central part of the installation. An FFS and screening level ecological risk assessment for OU 13 were submitted to the agencies. The installation finalized a comprehensive CSM in concurrence with the regulatory agencies. DSCR initiated the remedial action construction phase at OU 12. The installation completed the PP and FFS for OU 8 and the ROD for OU 12. The installation submitted risk assessments for OUs 10 and 11

as part of the FFSs. DSCR initiated the interim remedial action (RA) for OU 9.

Funding issues delayed the PP completion of OUs 2, 6 and 7 treatability studies. Technical issues delayed completion of RODs for OUs 10 and 11. Regulatory issues delayed the proposed RA plans for OUs 10 and 11.

The installation also continued RAB meetings to inform the public of progress to date.

## FY06 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 RODs for OUs 10 and 11 in FY07.
- Issue PPs and RODs for OUs 2 and 13 in FY07.
- Complete remedial design for OU-8 in FY07.
- Complete consolidated 5-year review in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	UT821382026500	<b>Funding to Date:</b>	\$ 22.2 million
<b>Size:</b>	19,364 acres	<b>Est. CTC (Comp Year):</b>	\$ 186.4 million(FY 2017)
<b>Mission:</b>	Plan and execute the storage and disposal of chemical weapons	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/FY 2017
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Solvents, heavy metals, explosives		
<b>Media Affected:</b>	Groundwater and soil		



Tooele, Utah

## Progress To Date

Deseret Chemical Depot (CD) opened in 1943 as a storage depot for chemical agents. In 2005, the BRAC Commission recommended Deseret Chemical Depot 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 which includes 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 29 solid waste management units (SWMUs): 2 known release units and 27 suspected release units. The cleanup progress at Deseret CD for FY02 through FY05 is detailed below.

In FY02, the installation completed and the Army approved the corrective measures study (CMS) report and decision documents for SWMUs 19, 33, and 37.

In FY03, the installation completed and the Army approved the final phase II RCRA facility investigation (RFI) report for SWMU 22 and the CMS report for SWMU 37. In addition, the Army completed remedial activities at SWMU 5, 8, and 30.

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 CMS for SWMU 22. The Army completed remedial activities at SWMU 17, 19, and 22.

In FY05, the Army completed a final phase II RFI report and a CMS for SWMU 22.

## FY06 IRP Progress

No Installation Restoration Program (IRP) activities were conducted at this installation. In response to the BRAC Commission's recommendation to close Deseret CD after completion of its chemical demilitarization mission, the Army initiated an environmental condition of property (ECOP) report.

## FY06 MMRP Progress

The Army conducted no Military Munitions Response Program (MMRP) actions at this installation.

## Plan of Action

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

### IRP

- Complete remedial activities at SWMU 3 in FY07.
- Complete soil gas study at SWMUs 1 and 25 in FY07.
- Continue installation-wide groundwater monitoring in FY07.
- Complete ECOP in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	DE357182401000	<b>Funding to Date:</b>	\$ 76.0 million
<b>Size:</b>	3,730 acres	<b>Est. CTC (Comp Year):</b>	\$ 54.3 million(FY 2032)
<b>Mission:</b>	Provide airlift support for troops, cargo, and equipment	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/None
<b>HRS Score:</b>	35.89; placed on NPL in March 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in August 1989		
<b>Contaminants:</b>	Solvents, paints, petroleum products, VOCs, heavy metals, plating wastes		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Dover, Delaware

## Progress To Date

Since 1942, Dover Air Force Base (AFB) has provided airlift support for troops, cargo, and equipment. EPA placed the installation on the NPL in March 1989 and the Air Force signed a federal facility agreement (FFA) in August 1989. In 2005, the BRAC Commission recommended Dover AFB for realignment. 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 for five remedies in FY03.

Fifty-nine restoration sites have been identified at this installation; 14 under the State RCRA petroleum program and 45 under CERCLA. As of the end of FY06, all of the sites either are response complete (RC) or have final remedies in place (RIP). The cleanup progress at Dover AFB for FY02 through FY05 is detailed below.

In FY02, the installation completed construction of a trench collection system for fuel recovery. The installation also completed a final soil removal action at a pesticide source area, removing and incinerating 300 tons of soil. Five-year reviews were initiated for four natural attenuation (NA) sites and a soil removal site.

In FY03, the installation completed a focused feasibility study (FS) for land use control (LUC) implementation at 21 sites. Five-year reviews for five remedies were completed. The installation continued operations of three fuel recovery systems and an accelerated anaerobic bioremediation system. The installation also continued monitoring at one petroleum NA site and five chlorinated solvent NA sites. An innovative bioremediation technology demonstration project was expanded due to its initial success at remediating trichloroethylene (TCE). A new innovative technology demonstration project, biogeochemical reductive dehalogenation, was initiated. The installation held monthly Tier I meetings and quarterly Tier II meetings with federal and state regulators to discuss progress and resolve issues.

In FY04, the installation completed regulatory reviews and final changes to the FSs for all remaining sites, and received state concurrence. Four proposed remedial action plans (PRAPs)

were drafted. 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 LUCs at multiple sites was drafted.

In FY05, Dover AFB drafted remedial action work plans for the South Management Unit and the Area 6 plume, including a total of 11 sites. Two additional PRAPs were drafted for groundwater actions at the remaining CERCLA sites. In addition, four RODs, covering groundwater actions at 11 sites and LUCs at 22 sites, were drafted. 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.

## FY06 IRP Progress

Dover AFB signed six final RODs for all remaining cleanup actions at 39 sites and completed four remedial action (RA) work plans for cleanup of five 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 were RC. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY06 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

- Initiate 5-year reviews for all remedies in FY07.
- Continue operations, maintenance, monitoring, and reporting of groundwater cleanup remedies at 25 sites in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	VA317002251600	<b>Funding to Date:</b>	\$ 6.9 million
<b>Size:</b>	600 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.3 million(FY 2001)
<b>Mission:</b>	Provided radio transmitting facilities and services to support naval ships, submarines, and aircraft	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 1996/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Dichlorobenzene, PCBs, POLs, trichlorobenzene, lead, SVOCs		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Suffolk, Virginia

## 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 and installation operations ceased on March 31, 1994. The installation formed a technical review committee in FY88 and converted it to a Restoration Advisory Board (RAB) in FY94. 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. The RAB disbanded in FY97. 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 11 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 cleanup progress at Driver Naval Radio Transmitting Facility for FY02 through FY05 is detailed below.

In FY02, the installation and regulators evaluated remedial actions and determined that the best alternative for addressing groundwater issues at Site 1 was monitoring. The 5-year review was initiated. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the Long-Term Monitoring Annual Report for Year Five was finalized and the work plan for continued long-term management (LTM) at Site 1 was drafted. The Navy also completed the draft 5-year review.

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

In FY05, the installation continued LTM for groundwater and biota at Site 1.

## FY06 IRP Progress

Driver Naval Radio Transmitting Facility continued LTM for groundwater and biota at Site 1.

## FY06 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 FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	AR657002447300	<b>Funding to Date:</b>	\$ 30.8 million
<b>Size:</b>	3,401 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.9 million(FY 2020)
<b>Mission:</b>	Supported B-52 strategic bombers, and KC-97 and KC-135 Stratotanker operations	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 1999/FY 2007
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Petroleum hydrocarbons, POLs, VOCs, UXO, metals		
<b>Media Affected:</b>	Groundwater and soil		



Blytheville, Arkansas

## Progress To Date

In July 1991, the BRAC Commission recommended closure of Eaker Air Force Base (AFB), which formerly supported aircraft and tanker operations. The installation closed on December 15, 1992. Typical environmental site types include underground storage tanks, aboveground storage tanks, oil-water separators, petroleum/oil/lubricants (POLs) 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 BRAC cleanup plan was updated in FY97 and FY05. The RAB adjourned in FY00 due to successful remediation efforts and declining community interest. An Environmental Baseline Survey (EBS) and several supplemental EBSs (SEBSs) were completed. The last remedy-in-place was completed for all Installation Restoration Program (IRP) sites in FY99. In FY99, the Air Force completed the deed for the 110-acre golf course, and transferred the 155-acre commercial tract in FY00. The installation completed the first 5-year review in FY06.

Environmental studies conducted between FY85 and FY90 identified 12 Installation Restoration Program (IRP) sites at Eaker AFB; since then, four additional sites have been identified. In addition, a RCRA facility assessment, completed in FY90, identified 9 areas of concern and 21 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 cleanup progress at Eaker AFB for FY02 through FY05 is detailed below.

In FY02, monitoring and operation of existing systems continued. The corrective measures implementation action report received regulatory approval. The finding of suitability to transfer and SEBS for the airfield property and the remaining commercial property were submitted to regulators; comments were received and incorporated. The deeds for all remaining property were signed. A 5-year performance-based contract (PBC) was awarded to operate and close out 9 of the 11 remaining sites.

In FY03, the 5-year PBC was implemented for basewide remedial action (RA) operation activities. Additionally, the Air Force conducted long-term management (LTM) and groundwater monitoring activities.

In FY04, the 5-year PBC for basewide RA operation activities, LTM, and groundwater monitoring continued. LTM completion reports for six sites were submitted to regulators for approval. The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

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

## FY06 IRP Progress

The Air Force continued the 5-year PBC for basewide RA operation, LTM, and groundwater monitoring activities. The installation completed its first 5-year review, which concluded that all remedies remaining at the base continue to be protective of human health and the environment.

## FY06 MMRP Progress

The installation completed an evaluation of MMRP sites.

## Plan of Action

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

### IRP

- Continue the 5-year PBC for basewide RA operation activities, LTM, groundwater monitoring, and annual report preparation in FY07.

### MMRP

- Prepare and submit documentation to DoD Explosives Safety Board to obtain administrative closure for nine MMRP sites in FY07.

<b>FFID:</b>	NJ217002217200
<b>Size:</b>	11,134 acres
<b>Mission:</b>	Handle, store, renovate, and ship munitions
<b>HRS Score:</b>	37.21; placed on NPL in August 1990
<b>IAG Status:</b>	FFA signed in December 1990
<b>Contaminants:</b>	VOCs, SVOCs, heavy metals, hydrocarbons, petroleum products
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil

<b>Funding to Date:</b>	\$ 27.8 million
<b>Est. CTC (Comp Year):</b>	\$ 7.8 million(FY 2025)
<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/FY 2005
<b>Five-Year Review Status:</b>	Completed



Colts Neck, New Jersey

## 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 2005, the BRAC Commission recommended Earle NWS for realignment. 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 a 5-year review in FY03.

To date, preliminary assessments (PAs) identified 29 sites of concern, 4 of which required further investigation. The sites include landfills, production areas, storage areas, maintenance areas, and disposal areas. Sixty-nine sites (48 CERCLA and 21 underground storage tank sites) have been identified. The installation has completed Records of Decision (RODs) at 13 sites and has recommended no further action (NFA) at 8 sites. The cleanup progress at Earle NWS for FY02 through FY05 is detailed below.

In FY02, the installation completed the PA/site inspection for Site 48. An environmental engineering and cost analysis, a remedial action (RA), and confirmatory sampling indicating NFA were completed at Site 47. The draft feasibility study (FS) for Sites 1 and 11 was completed. A secondary tetrachloroethylene (PCE) plume was found at Site 26. The draft proposed plan (PP) for Site 13 was submitted. A contract for remedial investigations/FSs, PPs, and RODs was initiated for Sites 1, 6, 11, 12, 15, and 17. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed the draft ROD for Site 13. The FS was completed for Sites 1 and 11. The draft PP for Sites 1 and 11 were submitted for regulatory review. The Sites 6, 12, 15, and 17 FSs were reviewed. Sites 3 and 10 landfill caps were completed. The 5-year review plan was completed.

In FY04, the installation finalized the ROD for Site 13. The Navy completed the PP for Sites 1 and 11 and submitted the draft RODs for Sites 1 and 11 for regulatory review. The installation completed the FS for Sites 6, 12, 15, and 17. Regulatory reviews for the PP for Sites 6, 12, 15, 17, and Site 26 secondary PCE plume were completed. The installation finalized the ROD for Site 13 and initiated the RA. 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 a ROD for Sites 1 and 11. The RA for Site 1 began. The installation completed a Classification Exception Area (CEA) draft for Site 1 and issued a draft ROD 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.

## FY06 IRP Progress

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 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.

## FY06 MMRP Progress

The Navy conducted no MMRP actions at this installation.

## Plan of Action

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

### IRP

- Finalize RODs for Sites 6, 12, 15, 17, and 26 in FY07.
- Continue RA, including CEA establishment at Sites 1, 6, 13, 15, 17, and 26 in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA957172450400	<b>Funding to Date:</b>	\$ 297.7 million
<b>Size:</b>	301,000 acres	<b>Est. CTC (Comp Year):</b>	\$ 572.2 million(FY 2125)
<b>Mission:</b>	Conduct aerospace research, development, testing, and evaluation, and provide support to United States and allies	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/FY 2016
<b>HRS Score:</b>	33.62; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA signed in 1990		
<b>Contaminants:</b>	Waste oils, solvents, petroleum hydrocarbons, POLs, rocket fuel, potential CWM, VOCs, heavy metals		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Kern County, California

## Progress To Date

Edwards Air Force Base (AFB) conducts aerospace research, development, testing, and evaluation, and provides support to the United States and its allies. In August 1990, EPA placed the installation on the NPL and in FY90, the Air Force signed a federal facility agreement (FFA). In 2005, the BRAC Commission recommended Edwards AFB for realignment. Interim remedial actions have included installing groundwater treatment systems to remove JP-4 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 firefighting training facility, bioventing contaminated soil at 12 sites, and installing 7 soil vapor extraction treatment systems. The installation formed a Restoration Advisory Board (RAB) in 1995.

Studies have identified 461 sites and areas of concern (AOCs) that are divided into 10 operable units (OUs). Fifty sites are in the study phase; 21 sites are in the cleanup, operations, construction, Record of Decision (ROD), or decision document stages; 1 site is in long-term monitoring; and 389 sites and AOCs require no further investigation. Over 1.9 million pounds of contaminants have been recycled or destroyed to date. The cleanup progress at Edwards AFB for FY02 through FY05 is detailed below.

In FY02, the installation completed the work plan, design documents, and procurement activities for the Site 285 full-scale treatability study (TS) for perchlorate. The installation field tested in-well sensor technologies for remote monitoring of remediation sites. Four trenches at Site 426 were excavated and no chemical warfare agent-impacted soil or debris were encountered. A successful steam-injection TS was performed at Site 61. Sixteen sites and AOCs achieved site closeout (SC) or response complete (RC) status. A remedial process optimization program was initiated for all treatment systems. The Site 13 landfill cover was completed. The RAB met quarterly, took site tours, and participated in a three-day training session.

In FY03, the Air Force installed the Site 58 pilot-scale dual extraction system and began operation. Through a partnership with the Desert Research Institute, the installation completed soil testing and initiated moisture infiltration modeling to design

a new generic landfill cover for arid environments. Ecological and human health risk assessments were completed for three OUs. The installation's first proposed plan (PP) and ROD for OU 3 were completed. Nine sites and AOCs achieved SC or RC status, respectively.

In FY04, pilot tests and TSs at Site 285 and various OU 4 sites continued. The installation initiated a pilot test to treat perchlorate effluent discharge in OU 4. The natural resource injury assessment process resumed. 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, provided advice on perchlorate and technical impracticability (TI) issues, reviewed remediation methods proposed for TSs, and received training.

In FY05, Edwards AFB began a PHOSter system TS of the Sites 5/14 groundwater contaminant plume. An in situ bioremediation TS utilizing whey powder injection was initiated at the Site 19 trichloroethene (TCE) plume in OU 1. The Air Force continued to operate the ion exchange (IX) system at Site 285 in OU 5. The installation initiated in situ biological and chemical treatment TSs at two locations at Site 282 in OU 5. Edwards AFB began in situ bioremediation TSs at Sites 162 and 177 in OU 4 and Site 325 in OU 9. The Air Force finalized the PP for the TI waiver/containment zone designation strategy for groundwater plumes in OU 4. In addition, the installation tested the enhancement of hydraulic conductivity and fracture connectivity in bedrock aquifers by blast fracturing at Site 37 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.

## FY06 IRP Progress

Edwards AFB continued the IX ex situ TS of perchlorate in groundwater at Site 285 and continued in situ biological or chemical treatment TSs at OUs 1, 2, 4, 5, and 9. The installation performed a bioaugmentation TS of the Site 86 groundwater chlorinated solvent plume and a TS for in situ

chemical oxidation at Site 14. The Air Force performed enhanced in situ bioremediation and bioaugmentation for treatment of the groundwater chlorinated solvent plume at Site 3 in OU 7. The installation finalized the OU 2 South Base PP and submitted the draft OU 7 chemical warfare material (CWM) feasibility study (FS) report for agency review. The Air Force and EPA completed and signed the OU 6 ROD. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The public reviewed a PP for four of the OU 4 sites and nine additional sites which included a management plan, land use controls, monitoring, and the shutdown of the Site 37 and Site 133 groundwater extraction treatment system.

The RAB met quarterly.

## FY06 MMRP Progress

The Air Force continued the PAs at all identified sites. Cost estimates were updated and the initial Munitions Response Site Prioritization Protocol rating for each MMRP site was developed. The Air Force also began some site investigations (SIs) in FY06.

## Plan of Action

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

### IRP

- Complete Site 5/14 in situ chemical oxidation TS work plan and install the system in FY07.
- Complete ROD for OU 2 in FY07.
- Initiate shut down of several ongoing treatment systems at OUs 2 and 4 in FY07.
- Complete the OU 1 and OU 7 CWM FS reports in FY07.
- Install treatment cells and a six-phase heating groundwater treatment system at Sites 225 and 298 in FY07.

### MMRP

- Complete PAs and SIs for all identified sites by the end of FY07 and FY10, respectively.

<b>FFID:</b>	AK057302864600	<b>Est. CTC (Comp Year):</b>	\$ 8.1 million(FY 2032)
<b>Size:</b>	19,790 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/None
<b>Mission:</b>	Provide tactical air support to Pacific Air Forces	<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	48.14; placed on NPL in November 1989		
<b>IAG Status:</b>	IAG signed in May 1991		
<b>Contaminants:</b>	Heavy metals, POLs, benzene, VOCs, PCBs, solvents		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 57.8 million		



Fairbanks, North Star Borough, Alaska

## Progress To Date

The mission at 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. Environmental studies at Eielson AFB began in FY82. Sites include fire training areas, landfills, spill sites, 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 and FY03.

Since FY93, the installation has identified 65 sites. Thirty-one of the sites were grouped into 6 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 OU 2, OU 3, OU 4, and OU 5 RODs. In FY06, Eielson AFB removed Site SS 68 from the IRP. The cleanup progress at Eielson AFB for FY02 through FY05 is detailed below.

In FY02, the installation continued annual long-term operations (LTO)/ long-term management (LTM) at the active sites. Agenda preparations for the 5-year review were initiated as planned. The Phase II remedial process optimization (RPO) process was completed. Institutional controls at IRP sites were enforced during all base construction activities. Biannual RAB meetings were held.

In FY03, the installation completed the formal decommission of the bioventing systems at Site ST 20, E 7 complex, and Site ST 48. The 5-year review was also completed. The installation prepared the proposed closure documents for all sites sampled in the FY02 sitewide sampling and analysis program. Closure documentation was incorporated into the ROD review report. The installation continued annual LTO/LTM at the active sites. Bioventing systems were removed at Site ST 20, E 7 complex, and Site ST 48.

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 Site 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 ST 20 and E 9 was completed. LTO 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 Sites 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 Military Munitions Response Program (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 on an as-need basis only. A yearly fact sheet publication will convey IRP information to the surrounding communities.

## FY06 IRP Progress

Eielson AFB employed the EDM initiative for in situ monitoring and implemented the 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; however, the sweep action was postponed due to administrative issues. The Air Force removed Site SS 68 from the IRP due to regulatory issues and, as such, did not develop a proposed work plan or decision document for the site. Future activities will be addressed through the compliance program following State of Alaska cleanup standards for

Regulation 18 AAC 78. The installation postponed the fish removal initiative because of prior fish removal success at Garrison Slough.

The Eielson AFB RAB merged with the U.S. Army Corps of Engineers (USACE) FUDS program for the Eielson Farm Road AAA site. The combined RAB met to discuss the USACE's proposed plan for remediation efforts at the site.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Continue RA-O for OU 2 bioventing systems at Sites ST 13/DP 26 and ST 10/SS 14 in FY07.
- Evaluate data collected at Sites WP 45/SS 57 to determine applicability of a future carbon donor project for enhanced trichloroethylene (TCE) remediation in FY07.
- Collect groundwater data from selected IRP sites in preparation for the 5-year review in FY07.
- Continue the fish removal initiative at Garrison Slough in FY07.
- Conduct the munitions sweep of Garrison Slough in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	CA917302320800	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	4,738 acres	<b>Funding to Date:</b>	\$ 130.8 million
<b>Mission:</b>	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	<b>Est. CTC (Comp Year):</b>	\$ 68.6 million(FY 2037)
<b>HRS Score:</b>	40.83; placed on NPL in February 1990	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
<b>IAG Status:</b>	FFA signed in October 1990	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	TCE and other VOCs, petroleum hydrocarbons, PCBs, pesticides, herbicides		



Irvine, California

## Progress To Date

The El Toro Marine Corps Air Station (MCAS) served as the primary Marine Corps jet fighter facility on the West Coast, and provided 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): volatile organic compound (VOC) contaminated regional groundwater (OU 1), sites potentially contributing to groundwater contamination (OU 2), and all remaining CERCLA sites (OU 3). The installation's 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 a 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).

Studies at El Toro MCAS have identified 24 CERCLA sites, 594 locations of concern, and 404 underground storage tanks (USTs). To date, approximately 3,700 of the original 4,712 acres have been either transferred or found environmentally suitable for transfer. The installation has completed 15 Records of Decisions (RODs) since environmental restoration activities began. In addition, it has completed two no further action (NFA) RODs and achieved regulatory concurrence on NFA for 36 UST sites, 12 aerial-photography anomaly (APHO) sites, and 12 aboveground storage tanks (ASTs). The installation has also submitted two draft RODs and completed one interim ROD. The cleanup progress at El Toro MCAS for FY02 through FY05 is detailed below.

In FY02, the installation signed the final groundwater ROD for Sites 18 and 24. Closure was achieved at two USTs, two ASTs, and three RCRA facility assessment sites. Twenty closure reports were submitted for regulatory review. The installation completed the initial radiological survey. A final feasibility study and proposed plan were published for Site 16. An aquifer test was initiated to facilitate Site 2 groundwater issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, El Toro MCAS coordinated with two local water districts for the development of remedial design (RD) on Site 18. The installation obtained NFA regulatory letters for 41 locations of concern. The installation completed the ROD for Site 16. The installation also completed 30 percent of RD for Sites 18 and 24. The installation completed the update on the Environmental Baseline Survey, and draft finding of suitability to transfer (FOST) and finding of suitability to lease (FOSL).

In FY04, the installation finalized the FOST and FOSL without regulatory agency exceptions or contingencies. El Toro MCAS also completed the radiological release report for 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 action (RA), and Sites 8 and 12 non-time critical removal action.

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 draft remedial investigation (RI) report for Site 1 (former explosive ordnance disposal range). The installation completed the RD for Site 24 groundwater VOC source area and initiated RA field activities. The installation also completed the RD for 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 also 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 sites, two USTs, and two solid waste management units. The installation also completed the CRP update and continued facilitating BCT and RAB meetings.

## FY06 IRP Progress

El Toro MCAS completed a draft RI report for Site 1 and a draft FS addendum for Sites 3 and 5 landfills. The installation drafted RODs for Sites 8 (DRMO Storage Yard) and 12 (Sludge Drying Beds). The installation initiated RAs for the Site 2 landfill cap, and the Site 18 and 24 VOC groundwater plume. El Toro MCAS completed exploratory trenching at 43 locations and soil sampling at various JP5 pipeline features. The Navy achieved NFA status for 11 aircraft direct refueling stations, approximately 3,100 linear feet of primary pipelines, and approximately 1,600 linear feet of secondary pipelines.

## FY06 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

- Complete RODs for Sites 24 (vadose zone soils) 3, 5, 8 and 12 in FY07.
- Complete RI/FS reports for Sites 1 and Anomaly Area #3, and FS addendum for Sites 3 and 5 landfills in FY07.
- Complete RAs for Sites 2 and 17 landfills in FY07.
- Demonstrate operating properly and successfully of the Sites 18 and 24 RA in FY07.
- Complete treatment and confirmation sampling in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	SD857212464400	<b>Funding to Date:</b>	\$ 73.7 million
<b>Size:</b>	4,858 acres	<b>Est. CTC (Comp Year):</b>	\$ 13.5 million(FY 2015)
<b>Mission:</b>	Maintain a combat-ready force capable of executing long-range bombardment operations	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2002/FY 2003
<b>HRS Score:</b>	33.62; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in January 1992		
<b>Contaminants:</b>	Solvents (including TCE), POLs, lead, low-level radioactive waste		
<b>Media Affected:</b>	Groundwater and soil		



Rapid City, South Dakota

## 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 concluding that all sites were protective of human health and the environment.

Fifteen sites were initially documented as having potential environmental impacts relating to past use. Follow on investigations and research documented others, bringing the total to 21. Sites at the installation were grouped into 12 operable units (OUs). To date, Records of Decision have been signed for OUs 1 through 10 and OU 12. The cleanup progress at Ellsworth AFB for FY02 through FY05 is detailed below.

In FY02, the installation continued the remedial investigation (RI) and started interim remedial action (RA) free product removal at Site RW 27. Long-term management (LTM) and RA-operations (RA-O) continued at OU 11 and other selected sites. The installation continued the RI and feasibility study (FS) for Site OT 18 and continued repairs to Landfill (LF) 05.

In FY03, the Air Force completed repairs at LF 05, continued the RI/FS for Site OT 18, and removed free product at Site RW 27. RA-O and LTM continued at selected sites. Additional data was collected for the expanded RI/FS for Site RW 27.

In FY04, the installation completed the RI/FS for Site OT 18. For Site RW 27, the installation also completed the expanded RI and started the FS. In addition, Ellsworth AFB continued RA-O and 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/site investigation 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. Additionally, Ellsworth AFB awarded a performance-based restoration project covering the closure of 13 Installation Restoration Program (IRP) sites by 2011. The installation conducted outreach in support of the Badlands Bombing Range cleanup (Site OT 18). The Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development.

## FY06 IRP Progress

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 cleanup (Site OT 18). The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Administrative issues delayed finalization of the expanded RI/FS report for Site RW 27.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Continue RA-O and LTM at selected sites in FY07.
- Finalize the expanded RI/FS report for Site RW 27 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	AK057302864900	<b>Est. CTC (Comp Year):</b>	\$ 46.6 million(FY 2037)
<b>Size:</b>	13,130 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/FY 2019
<b>Mission:</b>	Serve as host to Headquarters Alaskan Command	<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	45.91; placed on NPL in August 1990		
<b>IAG Status:</b>	FFA signed in 1991		
<b>Contaminants:</b>	VOCs, heavy metals, POLs, solvents		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		
<b>Funding to Date:</b>	\$ 84.2 million		



Anchorage, Alaska

## Progress To Date

Elmendorf Air Force Base (AFB) serves as headquarters to the Alaskan Command. EPA placed the base on the NPL in August 1990 and the Air Force signed a federal facility agreement (FFA) in 1991. In 2005, the BRAC Commission recommended Elmendorf AFB for realignment. Sites include old construction landfills, petroleum spill sites, 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. A 5-year review was conducted in FY98 and again in FY04.

Eighty-eight sites have been identified at this installation. Thirty-eight sites, grouped into six operable units (OUs), are covered by the FFA. 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. The remaining eight sites are not part of either the FFA or the agreement with the State of Alaska. By 1997, Records of Decision (RODs) had been signed for OUs 1, 2, 3, 4, 5, and 6. The cleanup progress at Elmendorf AFB for FY02 through FY05 is detailed below.

In FY02, the installation continued remedial action-operations (RA-O) of 21 bioventing systems, the engineered wetland system at OU 5, and the high-vacuum extraction (HVE) system at Site SD 15. The annual beach sweep at Landfill (LF) 04 was conducted. A remedial process optimization (RPO) for the basewide groundwater program was completed, and resulted in a reduction in sampling frequency for a majority of the base's wells. A remedial investigation and feasibility study (RI/FS) was initiated for Site DP 98.

In FY03, the Air Force began the engineering evaluation and cost analysis at Site SA 99, which resulted in a no further action determination. RA-O of 20 bioventing systems, operation of the engineered wetland system at OU 5, and operation of the HVE system at Site SD 15 continued. The installation also conducted the annual beach sweep at LF 04. Elmendorf AFB received Pacific Air Forces' (PACAF's) General Thomas D. White Installation award.

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 RA for Site DP 98 and system optimization of the OU 5 engineered wetland remediation system, as well as the removal action at Site SS 83. Elmendorf AFB received 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 provides clarifications to the criteria used to operate the SD 15 HVE treatment system, administration of land use controls, and use of a State-mandated cleanup goal for 1,1,2,2-Tetrachloroethane at LF 02. The installation also completed and signed site closure documents for Sites ST 71, ST 74, and SA 99. In addition, the Site DP 98 limited source removal was completed, annual beach sweeps at LF 04 were conducted, and PACAF's first performance-based contract was accomplished at Site PL 81. An RPO project was conducted that resulted in implementing two separate groundwater plume treatability studies (TSs) to enhance the cleanup process at these two locations within the base boundaries. The installation received both 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.

## FY06 IRP Progress

Elmendorf AFB began a TS for enhanced bioremediation at the Kenney Plume (Site ST 37) and began a TS for a bio-reactive barrier at the Slammer Plume (Site ST 37). The installation prepared draft decision documents (DDs) for Sites ST 36/66, SS 43, and ST 68. The installation completed a site closure report for Site 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. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Elmendorf AFB conducted additional sampling at Site ST 61; however, technical issues delayed DDs.

## FY06 MMRP Progress

The Air Force continued the PAs at all identified sites. Cost estimates were updated and the initial Munitions Response Site Prioritization Protocol rating for each MMRP site was developed.

## Plan of Action

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

### IRP

- Complete OU 6 ESD in FY07.
- Begin RI/FS at Site SS 22 in FY07.
- Prepare action documents for Site ST 61 in FY07.
- Complete DD for Site ST 68 in FY07.
- Initiate 5-year review in FY08.

### MMRP

- Complete PAs and site investigations at all identified sites by the end of FY07 and FY10, respectively.

<b>FFID:</b>	LA657002445200	<b>Funding to Date:</b>	\$ 35.1 million
<b>Size:</b>	2,284 acres	<b>Est. CTC (Comp Year):</b>	\$ 8.2 million(FY 2036)
<b>Mission:</b>	Used as a tactical fighter wing	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2001/FY 2007
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Underway and planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Industrial waste, spent solvents, fuels, waste oil, paints, pesticides, low-level radioactive waste, chlorine gas, PCBs, TCE, POLs, alkali, medical waste		
<b>Media Affected:</b>	Groundwater and soil		



Alexandria, Louisiana

## Progress To Date

In July 1991, the BRAC Commission recommended closure of England Air Force Base (AFB). The installation, used as a tactical fighter wing, closed in December 1992. Sites identified at the installation include landfills, 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 community interest.

Environmental studies have identified 46 Installation Restoration Program (IRP) sites at the installation. A RCRA facility assessment conducted in FY92 identified 5 areas of concern and 59 solid waste management units (SWMUs). In FY98, 14 sites were closed and officially transferred to the local redevelopment authority (LRA). In FY99, 19 additional sites were closed. The Air Force transferred 152 acres in FY04 and 384 acres in FY06 to the LRA. The cleanup progress at England AFB for FY02 through FY05 is detailed below.

In FY02, the installation completed draft post closure plans for Spill Site 45 (SS 045) [trichloroethylene (TCE) plume], SWMU 41 Landfill (LF) 015, and the petroleum/oil/lubricant (POL) Yard (SS 021). Quarterly long-term management (LTM) was conducted for SS 021 and LF 015, and remedial action operation (RA-O) was conducted for SS 045. TCE in the groundwater was determined to have migrated outside the area where studies indicated monitored natural attenuation (MNA) would be effective. The BRAC environmental coordinator determined that 11 sites required some explosive ordnance disposal clearance investigation/certification work.

In FY03, the installation conducted additional sampling and data research to include EPA Adda Lab field investigation for microbial DNA for specific microbes. Additional sentry monitoring wells were installed to further define the eastern TCE plume boundary. EPA identified microbes that break down TCE in half of the TCE plume. The installation worked with regulators to finalize the 13 final reports containing the sites on the Hazardous and Solid Waste Amendments permit and incorporated comments.

In FY04, the installation transferred 152 acres to the LRA and continued the MNA for the TCE plume to comply with post-closure plans. The installation revised the corrective action permit application as requested by the state. The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

In FY05, the installation conducted LTM at LF 015 and SS 021, and RA-O at SS 045. The installation developed an alternative strategy for site closure and submitted it for review. Two BCT meetings were held. The Air Force began evaluating requirements at MMRP sites at this installation.

## FY06 IRP Progress

The installation continued LTM at LF 015 and RA-O at SS 045. The Air Force transferred approximately 384 acres to the LRA. The installation submitted the first 5-year review to state regulators. The installation developed the operating properly and successfully (OP&S) determination report for SS 045, which will be submitted with the RCRA corrective action permit renewal application.

Regulatory issues delayed LTM at SS 021 and the renewal application for the RCRA corrective action permit. Contractual delays prevented submittal of the 5-year review to EPA.

Two BCT meetings were held.

## FY06 MMRP Progress

The installation initiated munitions and explosives of concern (MEC) clearance activities at three sites. The Air Force evaluated the requirements necessary to administratively close the remaining eight MMRP sites.

## Plan of Action

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

### IRP

- Continue LTM at LF 015 and SS 021 and RA-O at SS 045 in FY07-FY08.
- Submit first 5-year review to federal regulators in FY07-FY08.
- Submit renewal application for RCRA corrective action permit in FY07-FY08.
- Submit OP&S determination report for SS 045 in FY07-FY08.
- Develop OP&S determination reports for LF 015 and SS 021 in FY07-FY08.

### MMRP

- Complete MEC clearance at three sites in FY07-FY08.
- Submit administrative closure documentation for remaining MMRP sites in FY07-FY08.

<b>FFID:</b>	WY857212417900	<b>Funding to Date:</b>	\$ 122.0 million
<b>Size:</b>	5,866 acres	<b>Est. CTC (Comp Year):</b>	\$ 43.3 million(FY 2034)
<b>Mission:</b>	Serve as host to the 90th Space Wing, which support missile and space launch operations	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/None
<b>HRS Score:</b>	39.23; placed on NPL in February 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in September 1991; Modification 11 signed in July 1998		
<b>Contaminants:</b>	Oils, solvents, metals, acids, petroleum, explosives residues		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Cheyenne, Wyoming

## 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 (SSs) 1, 4, and 7, as well as the acid dry well site. The base was placed on the NPL in February 1990 and a federal facility agreement (FFA) was signed in 1991 that included 19 sites, which were grouped into 7 operable units (OUs); Modification 11 was signed in July 1998. Five additional sites have been identified since 1991. All sites were subsequently grouped into 14 OUs and five investigative zones. In FY95, a Restoration Advisory Board (RAB) was formed. The Air Force completed a basewide 5-year review in FY99 and again in FY04.

To date, remedial investigations (RIs) have identified 24 sites which were grouped into 14 OUs. The installation has signed Records of Decision (RODs) for 19 of the sites, 11 of which required no further action (NFA). The cleanup progress at F.E. Warren AFB for FY02 through FY05 is detailed below.

In FY02, the engineering evaluation and cost analysis for SS 7 source area removal action was completed. The supplemental design work at Zone C indicated that the selected remedy of extraction and treatment was not feasible. The supplemental preliminary assessment was completed. Meetings and training for the RAB continued. Partnering meetings with the Air Force, EPA, the State, contractors, and project managers continued on a regular basis.

In FY03, the Air Force completed construction of the Zone B final remedial action (RA) by installing a pump-and-treat system. The revised feasibility study for Zone C was completed and the ROD amendment continued on schedule.

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

In FY05, F.E. Warren AFB completed and signed the Zone E ROD indicating NFA required. The installation completed the

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Phase I Range RI 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 preliminary assessment/site inspection that added four sites to the installation's cleanup program. The Air Force updated its Military Munitions Response Program (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.

## FY06 IRP Progress

F.E. Warren AFB completed and signed the ROD for Zone D groundwater and an NFA ROD for the Zone D source areas. The installation completed the remedial design and began construction of the Zone D groundwater RA. The installation began a Phase II site inspection (SI) for two of the newly identified sites (SS 9 and SA 10), and began RI activities for the other two sites (SS 8 and SS 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 RI of the closed firing ranges. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The RAB held quarterly meetings, and also discussed proposed plans for the installation's sites.

## FY06 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 installation of the Zone D groundwater remedies in FY07.
- Complete the RI for the closed north ranges in FY07.
- Continue monitoring for 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 in FY07.
- Complete the ongoing SI and RI efforts at the four newly identified sites in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	WA057212464700	<b>Funding to Date:</b>	\$ 49.5 million
<b>Size:</b>	4,300 acres	<b>Est. CTC (Comp Year):</b>	\$ 50.0 million(FY 2028)
<b>Mission:</b>	Provide aerial refueling and airlift services	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/FY 2013
<b>HRS Score:</b>	31.98; placed on NPL in March 1989	<b>Five-Year Review Status:</b>	Underway
<b>IAG Status:</b>	IAG signed in FY90		
<b>Contaminants:</b>	Solvents, fuels, electroplating chemicals, cleaning solutions, corrosives, photographic chemicals, paints, thinners, pesticide residues, PCBs		
<b>Media Affected:</b>	Groundwater and soil		



Spokane County, Washington

## 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 an interagency agreement (IAG) in FY90. In 2005, the BRAC Commission recommended Fairchild AFB for realignment. Sites include contaminated fire training areas, landfills, radioactive waste sites, spill sites, waste pits, 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 in FY95. In FY00, a partial site delisting effort was initiated with the Washington State Department of Ecology (WA DOE) and EPA. The base prepared 22 sites for removal from the NPL. The installation, in cooperation with EPA and the State, completed a 5-year review in FY01.

Environmental studies have identified 37 sites at this installation. To date, Records of Decision (RODs) have been signed for 28 sites. The cleanup progress at Fairchild AFB for FY02 through FY05 is detailed below.

In FY02, the installation initiated the Priority 3 ROD. The remedial investigation (RI) at Site SD 37 was completed. Basewide soil and groundwater monitoring operations continued, as did remedial actions (RAs) at groundwater treatment plants, groundwater air sparging, and soil bioventing systems. The installation continued to implement recommendations from the 5-year review.

In FY03, the installation completed the feasibility study (FS) for Site SD 37, as well as 5-year review recommendations for various sites. The Air Force pursued privatization of Craig Road Landfill, an off-base Environmental Restoration site; however, privatization was determined not to be in the government's best interest and was no longer considered. The installation initiated preliminary discussion with the WA DOE regarding terminating remedial operations at Site WP 03.

In FY04, the installation performed significant remedial process optimization (RPO) initiatives at five of the nine RA-operation (RA-O) sites. The installation initiated the second 5-year review

report preparation. A contract was initiated to perform a Triad RI/FS project for Site 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 Site 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.

## FY06 IRP Progress

Fairchild AFB completed the Site 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 cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed an exit strategy at Site WP 03. Contractual issues delayed completion of the Priority 3 ROD and the 5-year review. Administrative issues delayed remedial design and RA-construction at Site SD 37.

## FY06 MMRP Progress

The Air Force continued the PAs at all identified MMRP sites.

## Plan of Action

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

### IRP

- Complete second 5-year review in FY07.
- Complete exit strategy at Site WP 03 in FY07.
- Complete the Priority 3 ROD in FY08.
- Complete Site SS 39 ROD in FY08.

- Begin RI to remedy in place efforts for Sites RW 11 and WP 36 in FY08.

### MMRP

- Complete PAs and site inspections at all identified sites by the end of FY07 and FY10, respectively.

<b>FFID:</b>	WV39799F789200	<b>Funding to Date:</b>	\$ 0.7 million
<b>Size:</b>	12 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.1 million(FY 2015)
<b>Mission:</b>	Manufactured smokeless powder (private party operated a batch chemical plant)	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2015/FY 2004
<b>HRS Score:</b>	36.3; placed on NPL in September 1983	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Dioxin, organic and inorganic chemicals, metals		
<b>Media Affected:</b>	Groundwater and soil		



Nitro, West Virginia

## Progress To Date

Fike-Artel Chemical is part of a 16,000-acre former government plant (Powder Plant "C") that manufactured smokeless powder. 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 (RI) and feasibility study of groundwater and soil (OU 4); and RI of the cooperative sewage treatment (CST) plant (OU 5). EPA placed the property on the NPL in 1983. EPA and the West Virginia Department of Environmental Protection conducted a 5-year review in FY02.

The Army approved a Military Munitions Response Program (MMRP) project in FY96. The cleanup progress at Fike-Artel Chemical for FY02 through FY05 is detailed below.

In FY02, the potentially responsible parties (PRPs) provided their written election to perform the Record of Decision soils groundwater remedies. The PRPs and EPA began to address the relevant technical details through the preparation of a plan for delineating the extent of the groundwater plume. The PRPs submitted that plan for EPA approval. EPA approved the OU 4 and OU 5 soils remedial design (RD) submittal. The groundwater pre-RD work plan, and sampling and analysis plan were submitted for approval. The operation of the stormwater pretreatment system continued. EPA and the West Virginia Department of Environmental Protection conducted the 5-year review inspection. The U.S. Army Corps of Engineers (USACE) completed a draft archive search report (ASR) for the entire 16,000-acre former government plant.

In FY03, USACE completed the soils remedy at the CST Plant, which was leased by the local redevelopment authority as a truck terminal. EPA approved the groundwater pre-RD investigation work plan, and the sampling and analysis plan.

In FY04, work began for the complex groundwater RD. The PRPs began the work plan for the WWI sewer lines, and 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 also completed the ASR after it received no additional comments.

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

## FY06 IRP Progress

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

## FY06 MMRP Progress

The USACE conducted no MMRP actions 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 ground water component in FY07.
- Complete cleaning of the 66-inch WWI sewer and the 12-inch sewer lines in FY07.
- Complete Phase I ground water remedy well spacing test along Pickens Road in FY07.
- Continue OU 4, CST plant O&M in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	VA39799F156700	<b>Est. CTC (Comp Year):</b>	\$ 81.3 million(FY 2034)
<b>Size:</b>	975 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2024/FY 2010
<b>Mission:</b>	Served as ordnance depot	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	70.0; placed on NPL in July 1999		
<b>IAG Status:</b>	IAG under negotiation		
<b>Contaminants:</b>	TNT, solvents, fuels, pesticides, heavy metals, MEC		
<b>Media Affected:</b>	Groundwater, sediment, soil		
<b>Funding to Date:</b>	\$ 36.7 million		



Suffolk, Virginia

## Progress To Date

The Former Nansemond Ordnance Depot (FNOD) consists of approximately 975 acres on the James River at the mouth of the Nansemond River. The Army acquired the property 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 Beasley Foundation, Inc. Currently, Tidewater Community College (TCC), the General Electric Company (GE), Dominion Lands, Inc., Continental Bridgeway Office Park, Bridgeway LP, Suffolk Towers, SYSCO Food Services, Hampton Roads Sanitation District, Lockheed Martin, and Interstate 664 occupy the property. Contaminants identified at the property include TNT, fuels, solvents, pesticides, and munitions and explosives of concern (MEC). In FY97, FNOD held its first Restoration Advisory Board (RAB) meeting. EPA placed the property on the NPL in July 1999 and delisted the impregnite kit area soils from the NPL in FY03. Both the FNOD project delivery team and the statewide FUDS Management Action Plan team meet monthly. In addition, an EPA Region III FUDS Partnering team meets several times throughout the year. FNOD also has a highly effective public affairs work group with representation from regulatory agencies, property owners, and community stakeholders. Additionally, the FNOD RAB meets six times a year.

To date, the U.S. Army Corps of Engineers (USACE) has signed one No Further Action (NFA) Record of Decision (ROD). Continuous MEC response action presence began in 2000 and is expected to continue through FY08. The cleanup progress at FNOD for FY02 through FY05 is detailed below.

In FY02, USACE completed the closeout documentation for the impregnite kit area and a draft remedial investigation (RI) on the main burning ground and horseshoe-shaped pond. Work continued on the TNT area RI, background study, and site screening process. USACE completed MEC removal actions on Dominion Lands property, and signed the interim land use control implementation plan (LUCIP) for MEC at FNOD.

In FY03, EPA delisted the impregnite kit area soils from the NPL. USACE completed RI sampling of the TNT area and re-interred the human remains unearthed at the James River beachfront site with an unprecedented outpouring of community

support. USACE found that the Track K dump had unanticipated contamination, and was no longer proposed for NFA. USACE completed the time-critical removal action (TCRA) at the TNT area and discovered an additional MEC site at the Nansemond River beachfront. Although there is no evidence of chemical weapons materiel (CWM) storage or disposal at FNOD, EPA completed a second round of CWM sampling citing concerns over incomplete site documentation. The sampling yielded no indication of CWM.

In FY04, USACE completed the offshore NFA proposed plan (PP) and ROD. USACE initiated the site investigation phase of the Nansemond River Beachfront, the Marine Corps Power Generation Station, and Tracks G, H, and I explosive magazine lines. Negotiations continued with landowners on the LUCIP memorandum of agreement (MOA). USACE completed the initial site screening process for the GE Pond area of concern (AOC).

In FY05, USACE completed the sitewide groundwater conceptual site model investigation, a background sampling report, and FNOD site specific screening process. USACE also completed near shore site investigations for the James River beachfront, and Horseshoe Pond, as well as the human health risk assessment (HHRA) and ecological risk assessment (ERA) for the Track K dump and the Horseshoe Pond. 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 an RI. USACE also initiated site investigations of several AOCs. USACE satisfied the requirements of the FNOD TCRA interagency agreement and began drafting the final report. TCC and USACE signed a LUCIP MOA. USACE also modified its MEC work plan.

## FY06 IRP Progress

USACE signed a final letter of agreement concerning public information access and interim LUC with the City of Suffolk. The Corps continued RI work at James River Beachfront, Horseshoe Pond, Main Burning Ground (MBG), TNT, Pesticide Drum, and Track K Source Area 6. The district postponed completion of the James River Beachfront RI to allow completion of a feasibility study (FS) for shoreline stabilization and incorporation of the shoreline stabilization FS into the RI to support an action PP and ROD.

Technical issues delayed the Horseshoe Pond RI. Regulatory issues delayed the NFA ROD and Pesticide Drum area RI. The TNT RI is essentially complete and the Draft RI report has been submitted for review. USACE is awaiting regulatory comments on the Draft TNT Area RI.

The district held a public meeting for the Track K dump PP.

## FY06 MMRP Progress

USACE completed most of the munitions clearance at MBG, designated two new AOCs (AOC 23-Renovation Plant and AOC 22-Arsenic Area) on TCC property near the Nansemond River, and initiated site screening process investigations at AOCs 12, 14, 15, 20, 22, and 23. EPA completed and accepted the TCRA report. The installation found bulk TNT at the Nansemond River Beachfront in July, characterizing this location as an NPL Source Area.

Technical issues delayed the MBG Military Munitions Response Program (MMRP) clearance process. The district delayed the IRP category RI until the MMRP investigations are completed.

## Plan of Action

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

### IRP

- Complete Track K dump NFA ROD in FY07.
- Complete the James River beachfront RI/FS, PP, and public meeting in FY07.
- Complete Horseshoe Pond RI in FY07.
- Complete Pesticide Drum area PP, public meeting, and NFA ROD in FY07.
- Update both the site management plan and the site screening process document in FY07.

### MMRP

- Perform shore stabilization and munitions removal at the Nansemond River Beachfront in FY07.
- Characterize J-Lake and TCC Lake submerged anomalies, and Track A&B burning ground MEC issues in FY07.



<b>FFID:</b>	MO79799F037400	<b>Est. CTC (Comp Year):</b>	\$ 0.0 million(FY 2005)
<b>Size:</b>	17,232 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2004/FY 2003
<b>Mission:</b>	Manufactured TNT and DNT during World War II	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	30.26; placed on NPL in February 1990		
<b>IAG Status:</b>	IAG signed in 1990; ammended in 1991		
<b>Contaminants:</b>	TNT, DNT, lead, asbestos, PCBs, PAHs		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 232.3 million		



St. Charles County, Missouri

## Progress To Date

From 1941 to 1944, the Former Weldon Spring Ordnance Works (WSOW) produced explosives for the Armed Services. The Army Reserves currently occupy the 1,655-acre Weldon Spring Training Area. The State of Missouri owns the majority of the remaining property and maintains it as a wildlife area and an agricultural research facility of the University of Missouri. Sites identified include lagoons, landfills, burning grounds, contaminated soil, underground wastewater pipelines, and groundwater. Primary contaminants affecting groundwater and soil are TNT, DNT, lead, polychlorinated biphenyls (PCBs), and polyaromatic hydrocarbons (PAHs). EPA placed the WSOW on the NPL in February 1990. The U.S. Army Corps of Engineers (USACE) and EPA signed an interagency agreement (IAG) in 1990, which was amended in FY91. The Atomic Energy Commission acquired a parcel covering approximately 200 acres in the early 1950s that it used for a uranium ore feed material plant. DoD provides partial funding for the cleanup of this site, which is being investigated and remediated by DOE as a separate NPL site. USACE formed a Restoration Advisory Board (RAB) in FY97 and disbanded the RAB in FY04. USACE conducted a 5-year review in FY03 and submitted it to EPA in FY04.

Two operable units (OUs) exist at the former WSOW: OU 1 (soil and pipeline) and OU 2 (groundwater). USACE signed a Record of Decision (ROD) for OU 1 in FY96, and for OU 2 in FY04, and completed the explanation of significant differences for OU 1 in FY01. The cleanup progress at the former WSOW property for FY02 through FY05 is detailed below.

In FY02, DOE and USACE generated the OU 1 closure report and submitted it to Missouri Department of Natural Resources (MDNR) and EPA for comment. They also submitted the draft explanation of significant differences to the regulatory agencies. The Army made a potentially responsible party payment to DOE. Groundwater monitoring for OU 2 continued. USACE procured a long-term monitoring contract, as part of a pilot study, to complete the remainder of the monitoring and sampling for the collection of data to be used in the revised feasibility study (FS). A work plan for groundwater sampling and well installation was completed. USACE installed five monitoring wells to aid in determining the extent of groundwater

contamination and removed approximately 0.8 bulk cubic yards of TNT-contaminated soil from two locations.

In FY03, USACE submitted the 5-year review and continued groundwater monitoring. Two additional OU 1 sites, T13 and T14, were identified. USACE modified the work plan for remediation at T13, leading to a faster execution timeline and awarded a contract for remediation of this site. T14 required no further action. USACE used geographic information system technology to present groundwater data more effectively. The Army initiated the closed, transferred, or transferring (CTT) ranges and site inventory for the Military Munitions Response Program (MMRP). RAB members participated in groundwater remediation decisions and the 5-year review process.

In FY04, USACE completed the supplemental FS, proposed plan, public review period and meeting for OU 2. The Army, MDNR, and EPA signed the ROD for the OU 2 and selected monitored natural attenuation with land use controls as the appropriate remedy. USACE completed the OU 1 closure and T13 remediation, and submitted the final remedial action (RA) report and the 5-year review to EPA. The Army conducted the CTT ranges, site inventory, and concluded that all contaminated burning grounds were being cleaned up under FUDS and DOE work. No CTT ranges or sites containing unexploded ordnance, discarded military munitions or munitions constituents reported for the Phase III inventory were located on the former WSOW property.

In FY05, USACE closed out and completed contract task orders for OU 1 in accordance with FUDS policy. USACE completed the remedial design work plan and Phase I RA work plan for OU 2 and regulators approved the plan. USACE obtained EPA and MDNR concurrence on closeout of OU 1 and completed the interim RA report. USACE completed the Phase II RA work plan and the second and third rounds of groundwater monitoring as part of the ongoing RA for OU 2.

## FY06 IRP Progress

USACE worked to complete project closeout of the WSOW projects. This is the last installation narrative for this property.

## FY06 MMRP Progress

The USACE has identified no MMRP sites at this property.

## Plan of Action

Plan of action items for Former Weldon Spring Ordnance Works are grouped below according to program category.

### IRP

- Pursue project closeout in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	AR621372018700	<b>Est. CTC (Comp Year):</b>	\$ 1.0 million(FY 2001)
<b>Size:</b>	71,359 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2001/FY 1999
<b>Mission:</b>	Supported light infantry and mobilization missions	<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	N/A		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	POLs, DDT, chlordane, TCE		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 29.7 million		



Fort Chaffee, Arkansas

## 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. 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). The installation closed in FY97. 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 closed out the BCT and the RAB. The Army completed 5-year reviews in FY06.

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 (NFA) provisions. The cleanup progress at Fort Chaffee for FY02 through FY04 is detailed below.

In FY02, the Army signed the ROD V and amended the action memorandum for the Pesticide Handling Area Building 477 (FTCH 042). The landfill closeout reports for both FTCH 001 and 032 were completed. The installation initiated development of a land use control implementation plan (LUCIP). The installation completed groundwater monitoring plans for three sites. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY03, the installation briefed stakeholders on the LUCIP for FTCHs 001, 013, 21E, and 032 and subsequently completed the document. The installation signed ROD VI, which included NFA for FTCHs 013 and 045, and specified an industrial use control and 5-year reviews for FTCH 013. The installation signed finding of suitability to transfer (FOST) V to facilitate the transfer of the remaining acreage at Fort Chaffee. The Army completed the BRAC CTT range and site inventory report for

Fort Chaffee. All six areas addressed in the report are part of FTCH 48C, a site listed as response complete. Of these six areas, four are low risk and two are negligible risk.

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 LUCIP. The BTT also issued the first FTCH 21E annual groundwater monitoring report and reviewed it with the BCT and RAB. The Army closed out the BCT and RAB. The installation shipped administrative files to the Army Environmental Center and closed the environmental site office.

## FY06 IRP Progress

Fort Chaffee completed the 5-year reviews for landfills FTCHs 001 and 032. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Funding issues delayed the abandonment of groundwater monitoring wells at FTCHs 001 and 032.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Complete the first 5-year review for FTCH 21E in FY07.
- Abandon groundwater monitoring wells at FTCHs 001 and 032 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	MO79799F034700	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	42,786 acres	<b>Funding to Date:</b>	\$ 2.0 million
<b>Mission:</b>	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	<b>Est. CTC (Comp Year):</b>	\$ 0.8 million(FY 2011)
<b>HRS Score:</b>	50.00; placed on NPL in October 1999	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/FY 2006
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>Contaminants:</b>	VOCs, TCE, carbon tetrachloride		



Newton County, Missouri

### 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 FY02 through FY05 is detailed below.

In FY02, USACE continued to provide support to Department of Justice (DOJ). USACE planned and negotiated an engineering study for a source removal. USACE monitored the execution of work done by private potentially responsible parties (PRPs) and planned and negotiated an additional source removal. Site visits to a potential munitions area and a former chemical warfare materiel (CWM) area were conducted. USACE met with a landowner to discuss future actions.

In FY03, USACE provided support to DOJ, planned and negotiated two additional engineering studies, and monitored work done by private PRPs. Settlement discussions between USACE and DOJ continued. DoD completed a geophysical study of a potential CWM site. In addition, DoD initiated a review of potential military munitions and CWM areas.

In FY04, USACE provided technical and legal support to DOJ, monitored several source area investigations and removal actions, and began planning a remedial investigation and feasibility study (RI/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 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 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 continued providing technical and legal support to DOJ in support of settlement discussions with PRPs. USACE completed the site investigation phase for the MMRP/CWM scoping security study.

### FY06 IRP Progress

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.

### FY06 MMRP Progress

USACE completed the remedial action construction phase with the educational awareness training of local stakeholders. USACE also initiated the programmatic RI/FS and remedial action construction phase.

### 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 settlement actions in FY07.
- Monitor execution of pre-RI/FS investigation in FY07.
- Continue performance monitoring on three removal actions in FY07.

#### MMRP

- Complete RI/FS investigation in FY07.
- Begin 30-year long-term monitoring in FY07.

<b>FFID:</b>	MA121042027000	<b>Funding to Date:</b>	\$ 148.4 million
<b>Size:</b>	9,302 acres	<b>Est. CTC (Comp Year):</b>	\$ 43.8 million(FY 2035)
<b>Mission:</b>	Supported Reserve component training	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2004/FY 2015
<b>HRS Score:</b>	42.24; placed on NPL in November 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in November 1991		
<b>Contaminants:</b>	VOCs, heavy metals, petroleum products, PCBs, pesticides, herbicides, explosive compounds		
<b>Media Affected:</b>	Groundwater and soil		



Fort Devens, Massachusetts

## 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, which assumed the remaining Army mission. EPA placed the installation on the NPL in 1989. The Army and EPA signed an interagency agreement (IAG) in November 1991. In 2005, the BRAC Commission recommended Fort Devens for realignment. Identified sites include landfills, vehicle and equipment maintenance and storage yards, the Defense Reutilization and Marketing Office scrap yard, motor pools, and underground storage tanks (USTs). Investigations revealed soil and groundwater contamination. In FY94 and FY95, the Army investigated the training areas and ranges for possible unexploded ordnance (UXO) and completed all UXO removal actions. In FY94, the installation formed a Restoration Advisory Board (RAB) and a BRAC cleanup team (BCT). Beginning in FY95, the installation conducted several interim actions, including removal of USTs and installation of a soil vapor extraction system. The Army signed an environmental services cooperative agreement with the local redevelopment authority in FY01 for demolition of the former military housing areas and removal of pesticide-contaminated soil underneath the housing units. Fort Devens completed 5-year reviews in FY01 and FY05.

Past environmental investigations identified 77 sites with 324 BRAC areas of concern (AOCs). The Army and EPA have signed 21 Records of Decision (RODs) to date. In addition, the Army approved 81 no further action (NFA) decision documents (DDs) and 32 NFA DDs Area Requiring Environmental Evaluation (AREE). In FY96, the Army conveyed 2,354 acres to the Local Redevelopment Authority. From FY97 through FY99, the Army conveyed 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. The cleanup progress at Fort Devens for FY02 through FY05 is detailed below.

In FY02, the Army completed excavation and transport of soil to a permanent landfill at AOCs 9, 11, 40, 41, and Study Areas 12 and 13. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions, or munitions constituents. The RAB instituted a program of multiple community co-chairs to allow

representation from the four contiguous towns and the community located on former Fort Devens property. The BCT addressed regulatory issues, concerns, and comments for all remaining sites undergoing environmental restoration.

In FY03, the installation completed the final feasibility study (FS) and draft ROD for AOC 50. The installation completed removal of pesticide-contaminated soil underneath demolished military housing. The installation completed construction at the Fort Devens consolidated landfill and obtained approval of closeout reports. The Army completed the BRAC portion of the CTT range and site inventory and initiated the active sites portion of the inventory. The Army identified 11 Military Munitions Response Program (MMRP) sites.

In FY04, the installation completed remedial actions (RAs) along with the Final Interim Closeout Report for AOC 57. The Army approved the AOC 50 ROD and the 100 percent remedial design for remedy implementation, and the installation implemented the remedy. The installation obtained approval for the NFA DD for AREE 69 AE, North Post oil spill. The installation also transferred leased parcel A 1C and Lot 9.

In FY05, the installation implemented the groundwater contingency remedy for Shepley's Hill Landfill (SHL) and awarded a performance-based contract (PBC) for a comprehensive site assessment (CSA) on the landfill. The installation completed the preliminary assessment, site investigation, and polychlorinated biphenyl (PCB) remediation at the Grant, Locust, and Cavite (GLC) Army Family Housing Areas. Additionally, Fort Devens reached remedy in place and completed the RA workplan and land use control (LUC) plan for AOC 50. The installation sampled for perchlorate in the groundwater monitoring wells on the South Post Impact Area. In addition, the Army completed a 5-year review and transferred lease parcels A 4, A 2A, and A 8.

## FY06 IRP Progress

Fort Devens initiated a PBC for ongoing long-term groundwater monitoring and optimization at six AOCs. The installation completed the CSA workplans and continued the SHL remedy operation and remedy optimization. The Army awarded a PBC for the remediation of pesticide contaminated soils at the remaining former Army housing units. The installation

completed the preliminary assessment/site investigation (SI), supplementary SI for the GLC housing areas and initiated a process for development of LUCs associated with a former range within the Grant Housing Area. In addition, the installation completed a time-critical removal action involving the remediation of lead contaminated soils at a former small arms firing range. The Army transferred leased parcel A 16 and completed the operating properly and successfully (OP&S) approval and finding of suitability to transfer for Parcel A 15.

Regulatory issues delayed the EPA certification for OP&S for AOCs 50 and 57. Contracting and funding issues delayed the pesticide soil remediation at the Shirley Housing Area. Regulatory and technical issues delayed the transfer of all properties leased in furtherance of conveyance.

## FY06 MMRP Progress

The Army awarded a PBC and initiated planning phase activities for performing an SI on sites identified in the CTT inventory report for the Devens Reserve Forces Training Area.

## Plan of Action

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

### IRP

- Obtain EPA certification for OP&S for AOCs 50 and 57 in FY07.
- Complete pesticide remediation at the former Buena Vista Army Housing Area in FY07.
- Complete property transfer for Parcels A 15, A 6 A and A 5 in FY07.
- Complete FS and ROD for the LUCs associated with Grant Housing Area in FY07.
- Complete remaining pesticide soil remediation activities at former Army housing areas in FY08.

### MMRP

- Complete MMRP SI work plan and report for the Reserve enclave in FY07-FY08.

<b>FFID:</b>	NJ221042027500	<b>Est. CTC (Comp Year):</b>	\$ 20.4 million(FY 2017)
<b>Size:</b>	30,997 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/FY 2017
<b>Mission:</b>	Provide training and Reserve support	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	37.40; placed on NPL in July 1987		
<b>IAG Status:</b>	FFA signed in September 1991		
<b>Contaminants:</b>	Heavy metals, VOCs, POLs, chlorinated solvents, PCBs		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		
<b>Funding to Date:</b>	\$ 15.2 million		



Pemberton Township, New Jersey

## Progress To Date

Remedial investigation (RI) of the Fort Dix Sanitary Landfill began in 1979, leading to the installation of groundwater monitoring wells around the perimeter. Due to the identified contamination, EPA placed the landfill on the NPL in 1987. In FY89, the installation identified contamination at storage areas, motor pools, abandoned underground storage tanks (USTs), landfills, lagoons, impact areas, and an incinerator. Contaminants identified include heavy metals, volatile organic compounds (VOCs), petroleum/oil/lubricants (POLs), and chlorinated solvents. The Army and EPA signed a federal facility agreement (FFA) in September 1991. In FY95, the BRAC Commission recommended realignment of Fort Dix, with retention of land and facilities for Reserve component training. In 2005, the BRAC Commission recommended Fort Dix for realignment. The installation formed a Restoration Advisory Board in FY96. In FY00, the Army petitioned EPA to remove the Sanitary Landfill from the NPL. The installation completed 5-year reviews for the landfill in FY99 and FY05.

The installation has completed nine Records of Decision (RODs) 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 Landfill was added to EPA's construction complete list. The cleanup progress at Fort Dix for FY02 through FY05 is detailed below.

In FY02, the Army initiated a remedial design and a remedial action (RA) at the Taxi Stand site and an RI/feasibility study at the Pesticide Control Shop. The UST RI report for Buildings 5390, 7061, and the golf course site were all completed. The installation completed RODs for the Environmental Photographic Interpretation Center 8 Landfill, Property Disposal Office Landfill, hazardous waste storage area, paint shop, polychlorinated biphenyls (PCBs) transformer storage area, Bivouac 5 wash rack, Magazine (MAG) 1 Area, and the golf course pesticide mixing area. Fort Dix continued to pursue deletion of the Sanitary Landfill from the NPL.

In FY03, the Army included MAG 1 Site, the Armament Research and Development Center Site, leaking USTs 5390, 7061, and golf course leaking USTs in a contract for

remediation of 14 sites at Fort Dix. Fort Dix continued to pursue deletion of the Sanitary Landfill from the NPL. The installation continued long-term monitoring at the Sanitary Landfill. The Army completed the inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents for the active portion of the installation. Six Military Munitions Response Program (MMRP) sites were identified at this installation.

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

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

## FY06 IRP Progress

Fort Dix continued remediation at the 14 Fort Dix sites under the guaranteed fixed price remediation contract. The installation completed in-situ treatment of the Taxi Stand Plume. The Army continued the sitewide classification exception area groundwater sampling. The installation began sentinel well installation at the Sanitary Landfill and pursued NPL delisting.

Regulatory issues delayed the RI reports for the Range Landfill, ANC 2 Disposal Area, and the amended RI report for the Taxi Stand Plume.

## FY06 MMRP Progress

The Army conducted no MMRP actions at this installation.

## Plan of Action

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

### IRP

- Complete RI reports and complete FS for Pesticide Control Shop in FY07.
- Complete RI reports for Range Landfill and ANC 2 Disposal Area, and initiate focused FS in FY07.
- Discuss the elevated levels of manganese at the Sanitary Landfill with regulators in FY07.
- Initiate work plans for the Range Landfill and ANC 2 Disposal Area in FY07.
- Sample the Taxi Stand Plume and amend the RI report in FY07.

### MMRP

- Complete historical records review for CTT ranges in FY07.

<b>FFID:</b>	NJ221402027500	<b>Est. CTC (Comp Year):</b>	\$ 0.0 million(FY 2001)
<b>Size:</b>	31,065 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2001/FY 2000
<b>Mission:</b>	Provided training and mobilization	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>HRS Score:</b>	N/A		
<b>IAG Status:</b>	FFA signed in 1991		
<b>Contaminants:</b>	Chlorinated solvents, heavy metals, PCBs, asbestos		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 30.7 million		



Pemberton Township, New Jersey

**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.

The cleanup progress at Fort Dix BRAC for FY02 through FY05 is detailed below.

In FY02, the installation submitted the site inspection (SI) of the Walson Hospital Complex for regulatory review. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY03, the installation completed asbestos abatement at the Walson Hospital complex and received EPA concurrence on the closeout report. The installation began a SI of electrical transformer locations at the Federal Corrections Institute (FCI). The Army completed the CTT ranges and sites inventory for the BRAC portion of the installation. The inventory identified no Military Munitions Response Program (MMRP) sites on the BRAC property.

In FY04, the installation completed 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 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.

**FY06 IRP Progress**

Fort Dix BRAC 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.

Regulatory issues delayed preparation of the deed notice for Facility 5675 and the SI for chlorinated solvents and PCBs in the 5600 Area.

**FY06 MMRP Progress**

The Army has identified no MMRP sites at this installation.

**Plan of Action**

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

**IRP**

- Complete a deed notice for Facility 5675 in FY07.
- Complete the SI for the 5600 Area in FY07.
- Complete PCB remediation at the FCI in FY07-FY08.

**MMRP**

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	VA321372032100	<b>Funding to Date:</b>	\$ 49.8 million
<b>Size:</b>	8,228 acres	<b>Est. CTC (Comp Year):</b>	\$ 50.8 million(FY 2017)
<b>Mission:</b>	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	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/FY 2017
<b>HRS Score:</b>	50.00; placed on NPL in December 1994	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA under negotiation		
<b>Contaminants:</b>	Petroleum products, PCBs, VOCs, pesticides, heavy metals		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Newport News, Virginia

## 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 2005 BRAC Commission ordered 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 and 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, polycyclic aromatic 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. The Agency for Toxic Substances and Disease Registry published a final public health assessment that indicated that the Fort Eustis NPL site poses no apparent risk to public health. 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 off-post that are open to the public. The installation updated its community relations plan in FY06.

Investigations have identified 27 sites at the installation. The Army and EPA have signed two Records of Decision (RODs) to date. The cleanup progress at Fort Eustis for FY02 through FY06 is detailed below.

In FY02, the Army awarded a treatability study (TS) contract at the Fire Training Area (FTA). The installation developed alternatives to correct the settling and runoff problems at the closed landfill. The draft ROD for the Oil Sludge Holding Pond was prepared. The installation completed sampling at Milstead Island Creek and initiated sampling at Felker Airfield. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions or munitions constituents.

In FY03, the installation completed the remedial action (RA) at the pesticide storage area (DOL Yard). The Army signed the final ROD for the Oil Sludge Holding Pond and awarded an RA contract. The installation submitted the Bailey Creek draft feasibility study (FS). The Army awarded a contract for additional sediment and fish tissue sampling at Eustis Lake. The installation continued free product recovery and initiated liquid vapor extraction (LVE) at the Army-Air Force Exchange Service (AAFES) and the Helicopter Maintenance Area (HMA). The methane soil vapor extraction (SVE) system continued to operate at Landfill (LF) 7. The Army awarded a contract for preparation of a 50 percent design stage for the final cap renovation of LF 15. The Army submitted the federal facility agreement (FFA) for regulatory review, however the FFA was not signed due to a land use control dispute. The Army completed the CTT range and site inventory report. Twelve Military Munitions Response Program (MMRP) sites were identified at this installation.

In FY04, the installation completed the draft remedial investigation for Felker Airfield and the DOL Yard long-term management (LTM) plan. The installation conducted monthly LVE events at AAFES Service Station and at HMA, and continued operation of the SVE system at LF 7. The installation completed an explanation of significant differences to amend the ROD for the Oil Sludge Holding Pond Site. The installation initiated the TS at the FTA and completed the LF 15 cap renovation and repair project. The Army revised and resubmitted the FFA. The installation completed RA fieldwork at the Oil Sludge Holding Pond and conducted sampling at Eustis Lake to support the 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 installation 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 Oil Sludge Holding Pond Site 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 CTT ranges under the MMRP.

## FY06 IRP Progress

Fort Eustis 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 Oil Sludge Holding Pond Site. The Army also requested proposals on a performance-based contract (PBC) for environmental remediation services, which included six installation sites (FTA, Oil Sludge Holding Pond, DOL Storage Yard, Brown's Lake, Bailey Creek, and Eustis Lake). FFA negotiations with EPA continued; however, regulatory issues delayed completion.

Technical issues at the HMA site delayed groundwater monitoring well abandonment and site closeout. Funding issues delayed the Felker Airfield FS. Regulatory issues delayed the Milstead Island Creek NFA ROD. The PP is undergoing public review. Regulatory issues also delayed the Third Port UST NFA DD and the Brown's Lake ROD.

## FY06 MMRP Progress

Fort Eustis conducted SIs at MMRP sites and completed the historical records review report. Fort Eustis also submitted the draft SI work plan for regulatory review.

## Plan of Action

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

### IRP

- Award PBC for environmental remediation services for six sites in FY07.
- Complete ROD for Brown's Lake in FY07.
- Complete NFA ROD for Milstead Island Creek and NFA decision document for Third Port UST in FY07.

### MMRP

- Complete MMRP SI in FY07.

<b>FFID:</b>	MD321022056700	<b>Funding to Date:</b>	\$ 86.3 million
<b>Size:</b>	13,680 acres	<b>Est. CTC (Comp Year):</b>	\$ 46.6 million(FY 2023)
<b>Mission:</b>	Served as administrative post for various DoD tenants	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/FY 2017
<b>HRS Score:</b>	52.0; placed on NPL in July 1998; delisted from NPL in November 1999	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA under negotiation		
<b>Contaminants:</b>	Heavy metals, petroleum hydrocarbons, VOCs, UXO		
<b>Media Affected:</b>	Groundwater and soil		



Fort Meade, Maryland

## Progress To Date

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

To date, the Army has completed three No Further Action (NFA) Records of Decision, two for Tipton Airfield and one for the clean fill dump. The cleanup progress at Fort Meade for FY02 through FY05 is detailed below.

In FY02, the installation continued long-term monitoring activities at the clean fill dump and Tipton Airfield. Fort Meade completed follow-up investigations of solid waste management units (SWMUs) requiring further action. Approximately 50 of the original 152 SWMUs needed NFA. The installation consolidated the remaining SWMUs as appropriate. The Army drilled off-site wells on the south side of the closed sanitary landfill to monitor off-site migration of contaminants. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions or munitions constituents under the Military Munitions Response Program (MMRP).

In FY03, the installation completed the feasibility study (FS) and proposed plan for ordnance demolition area (ODA). Long-term monitoring activities for the BRAC parcel continued. The 5-year review for Tipton Airfield was underway. The installation initiated remedial investigation (RI) work plans for many of the CERCLA SWMU sites. The installation completed the BRAC CTT range and site inventory. The Army initiated a non-time-critical removal action (NTCRA) at the Patuxent Research Refuge.

In FY04, the installation continued long-term monitoring activities for the BRAC parcel and completed the remaining RI work plans for the CERCLA SWMUs and initiated RI field work for four sites. The RI effort at Fort George G. Meade (FGGM) 17 (Closed Sanitary Landfill) and 86 continued. The Army initiated an installationwide evaluation of historical impacts associated with past disposal practices and an environmental engineering and cost analysis (EE/CA) field work for the former trap and skeet range. The installation completed the focused FS for the Defense Reutilization and Marketing Office (DRMO) groundwater plume 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 CTT range and site inventory for the active portion of Fort Meade under the MMRP. The MMRP inventory evaluated six areas and proposed two for additional evaluation.

In FY05, Fort Meade 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 ODA BRAC site and the draft Closed Sanitary Landfill RI report for stakeholder review. The installation continued negotiations with EPA on the federal facility agreement (FFA). Additionally, the installation awarded the PBC for 11 sites, including the DRMO and the Trap and Skeet Range. Fort Meade completed the NTCRA at the Patuxent Research Refuge BRAC Parcel. The installation held monthly RAB meetings and regulatory partnership meetings as needed.

## FY06 IRP Progress

Fort Meade completed the installation of additional monitoring wells to characterize the groundwater condition for the DRMO. Investigation of Operable Unit (OU) 4 continued under the PBC. The Army completed the EE/CA for 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. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed the RIs at the Manor View Dump Site. Contracting issues delayed the RI at the Closed Sanitary Landfill. Regulatory issues delayed closeout of the Granite Nike Control Site and the Former Battery Shop.

## FY06 MMRP Progress

Fort Meade completed the Historical Record Review for possible historical MMRP activities at the installation and began the site inspections (SIs) at the MMRP sites.

## Plan of Action

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

### IRP

- Complete the PBC OU 4 RI in FY07.
- Begin Former Pesticide Shop and Closed Sanitary Landfill FSs in FY07.
- Complete PBC OU 5 Site focused FS in FY07.
- Continue FFA negotiations with EPA in FY07.
- Complete Manor View Dump Site and Closed Sanitary Landfill RIs in FY07.
- Complete closeout of Granite Nike Control Site in FY07.

### MMRP

- Complete preliminary assessment and SI to determine eligible sites in FY07.



<b>FFID:</b>	GA421402004600	<b>Est. CTC (Comp Year):</b>	\$ 9.1 million(FY 2027)
<b>Size:</b>	1,426 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/None
<b>Mission:</b>	Supported FORSCOM readiness missions	<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	N/A		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	PAHs, metals, VOCs, pesticides, POLs, chlorinated solvents		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		
<b>Funding to Date:</b>	\$ 32.1 million		



Forest Park, Georgia

## Progress To Date

Fort Gillem, a sub-installation of Fort McPherson, was recommended for closure by the 2005 BRAC Commission. 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 2001, 27,000 tons of lead contaminated soil and 4,000 tons of VOC contaminated soil were excavated at the Northern Landfill Area (FTG 01).

The cleanup progress at Fort Gillem for FY02 through FY05 is detailed below.

In FY02, the installation identified the groundwater plume source with direct push sampling at FTG 01 North Landfill Area site and additional samples to delineate the plume were taken at FTG 04. The Army conducted a remedial investigation (RI) at FTGs 07 and 09. The Army collected additional samples at FTG 13 to support the baseline risk assessment (BLRA) that it subsequently completed.

In FY03, the installation further defined the source areas at FTG 01 and conducted an additional RI for FTG 07.

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

In FY05, the Army awarded a performance-based contract (PBC) for FTGs 01, 04, 07, 09, 10, and 13. The remaining restoration sites: FTGs 02, 03, 05, 06, 08, and 14 have been recommended for no further action based on the site investigation, pending concurrence/approval from the Georgia Environmental Protection Division.

## FY06 IRP Progress

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 FFS for the cleanup strategy at FTG 01 (Operable Units A, B, H and I). The Army developed RI work plan to address data gaps at FTG 01. Fort Gillem prepared remedial design documents for interim remedial measures to address source removals at FTGs 01 and 09. The Army prepared RI reports for FTGs 04, 07, 09, and 10. Additionally, the installation evaluated the groundwater monitoring network and the off-site well survey.

## FY06 MMRP Progress

Fort Gillem had no MMRP sites previously identified, but several operational ranges are present. The Army completed a historical records review for the operational ranges at Fort Gillem.

## Plan of Action

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

### IRP

- Prepare an RI/BLRA report and a focused FS at FTG 13 in FY07.
- Prepare an RI/BLRA report and a focused FS at FTG 04 in FY07.
- Complete the ECP and CERFA reports in FY07.
- Achieve remedy-in-place in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

**FFID:** WA021402050600  
**Size:** 86,176 acres  
**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  
**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  
**IAG Status:** IAG signed in January 1990

**Contaminants:** VOCs, PCBs, heavy metals, oils and fuels, coal liquification wastes, PAHs, solvents, battery electrolytes  
**Media Affected:** Groundwater and soil  
**Funding to Date:** \$ 77.7 million  
**Est. CTC (Comp Year):** \$ 50.9 million(FY 2041)  
**IRP/MMRP Sites Final RIP/RC:** FY 2010/FY 2018  
**Five-Year Review Status:** Completed



Fort Lewis, Washington

**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. The Army completed a 5-year review for the Logistics Center in FY97 and one for for the Logistics Center, LFs 2 and 4, and the Illicit Polychlorinated Biphenyl (PCB) Dump Site in FY02. Fort Lewis has developed a community relations program; there has been no public interest in developing a Restoration Advisory Board (RAB).

The Army and EPA have signed three Records of Decision to date. The cleanup progress at Fort Lewis for FY02 through FY05 is detailed below.

In FY02, the installation completed a 5-year review for LFs 2 and 4, and the Illicit PCB Dump Site. It also completed a Phase II remedial investigation (RI) at LF 2 and thermal specifications for trichloroethylene (TCE) source removal in the vadose zone. The Army completed the installation of six lower aquifer wells to assist in monitoring the lower aquifer TCE plume.

In FY03, the installation continued to operate two pump and treat systems for containment and treatment of the upper aquifer TCE plume. Planning for thermal remediation systems for Area 1 was completed. Construction of infrastructure for the remediation of LF 2 vadose zone and unconfined aquifer TCE dense non-aqueous phase liquid began. The monitoring of LF 4 contaminants (TCE) continued. The Army completed bioremediation feasibility studies (FSs) for TCE and began further studies involving enhanced mass transfer, assessment of flux, and numerical modeling to support a monitored natural attenuation decision. The installation continued work on the lower aquifer study. The Army initiated the closed, transferred,

and transferring (CTT) range and site inventory for Fort Lewis and Vancouver Barracks under the Military Munitions Response Program (MMRP). The installation hosted quarterly work group meetings with scientists and regulators to assist the remediation of the Logistics Center. It also held an open house, distributed a newsletter about the status of site remediation activities, and solicited RAB interest.

In FY04, the installation continued operations and maintenance (O&M) of remedies at the Logistics Center and the Illicit PCB Dump Site. The installation completed the delineation of extent of TCE plume in 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 (IRAs) 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 in order 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 CTT inventory. The installation completed an IRA for the Former Skeet Range.

In FY05, the installation continued O&M of remedies at the Logistics Center (two groundwater pump-and-treatment systems) and the Illicit PCB Dump Site (cap and fence). Long-term management remedies at the Logistics Center, LFs 1 and 4 continued. The installation completed in-situ thermal treatment (an innovative technology) 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 FS was expanded into a full FS. Additional monitoring wells were installed and sampled to further delineate the TCE plume in the Sea Level Aquifer. The installation submitted draft DDs with proposed final remedies for four IRP sites, including a no further action remedy (NFA) for the Park Marsh LF site. The installation conducted site investigation (SI) sampling at one of the two remaining sites without a selected or proposed remedy (LF 6). The installation completed IRAs at the former Evergreen

Infiltration Range (soil removal) and former Skeet Range (perimeter fence). The Army initiated an SI for seven MMRP sites. The installation continued the community relations program. Fort Lewis received the DoD Secretary of Defense Environmental Award for Restoration.

**FY06 IRP Progress**

Fort Lewis 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. Fort Lewis proposed a NFA remedy in a draft DD for LF 6, one of the two remaining non-NPL sites without a remedy.

Technical issues delayed the in-situ thermal treatment project. The installation continued the community relations program.

**FY06 MMRP Progress**

Fort Lewis completed an SI work plan for all MMRP sites.

Technical issues delayed the SI report.

**Plan of Action**

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

**IRP**

- Complete in-situ thermal treatment at the final Logistics Center source area in FY07.
- Complete Logistics Center Sea Level Aquifer remedy selection in FY07.
- Begin investigation of the last remaining non-NPL site in FY07.
- Complete Fort Lewis Agreed Order RI report in FY07-FY08.
- Continue O&M of remedies in FY07-FY08.

**MMRP**

- Complete field sampling and SI in FY07.

<b>FFID:</b>	AL421372056200	<b>Funding to Date:</b>	\$ 175.5 million
<b>Size:</b>	41,191 acres	<b>Est. CTC (Comp Year):</b>	\$ 193.8 million(FY 2031)
<b>Mission:</b>	Served as host to the U.S. Army Chemical School, the U.S. Army Military Police School, and the DoD Polygraph Institute	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2017/FY 2031
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	VOCs, SVOCs, pesticides, explosives, metals, UXO, radioactive sources, non-stockpile chemical warfare materiel		
<b>Media Affected:</b>	Groundwater and soil		



Anniston, Alabama

## 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 (LRA). 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 for the RAB in FY02, FY03, FY04, and FY05.

The Army has identified 140 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. The cleanup progress at Fort McClellan for FY02 through FY05 is detailed below.

In FY02, the BCT reviewed three finding of suitability to transfers (FOSTs) and the Army transferred 3,030 acres. The BCT reviewed the engineering evaluation and cost analyses (EE/CAs) for M1 01 Parcel, 33 chemical warfare material (CWM) sites, and 11 fill areas. The Army completed the M1 01 Parcel and M3 miscellaneous property EE/CA, and removal reports for the M2 Parcel and the Eastern Bypass construction support surface clearance. The Army also completed a CWM EE/CA for 33 sites; no CWM was found. The RAB received a TAPP contract for technical evaluation and training.

In FY03, the BCT reviewed 3 FOSTs, an environmental condition of property report and a finding of suitability for early transfer, and the Army transferred 12,992 acres. The LRA

assumed responsibility for characterization/remediation for a portion of the early transfer parcels as specified in the environmental services cooperative agreement (ESCA) between the Army and the LRA. The installation completed the EE/CA for 11 fill areas, decommissioning activities at Rideout Field burial mound and field work for site inspections at the historical ranges. The Army completed the closed, transferred, and transferring ranges and sites inventory report that identified 12 Military Munitions Response Program (MMRP) sites. Under the MMRP, the installation completed the Alpha Area EE/CA and the M1 01 Parcel final removal report, and continued EE/CAs for the Bravo and Charlie Areas. The RAB received another TAPP contract for technical evaluation and training.

In FY04, the installation completed CWM 3X scrap removal field activities at Training Areas T 38 and T 24 A and a FOST for Highway 21. The BCT reviewed a FOST 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 (IRA) 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 IRAs, including a clearance to depth on 19 acres at 3 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 ESCA to comply with a new two 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 also 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.

## FY06 IRP Progress

Fort McClellan 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. The cost of completing environmental restoration has changed significantly due to technical issues.

## FY06 MMRP Progress

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.

The installation also completed the draft final version of the Bravo Area EE/CA and submitted it to the LRA; regulatory issues delayed its completion.

## Plan of Action

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

### IRP

- Complete fieldwork for the Baby Bains Gap Road Baseline Ecological Risk Assessment in FY07.
- Complete the Problem Formulation and Study Design for Training Area T 24 A in FY07.
- Conduct 5-year review for the Government Services Administration Warehouse Area in FY07.

### MMRP

- Sign the Statement of Clearance for the Bravo Y Area in FY07.
- Complete the Charlie Area EE/CA in FY08.

<b>FFID:</b>	GA421402056500	<b>Funding to Date:</b>	\$ 8.1 million
<b>Size:</b>	507 acres	<b>Est. CTC (Comp Year):</b>	\$ 4.1 million(FY 2011)
<b>Mission:</b>	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.	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 1999/FY 2010
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	POLs, metals, solvents		
<b>Media Affected:</b>	Groundwater and soil		



Atlanta, Georgia

## Progress To Date

In 2005, the BRAC Commission recommended Fort McPherson for closure. Fort McPherson is located on approximately 507 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, an aboveground storage tank, and four underground storage tanks (USTs). Early activities include a preliminary assessment for all sites at Fort McPherson, a UST removal at Fort McPherson Site 10 (FTMP 10), an interim removal action to remove a UST and surrounding soil from FTMP 02 and Building 41 SJA Office. In FY99, the installation installed a passive fuel recovery system at FTMPs 09 and 10. Other actions included site investigations, a soil vapor extraction pilot test, a Phase I and II remedial investigation, and a corrective action plan.

The cleanup progress at Fort McPherson for FY02 through FY05 is detailed below.

In FY02, the Army completed an inventory of closed, transferring and transferred ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The Army also installed a free-product recovery and monitoring system at Buildings 105 and 143.

In FY03, FY04, and FY05, the installation continued the free product recovery and monitoring at Buildings 105 and 143. New technology for free product removal was researched, although not installed.

## FY06 IRP Progress

In FY06, the Army initiated environmental condition of property (ECP) and CERFA report preparation in response to the BRAC 2005 recommendations for closure of the installation. Fort McPherson continued the free-product recovery and monitoring at Buildings 105 and 143, and installed one additional well.

## FY06 MMRP Progress

Fort McPherson completed the historical records review to evaluate the operations at all former ranges.

## Plan of Action

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

### IRP

- Complete the ECP and CERFA reports in FY07.
- Install skimmer pump and additional well, and continue free-product removal and performance monitoring in FY07.
- Expedite and continue free-product removal at FTMPs 09 and 10 in FY07-FY08.

### MMRP

- Conduct visual inspections of the Atlanta National Guard Target Range, Skeet Range, Atlanta National Guard Rifle Range, and 300 Yard Target Range in FY07.

<b>FFID:</b>	NJ221382059700	<b>Funding to Date:</b>	\$ 25.6 million
<b>Size:</b>	1,338 acres	<b>Est. CTC (Comp Year):</b>	\$ 3.0 million(FY 2017)
<b>Mission:</b>	Conducted research and development of C4ISR systems	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2003/FY 2017
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Underway
<b>IAG Status:</b>	FFA signed in July 1990		
<b>Contaminants:</b>	Petroleum hydrocarbons, VOCs, SVOCs, PCBs, heavy metals, radionuclides		
<b>Media Affected:</b>	Groundwater and soil		



Monmouth County, New Jersey

## Progress To Date

In 1993, the BRAC Commission recommended realignment of Fort Monmouth. This realignment resulted in the closure of the Evans Area; transfer of part of the Charles Wood Area to the Navy; and relocation of personnel from the leased space, Evans Area, and Vint Hill Farms Station to the main post and Charles Wood Area. To speed transfer, the Army divided the Fort Monmouth BRAC property into eight parcels: the Charles Wood Housing Area and seven parcels in the Evans Area. The Army and EPA signed a federal facility agreement (FFA) in July 1990. In FY94, an enhanced preliminary assessment of the BRAC parcels identified 32 sites in the Evans Area and eight sites in the Olmstead Housing Area. In 2005, the BRAC Commission recommended closure of the Fort Monmouth Main Post and Charles Wood 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 installation formed a BRAC cleanup team and completed Version 1 of the BRAC cleanup plan. In FY96, the installation formed a Restoration Advisory Board. The installation completed a 5-year review in FY06.

To date, Fort Monmouth has identified 43 Installation Restoration Program (IRP) sites. Of the 43 sites, 37 are response complete (RC). Six sites are in active remediation (ground water pump-and-treat systems, product recovery system, and in-situ bioremediation initiatives). Eleven sites are being addressed under a long-term monitoring program of groundwater and surface water. The cleanup progress at Fort Monmouth for FY02 through FY05 is detailed below.

In FY02, the installation assessed the chemical discharges at storage sheds impacting Evans Parcels C and D (34 sites). The installation completed the Evans Parcels B, D, and F environmental baseline surveys (EBSs), records of environmental compliance, and findings of suitability to transfer (FOSTs). The installation also completed the FOST for 184 acres; 31 acres were adversely impacted by chemical storage and PCB electrical equipment discharges to soils. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military

munitions, or munitions constituents. The Army identified no Military Munitions Response Program (MMRP) sites at the Evans installation.

In FY03, the Army transferred the Evans Area Parcels D' and F by deed. The installation completed PCB soil remediation in Parcels A and D.

In FY04, the Army completed deed transfer actions for Evans Area Parcels A (including the pumphouse area), A', and B (partial). The installation completed the draft EBS/FOST for Parcels C and D. The contractor completed Evans Parcel G remedial actions (RAs), while the installation initiated the FOST. The Army obtained regulatory approval for the remediation work plan for all chemical storage shed discharge areas. The installation has completed all PCB remediation and restoration actions within Parcel C and adjacent residential properties.

In FY05, Fort Monmouth 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-containing materials and perform interior demolition activities within historic buildings in Evans Parcel C.

## FY06 IRP Progress

Fort Monmouth completed a 5-year review. Fort Monmouth drafted the Environmental Condition of Property Report and submitted it for review. The cost of completing environmental restoration has changed significantly due to technical issues.

Funding issues delayed the Hazardous Shed PCB soil remediation of Building 9053, the assessment and RA work plan for semivolatile organic compounds (SVOC) discharge within Parcel B, and the EBS and FOST for Parcels C and D. Contracting issues delayed the hazard abatement within historical buildings in Parcel C. Contracting issues also delayed the deed transfer for Parcel G. A Historic Site Assessment (HSA) Report to address Radiological materials is being prepared concurrently with the Environmental Condition of Property (ECP) Report.

## FY06 MMRP Progress

Fort Monmouth completed the Historic Records Review and identified a small arms range.

## Plan of Action

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

### IRP

- Complete EBS and FOST for Parcels C and D in FY07.
- Initiate additional remedial investigations for 28 sites in FY07.
- Initiate remedial designs for eight sites in FY07.
- Initiate corrective actions at four sites in FY07.
- Initiate RAs at 13 sites in FY07.
- Initiate monitored natural attenuation at 11 sites in FY07.
- Complete the ECP Report and submit the CERFA letter in FY07.
- Complete HSA in FY07.

### MMRP

- Initiate RA soil removal at Site FTMM 001 R 01 in FY07.

**FFID:** VA321372060300  
**Size:** 570 acres  
**Mission:** Provided quality base operations for five major commands/regional HQs and several national defense agencies  
**HRS Score:** N/A  
**IAG Status:** None  
**Contaminants:** Metals and MEC  
**Media Affected:** Sediment and soil

**Funding to Date:** \$ 2.0 million  
**Est. CTC (Comp Year):** \$ 72.9 million(FY 2017)  
**IRP/MMRP Sites Final RIP/RC:** FY 1995/FY 2017  
**Five-Year Review Status:** 5-year review not required for this installation



Hampton, Virginia

**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 base operations support to National Defense Agencies through facilities, infrastructure, well-being, force protection and other services. Environmental remediation activities at Fort Monroe have been undertaken at several sites, primarily in the form of soil or liquid hydrocarbons removal from leaking USTs. In FY06, the Army designated a Base Transition Coordinator and an interim BRAC Environmental Coordinator, and established a Restoration Advisory Board (RAB). Additionally, in FY06 the City of Hampton established the Federal Area Development Authority.

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 ownership is undetermined. Four Installation Restoration Program (IRP) sites at Fort Monroe have achieved response complete: Sites 1 through 3, two former landfills and a classified document incinerator site and Site 4, unexploded ordnance installation-wide. The cleanup progress at Fort Monroe for FY04 is detailed below.

In FY04, the Army completed a Range Inventory. The inventory identified thirteen sites as eligible for the Military Munitions Response Program (MMRP). This inventory served as the preliminary assessment under CERCLA.

**FY06 IRP Progress**

The Army identified the four IRP sites at Fort Monroe as response complete. The installation also initiated an environmental condition of property (ECP) report and community environmental response facilitation act (CERFA) report.

**FY06 MMRP Progress**

Fort Monroe completed a site inspection, to include a historical records review (HRR). The Army redefined the 13 sites from the Range Inventory and evaluated additional sites.

The HRR identified 57 sites, with 44 sites recommended for further investigation.

**Plan of Action**

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

**IRP**

- Complete the ECP and CERFA reports in FY07.

**MMRP**

- Develop an installationwide remedial investigation (RI) plan with the Virginia Department of Environmental Quality in FY07.
- Begin the installationwide RI in FY08.

<b>FFID:</b>	CA921372067600	<b>Funding to Date:</b>	\$ 332.0 million
<b>Size:</b>	27,827 acres	<b>Est. CTC (Comp Year):</b>	\$ 270.1 million(FY 2021)
<b>Mission:</b>	Served as host to 7th Infantry Division (Light); supports the Defense Language Institute Foreign Language Center, currently at the Presidio of Monterey, California	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/FY 2017
<b>HRS Score:</b>	42.24; placed on NPL in February 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in July 1990		
<b>Contaminants:</b>	VOCs, petroleum hydrocarbons, heavy metals, pesticides		
<b>Media Affected:</b>	Groundwater and soil		



Marina, California

## 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. The installation discovered that petroleum hydrocarbons and volatile organic compounds (VOCs) were migrating into groundwater. 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, the installation converted its technical review committee (TRC) to a Restoration Advisory Board (RAB) and formed a BRAC cleanup team. Since 1997 school safety briefings have been presented as part of the Military Munitions Response Program (MMRP) site security program. In FY99, the installation reestablished the TRC and dissolved the RAB. The installation completed separate 5-year reviews in FY99, FY01, and FY02. Currently, there is a comprehensive 5-year review for all sites starting in FY02.

The Army has identified 46 Installation Restoration Program (IRP) sites at Fort Ord. The Army has transferred over 12,768 acres and completed eight Records of Decision (RODs) to date. The cleanup progress at Fort Ord for FY02 through FY05 is detailed below.

In FY02, the installation initiated a pilot study for Site 39 lead-contaminated soil cleanup and completed an installationwide 5-year review. Fort Ord completed a remedial investigation and feasibility study (RI/FS) and signed a ROD to allow for Military Munitions Response Program (MMRP) cleanup in three high priority areas. Development continued of the four-phase MMRP RI/FS-associated studies. The Army completed surface clearance of MMRP category open areas to address imminent threats to human health and the environment, and areas that it will transfer to the City of Seaside for redevelopment. The Army and regulators signed a ROD for the Track 0 MMRP sites. The Army initiated the property transfer process on the affected parcels.

In FY03, the installation completed a lead-contaminated soil waste consolidation action and closed Operable Unit (OU) 2. The installation designated carbon tetrachloride as OU CT, and initiated an RI/FS. The installation completed all RCRA clean closure actions for Building T 111. The installation continued operation of the three groundwater pump-and-treat plants. The Track 0 finding of suitability to transfer (FOST) and Del Rey Oaks finding of suitability for early transfer (FOSET) property transfers were initiated. The Army transferred 10 parcels totaling 484 acres. The installation initiated MMRP cleanup actions at the Seaside Parcel area and Monterey County Parcel and completed the removal at the Del Rey Oaks parcel. Long-term management actions included munitions and explosives of concern (MEC) school safety presentations, clearance of fuel breaks in the impact area, site security patrols, and MEC awareness classes for construction workers. The installation completed the final closed, transferred, and transferring ranges inventory report and organized 24 MMRP sites and some adjacent areas into range complexes covering 19,977 acres.

In FY04, the installation 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 area 36A and the Track 0 FOST. The Army signed the Del Rey Oaks FOSET. The installation 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 removal and surface removal at MMRP sites Ranges 43 through 48, followed by remedial actions(RA). The installation 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, the installation completed a groundwater treatment systems optimization strategy and began implementation at OU 2 and Site 2/12. The Army completed FOSTs for Track 0 plug-in properties. Additionally, the Army completed a ROD for Track 1 and completed FOSTs for related property transfers. The installation completed an RI/FS for the carbon tetrachloride site. The installation completed RAs to depth at Ranges 43 through 48. The installation began planning the prescribed burn project for MR Site 16. In addition, the installation began

an RI/FS for the Track 2 Parker Flats site and continued developing an RI/FS for Track 3 sites.

## FY06 IRP Progress

Fort Ord installed an air stripper at Site 2/12 groundwater treatment system (GTS). The Army also installed a landfill gas extraction and treatment system at OU 2 and a groundwater pilot study treatment system at OU 1. In addition, the Army completed a PP for a groundwater carbon tetrachloride site. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed the expansion of OU 2 GTS.

## FY06 MMRP Progress

Fort Ord continued development of an RI/FS for Track 3 sites and continued a site safety program for military munitions. The Army transferred Del Rey Oaks parcel and completed an RI/FS for Track 2 Parker Flats site.

Technical issues delayed the prescribed burn and removal to depth for MR Site 16. In addition, regulatory issues delayed the PP and ROD for Track 2 Parker Flats.

## Plan of Action

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

### IRP

- Expand treatment system for OU 1 and complete 5-year review in FY07.
- Continue range investigations for Site 39 and optimization activities for OU 2 in FY07.
- Complete ROD and construct remedy for carbon tetrachloride site in FY07-FY08.

### MMRP

- Complete PP and ROD for Track 2 and issue PP and ROD for Track 3 in FY07.
- Conduct prescribed burn and removal to depth for MR Site 16 in FY07.

<b>FFID:</b>	VA321402070500
<b>Size:</b>	45,160 acres
<b>Mission:</b>	Provided training support for active and Reserve component units of all Services
<b>HRS Score:</b>	N/A
<b>IAG Status:</b>	None
<b>Contaminants:</b>	Metals, pesticides, PCBs, petroleum hydrocarbons
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil

<b>Funding to Date:</b>	\$ 11.3 million
<b>Est. CTC (Comp Year):</b>	\$ 0.0 million(FY 2002)
<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2002/FY 1997
<b>Five-Year Review Status:</b>	Planned



Blackstone, Virginia

**Progress To Date**

In 1995, the BRAC Commission recommended closure of Fort Pickett except for essential training areas and facilities used for Reserve components. The installation closed on September 30, 1997. Site types include underground storage tanks, petroleum spills, old salvage yards, motor pools, and firefighter training areas. Petroleum hydrocarbons are the primary contaminants affecting groundwater, surface water, sediment, and soil. During FY95, the local community formed a local redevelopment authority (LRA). In FY96, the Army formed a BRAC cleanup team and a Restoration Advisory Board, while the LRA developed a land reuse plan.

To date, the Army has transferred approximately 45,160 acres from Fort Pickett, over 42,000 acres of which went to the Army National Guard. The cleanup progress at Fort Pickett for FY02 through FY05 is detailed below.

In FY02, the installation awarded a guaranteed fixed price remediation (GFPR) contract to complete restoration activities at the former Salvage Yard (Environmental Baseline Survey [EBS] 13) and to complete a decision document (DD) at the former Storage Compound (EBS 79). The installation completed remedial investigations (RIs) at the Motor Pools (EBS 115 and 124). DDs were completed for 41 sites including the Firefighter Training Area (EBS 103) and the former Service Station (PI 1).

In FY03, the Army completed finding of suitability to transfer (FOST) documents for 11.25 acres and transferred the property to the Nottoway County LRA and Virginia Polytechnic Institute. Progress at the former Salvage Yard (EBS 13) under the GFPR contract proceeded as scheduled. The Army completed the inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents at Fort Pickett. No Military Munitions Response Program (MMRP) sites were found at this installation.

In FY04, the installation completed the RI and feasibility study at the former Salvage Yard (EBS 13); additionally, the draft proposed plan was submitted for review. The installation completed the FOSTs for the Motor Pools and the former Storage Compound.

In FY05, Fort Pickett completed remedial actions at the former Salvage Yard. The installation also completed DDs for the Motor Pools (EBS 115 and 124), the former Storage Compound (EBS 79), and the former Salvage Yard (EBS 13). The installation transferred 5 parcels, totaling 60 acres, to the LRA.

**FY06 IRP Progress**

Fort Pickett continued the groundwater monitoring and maintenance operations at the former Salvage Yard (EBS 13). The installation completed the compilation and digitization of the administrative record and information repository. The Virginia Department of Environmental Quality has concurred with the clean-up objectives for BCT 22 (the former Fuel Station) and is working in cooperation with the Army to ensure that the ongoing monitoring efforts are fully implemented. The Army has transferred all property at the installation. This is the last narrative for this installation.

**FY06 MMRP Progress**

The Army has identified no MMRP sites at this installation.

**Plan of Action**

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

**IRP**

- Continue to operate and maintain monitoring systems as required in FY07.

**MMRP**

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	AK021452215700	<b>Funding to Date:</b>	\$ 87.5 million
<b>Size:</b>	64,470 acres	<b>Est. CTC (Comp Year):</b>	\$ 82.3 million(FY 2037)
<b>Mission:</b>	Support and sustain forces assigned to U.S. Army Alaska	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/FY 2017
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in December 1994		
<b>Contaminants:</b>	White phosphorus, PCBs, heavy metals, POLs, solvents, pesticides, VOCs, dioxins		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Anchorage, Alaska

## 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 an initial 5-year review in FY03.

Preliminary assessments and site inspections ending in FY93 identified 38 potential contaminated sites. Five Records of Decision (RODs) have been signed to date. The cleanup progress at Fort Richardson for FY02 through FY05 is detailed below.

In FY02, the Army initiated the remedial investigation and feasibility study (RI/FS) for Operable Unit (OU) E. The Army used EPA's Triad approach to conduct the RI, which provided greater flexibility and cost savings through on-site sampling and analysis. The Army began the initial CERCLA 5-year review. Interim draft remedial action (RA) reports were developed for OUs B and C. The Army conducted innovative geophysical investigations at OU B to enhance the existing groundwater model. The Army also completed the fourth year of the RA to clean up white phosphorus at Eagle River Flats (OU C). The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The inventory identified several Military Munitions Response Program (MMRP) sites at this installation. There was active public participation in the RAB and several new members were added.

In FY03, the installation completed the initial 5-year review. The Army completed the geologic and groundwater model for OU B.

The installation is using the model to develop a long-term monitoring (LTM) plan and exit strategy. The installation completed and signed the interim RA reports for OUs B and C, finalizing the construction complete process for both sites. The Army completed the final year of active RA at OU C and began hot spot treatment and LTM. The Army identified 12 MMRP sites and incorporated them into the environmental sites database. The RAB met four times and participated in a tour of the Rapid Response System that was deployed to Fort Richardson. The installation continued to partner with EPA and the Alaska Department of Environmental Conservation. The Army conducted four agency meetings to discuss all regulated sites.

In FY04, the Army completed the RI/FS and proposed plan for OU E. After meeting the short-term RA objectives, the Army developed a long-term mortality monitoring strategy for OU C and initiated 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 meetings in FY05.

In FY05, the Army completed the ROD for OU E, which included natural attenuation with institutional controls for groundwater that has potential for use as a drinking water source. The installation treated two hot spot areas of white phosphorous contamination and developed a LTM plan at OU C. In addition, the Army performed a treatability study to treat contaminated soil that was recently discovered at OU B. The Army completed a comprehensive groundwater evaluation. The RAB held two meetings and one site visit.

## FY06 IRP Progress

Fort Richardson achieved construction complete for all OUs. The Army completed the RA plan and implemented the LTM strategy at OU E. The installation continued groundwater monitoring and modeling support the optimization of the selected remedy at OU B. The Army continued hot spot treatment and LTM objectives at OU C with completion of small-scale hot spot treatment of white phosphorous in an effort to achieve long-term goals. EPA and the State approved year-round availability for 60 percent of the Eagle River Flats training area.

The RAB met in an effort to solicit additional community interest.

## FY06 MMRP Progress

Fort Richardson completed a Human Health Risk Assessment.

Technical issues delayed the site inspections (SIs).

## Plan of Action

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

### IRP

- Begin RI at Nike Site Summit in FY07.
- Continue long-term monitoring of OU E in FY07.
- Begin post-wide LTM of active IRP sites in FY07.
- Continue evaluation of OU B and install new downgradient wells in FY07.
- Complete 5-year review in FY08.

### MMRP

- Conduct SIs in FY07.

<b>FFID:</b>	KS721402075600	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	100,656 acres	<b>Funding to Date:</b>	\$ 68.4 million
<b>Mission:</b>	Provide training, readiness, and deployability for two component combat brigades and one engineer group; serve as higher headquarters for three separate brigades; active and reserve component units	<b>Est. CTC (Comp Year):</b>	\$ 12.9 million(FY 2016)
<b>HRS Score:</b>	33.8; placed on NPL in August 1990	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/FY 2016
<b>IAG Status:</b>	IAG signed in June 1991	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Solvents, pesticides, lead		



Junction City, Kansas

## 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 Army completed a 5-year review for OUs 1 and 2 in FY02. The installation formed a Restoration Advisory Board (RAB).

Environmental studies identified 72 sites at Fort Riley. To date, the installation completed four Records of Decision (RODs) for OUs 1, 2, 4, and 5. The cleanup progress at Fort Riley for FY02 through FY05 is detailed below.

In FY02, the installation completed the 5-year review, which was reviewed by the public and the RAB and approved by EPA. The installation initiated the feasibility study (FS) for OU 4. The Army installed an alternate water supply for affected off-post properties to meet a lawsuit judgment. The installation completed a remedial investigation (RI) addendum work plan and fieldwork for additional investigations of OU 3 and an RI for a baseline risk assessment for OU 5. The installation initiated an engineering evaluation and cost analysis (EE/CA) for the OU 5 hot spot removal. The site investigation (SI) for the petroleum/oil/lubricants (POL) Tank Farm continued and the installation initiated an SI for the abandoned gasoline line (AGL).

In FY03, the installation submitted the FS for OU 4 for regulatory review. The SIs for the POL Tank Farm and AGL continued. The Army initiated an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY04, the installation completed the RI addendum and initiated the 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 SI for the POL Tank Farm and began monitoring to determine future actions. The Army conducted the initial Military Munitions Response Program (MMRP) site visit and a historical records 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/remedial action (RD/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 EE/CA and the associated public comment period for the 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 SI for POL Tank Farm and developed a plan to address multiple sites previously listed as response complete under an expanded SI. The installation generated the historical records review 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 the July 2005 RAB meeting. The installation also developed a revised community involvement plan.

## FY06 IRP Progress

Fort Riley completed the pilot study at OU 3. The installation completed the RD/RA plan and initiated 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 a performance-based contract for long-term management for OUs 3, 4, and 5.

Regulatory issues delayed the OU 3 FS addendum (FSA) and PP, and the development of the RD/RA plan for OU 5. Contracting issues delayed the removal action under the EE/CA for the AGL.

## FY06 MMRP Progress

Fort Riley submitted the SI report.

## Plan of Action

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

### IRP

- Complete pilot study report, revise FSA, generate PP, and begin ROD development for OU 3 in FY07.
- Continue MNA remedy monitoring at OU 4 in FY07.
- Complete RD/RA plan and initiate MNA remedy at OU 5 in FY07.
- Complete removal action at AGL and begin site monitoring FY07.

### MMRP

- Initiate the RI/FS for the Sherman Heights Small Arms Range Impact Slope in FY07.

<b>FFID:</b>	MD321022075800	<b>Est. CTC (Comp Year):</b>	\$ 3.4 million(FY 2006)
<b>Size:</b>	1,374 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/FY 2003
<b>Mission:</b>	Supported Site R underground facility	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	N/A		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	UXO, heavy metals, asbestos, VOCs		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 9.4 million		



Fort Ritchie, Maryland

## 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 include forming a planning group, conducting meetings at the town hall, conducting quarterly in-progress reviews, establishing hotlines to answer employee questions, and relaying installation updates to the local news media. In FY97, the installation completed the UXO archive search with the help of the U.S. Army Corps of Engineers, St. Louis District. In FY98, the installation completed the UXO sampling and UXO interim characterization report. In FY99, the Army published a final engineering evaluation and cost analysis for the ordnance and explosives impact area.

To date, the installation has completed one Record of Decision (ROD). The Army has made more than 300 acres of non-UXO property available for reuse. The cleanup progress at Fort Ritchie for FY02 through FY05 is detailed below.

In FY02, the Army successfully completed the motor pool treatability study and initiated the corrective action plan (CAP). The installation completed the burn pit delineation and subsequent removal action. The installation also completed decision documents (DDs) for no further action on Operable Units 5, 8, 14, and 16. The Army completed 90 percent of the UXO removal, as well as the draft inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions (DMM), or munitions constituents (MC).

In FY03, the Army completed Phase II of the motor pool CAP. The Army completed the munitions and explosives of concern (MEC) removal action report, DD, finding of suitability to

transfer (FOST), and final inventory of CTT ranges and sites with UXO, DMM, or MC. The inventory identified six Military Munitions Response Program (MMRP) sites at this installation, all of which are response complete.

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 MEC removal action in the Fill Area.

## FY06 IRP Progress

Fort Ritchie completed a revised FS, a revised PP that recommended land use controls with monitoring, and a revised draft ROD for the motor pool. The installation initiated long-term monitoring (LTM) for motor pool. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical and regulatory issues delayed the FOST and the DD for the motor pool.

## FY06 MMRP Progress

Administrative issues delayed the FOST and initiation of LTM for the Fill Area.

## Plan of Action

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

### IRP

- Complete revised final ROD and FOST for motor pool in FY07.
- Complete LTM work plan and baseline sampling for motor pool in FY07.

### MMRP

- Complete FOST for Fill Area in FY07.
- Initiate LTM for Fill Area in FY07.

<b>FFID:</b>	IL521402083800	<b>Funding to Date:</b>	\$ 56.7 million
<b>Size:</b>	709 acres	<b>Est. CTC (Comp Year):</b>	\$ 2.2 million(FY 2003)
<b>Mission:</b>	Provided administrative and logistical support; non-excess property currently used as Army Reserve installation and Navy housing area	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2001/FY 2003
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Metals, VOCs, UXO, fuel hydrocarbons, PAHs		
<b>Media Affected:</b>	Groundwater and soil		



Fort Sheridan, Illinois

## 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, 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 a Technical Assistance for Public Participation (TAPP) contract to support RAB activities.

The cleanup progress at Fort Sheridan for FY02 through FY05 is detailed below.

In FY02, the Army completed the final cap design and began cap construction at Landfills (LFs) 6 and 7. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions, and munitions constituents.

In FY03, the Army prepared proposed plans (PPs) for Coal Storage Area (CSA) 3 and LF 5 and initiated the No Further Action (NFA) decision document (DD) for Sites CSA 4, Vehicle Equipment Storage (VES) 8, the water tower, and pesticides in Building 70. The Army completed the CTT range inventory. One Military Munitions Response Program (MMRP) site was identified within the BRAC portion of the installation.

In FY04, the installation completed the NFA DD for Sites 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 the implementation of the remedy progressed. The Army completed the 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 Landfill 1. The installation prepared removal action completion reports for sites CSA 4, VES 8, the water tower and Building 70.

## FY06 IRP Progress

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.

Regulatory issues delayed the NFA DD for Bartlett Ravine, Van Home Ravine, Shenck Ravine, Excavation Area 8, Beach Pistol/Machine Gun Range, Wells Ravine Northern Tributary, and Wells Ravine Western Extension. Regulatory issues also delayed the PP, DD, and closure reports for LFs 6 and 7.

## FY06 MMRP Progress

The Army conducted no MMRP actions at this installation.

## Plan of Action

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

### IRP

- Complete the PP and DD for LFs 6 and 7 in FY07.
- Complete the NFA DD for Bartlett Ravine, Van Home Ravine, Shenck Ravine, Excavation Area 8, Beach Pistol/Machine Gun Range, Wells

Ravine Northern Tributary, and Wells Ravine Western Extension in FY08.

- Complete closure report for LFs 6 and 7 in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	AK021452242600	<b>Funding to Date:</b>	\$ 137.7 million
<b>Size:</b>	917,993 acres	<b>Est. CTC (Comp Year):</b>	\$ 71.3 million(FY 2037)
<b>Mission:</b>	Serve as host to the headquarters of the 6th Light Infantry Division	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2017
<b>HRS Score:</b>	50.00; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in November 1991		
<b>Contaminants:</b>	POLs, heavy metals, solvents, paints, UXO, pesticides		
<b>Media Affected:</b>	Groundwater and soil		



Fairbanks, Alaska

## 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 burning 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, because the entire installation achieved construction complete in FY02. 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 (RODs). The cleanup progress at Fort Wainwright for FY02 through FY05 is detailed below.

In FY02, the Army completed the interim remedial action report for OU 3, and EPA signed the preliminary closeout report for Fort Wainwright. The installation, Army, and EPA signed the OU 3 explanation of significant differences. All OUs have operations and maintenance (O&M) plans in place with a format for an exit strategy. The Army expanded the land use control and institutional control boundaries to meet the requirements in the RODs and restated them in the 5-year review. The installation began operating and optimizing product recovery at Birch Hill; groundwater modeling was used to identify locations where off-post contamination occurred. The installation completed cleanup operations and site exit strategies (CLOSES) at one site. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The inventory identified nine Military Munitions Response Program (MMRP) sites; six were closed and three were transferred from the Installation Restoration Program (IRP).

In FY03, the installation evaluated the OU 3 product recovery system. The Army completed CLOSES evaluations at two sites and initiated the same for additional sites. The installation continued to evaluate each site's operation, maintenance and monitoring, and long-term monitoring plans. The Army continued evaluation of the Building 1168 (OU 2) Defense Reutilization and Marketing Office remediation systems. The installation reduced monitoring efforts at the Coal Storage Yard (OU 4) and OU 5 in accordance with CLOSES evaluations.

In FY04, the installation completed CLOSES at six additional sites. The Army achieved site closeout at the Coal Storage Yard site. The installation implemented reductions in O&M, specifically monitoring requirements, on various sites, in large part 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 FY04 IAP. The RAB adjourned at the recommendation of the community co-chair and community RAB members.

In FY05, the installation continued using the CLOSES evaluations to reduce O&M requirements. The Army discovered the Communications Site, contaminated with polychlorinated biphenyls (PCBs), during a housing construction project. 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 requires additional action. The installation continued evaluation of MMRP sites during development of IAPs.

## FY06 IRP Progress

Fort Wainwright determined additional actions (removal, disposal, sampling) are 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 reduce O&M requirements.

Fort Wainwright conducted sampling of the former Building 1168 in OU2; however, contamination levels determined the Army could not close out the site.

The installation continued to solicit community interest to warrant RAB reactivation.

## FY06 MMRP Progress

Technical issues delayed the installationwide site inspections.

## Plan of Action

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

### IRP

- Solicit interest for RAB reactivation in FY07.
- Complete actions required by the 5-year review findings in FY07.
- Evaluate Birch Hill summary report in FY07.
- Continue using the CLOSES evaluations to reduce O&M requirements in FY07-FY08.
- Determine remedial investigation/feasibility study requirements at PCB-contaminated site (Communication Site) in FY07-FY08.

### MMRP

- Conduct site inspections in FY07.

<b>FFID:</b>	NM621382097400	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	21,881 acres	<b>Funding to Date:</b>	\$ 37.9 million
<b>Mission:</b>	Stored, shipped, and received ammunition components and disposed of obsolete or deteriorated explosives and ammunition	<b>Est. CTC (Comp Year):</b>	\$ 130.8 million(FY 2021)
<b>HRS Score:</b>	N/A	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2021/FY 2020
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>Contaminants:</b>	UXO, PCBs, pesticides, heavy metals, asbestos, lead/PCB-based paint, explosive compounds		



Gallup, New Mexico

## 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 (UXO), and other contaminants. The affected areas are the open burning and open detonation (OB/OD) ground, 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 installation developed a community relations plan (CRP) in FY06.

The installation has transferred over 5,400 acres to date. The cleanup progress at Fort Wingate for FY02 through FY05 is detailed below.

In FY02, the installation demolished Building 11, which was contaminated with PCBs from paints. The U.S. Army Environmental Center's Independent Technical Review approved the installation of additional wells and sampling at the TNT Leaching Beds. The installation awarded a contract for characterization and removal of PCB-contaminated soils at Building 537. The installation submitted a post closure permit application for the OB/OD ground to New Mexico Environment Department (NMED) for review and approval. The installation adopted a program to consider and incorporate cultural resources into property transfer and cleanup decisions.

In FY03, the installation completed groundwater sampling at the TNT Leaching Beds. The Army completed an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions or munitions constituents. Seven Military Munitions Response Program (MMRP) sites were identified at this installation. The Army completed clearance for the OB/OD area western boundary fence.

In FY04, the installation completed quarterly groundwater sampling at the TNT Leaching Beds.

In FY05, Fort Wingate removed ash and soil from 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.

## FY06 IRP Progress

Fort Wingate was issued a RCRA permit by NMED that became effective on December 31, 2005. The installation hired a permanent, on-site BRAC Environmental Coordinator in November 2005 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 in March 2006. The cost of completing environmental restoration has changed significantly due to regulatory issues.

The installation held the first RAB and BCT meetings since the negotiation of the RCRA permit in September 2006. Fort Wingate has initiated extensive consultation with the Pueblo of Zuni and the Navajo Nation that will continue for the duration of the cleanup program. In addition, the installation developed a CRP, as required by the RCRA permit.

## FY06 MMRP Progress

Fort Wingate initiated development of work plans for the kick-out area of 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 reduces the chance of adjacent property owners encountering MEC.

## Plan of Action

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

### IRP

- Develop cultural resource programmatic and cooperative agreements with the Pueblo of Zuni and the Navajo Nation in FY07.
- Complete summary report of historical information in FY07.
- Submit facilitywide ecological-risk work plan to State in FY07.
- Prepare RFI work plans for Parcels 11, 12, and 22 in FY07.
- Prepare and submit interim groundwater monitoring plan in FY07.

### MMRP

- Develop OB/OD grounds closure plan in FY07.
- Complete work plan for defining OB/OD kick-out area in FY07.
- Define OB/OD kick-out area and submit report to State in FY08.
- Complete the OB/OD grounds closure plan in FY08.

<b>FFID:</b>	MN517002291400	<b>Est. CTC (Comp Year):</b>	\$ 7.2 million(FY 2015)
<b>Size:</b>	83 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2002/None
<b>Mission:</b>	Design and manufacture advanced weapons systems	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	30.83; placed on NPL in November 1989		
<b>IAG Status:</b>	FFA signed in March 1991		
<b>Contaminants:</b>	POLs, VOCs, SVOCs, TCE, metals, cyanide		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 36.1 million		



Fridley, Minnesota

## 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 sitewide 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 (ROD) for Operable Units (OUs) 1, 2, and 3. In addition, it achieved response complete status for Sites 1 and 2. The cleanup progress at Fridley NIROP for FY02 through FY05 is detailed below.

In FY02, the installation continued remedial action operations of the sitewide groundwater remedy for OU 1. Regulators approved the remedial investigations for OUs 2 and 3. A proposed plan for OUs 2 and 3 was produced, approved by regulators, and submitted for public comment. Data quality objectives for future groundwater monitoring were established. The pilot scale enhanced bioremediation project was implemented. Hydrogeological evaluation of the pump-and-treat system effectiveness was conducted. The Navy has completed an inventory of all Military Munitions Response Program (MMRP) sites and identified no MMRP sites at this installation.

In FY03, the installation signed RODs for OUs 2 and 3. Two additional rounds of sampling were conducted to determine if pilot scale project is a success. The installation continued the operation of the OU 1 pump-and-treat groundwater containment system. Major portions of the 5-year review requirements were completed.

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. It also continued operation of the OU 1 pump-and-treat groundwater containment system. The installation evaluated results of 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 Minnesota Pollution Control Agency and EPA. In addition, the installation conducted a first round of extended monitoring.

## FY06 IRP Progress

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. However, the Navy will not be recommending the technology for full-scale implementation due to decreasing contaminant concentrations throughout Anoka County Park.

## FY06 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

- Continue operation of the OU 1 pump-and-treat groundwater system in FY07.
- Continue monitoring contaminant plumes to determine pump-and-treat system capture in FY07.
- Initiate 5-year review process in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	AK057302865500	<b>Funding to Date:</b>	\$ 21.6 million
<b>Size:</b>	166 acres	<b>Est. CTC (Comp Year):</b>	\$ 1.2 million(FY 2016)
<b>Mission:</b>	Served as an active refueling stop for aircraft bound for the Soviet Union under the Lend-Lease program, and later as a forward operating base for the Air Force	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/FY 2013
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Benzene, TCE, POLs		
<b>Media Affected:</b>	Groundwater and soil		



Galena, Alaska

## 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, until the base was drawn down in 1993. In 2005, the BRAC Commission recommended closure of the Galena FOL. Galena FOL occupies 166 acres and is comprised of a number of buildings and other structures. The majority of facilities at Galena Airport are Air Force-owned structures, although other non-Air Force properties exist. Military operations over the years have released hazardous chemicals via spills or historical disposal practices, resulting in numerous identified Installation Restoration Program (IRP) sites. The Air Force and the Alaska Department of Environmental Conservation work with local stakeholders, including the Loudon Tribal Council, City of Galena, and Galena City Schools, through the Galena Technical Project Team, to address environmental concerns. In addition, Galena community members communicate with the installation through the Restoration Advisory Board (RAB), which was formed in 2004.

The cleanup progress at Galena FOL for FY02 through FY05 is detailed below.

In FY02, the installation completed a proposed plan and decision document, and awarded a contract for drum removal at SS 007. The Air Force installed a subsurface depressurization system at Site CB 001 to minimize vapor movement; subsequent air sampling and system monitoring found the system to be effective. The installation continued their relationship with the local stakeholders, including the Loudon Tribal Council, and held RAB meetings.

In FY03, the installation tested bioventing treatment systems at Million Gallon Hill and the petroleum/oil/lubricant (POL) Tank Farm. The Air Force Center for Environmental Excellence conducted a remedial scoping visit for the entire installation. The Air Force continued working with local stakeholders.

In FY04, the installation initiated a comprehensive remedial investigation and feasibility study (RI/FS) for all treatment systems. The Air Force continued testing the bioventing

treatment systems at Million Gallon Hill and the POL Tank Farm. The installation initiated preliminary assessments (PAs).

In FY05, the installation conducted monthly sampling of the base drinking water. The Air Force continued the comprehensive RI/FS. The Air Force began the PAs for all identified Military Munitions Response Program (MMRP) sites.

## FY06 IRP Progress

Galena FOL continued the RI/FS to assess the total extent of contamination. As part of the RI/FS, the installation initiated a baseline risk assessment to address the risks at each IRP site, including potential risks to subsistence resources.

Galena FOL briefed the RAB on current activities at the installation.

## FY06 MMRP Progress

The Air Force continued the PAs at all identified sites. Cost estimates were updated and the initial Munitions Response Site Prioritization Protocol rating for each MMRP site was developed.

## Plan of Action

Plan of action items for Galena Forward Operating Location are grouped below according to program category.

### IRP

- Prepare Records of Decision and execute requirements in FY07-FY08.
- Implement remedial process optimization recommendations in FY07-FY08.
- Close installation in FY08.

### MMRP

- Complete PAs in FY07.
- Complete site inspections in FY07-FY10.



<b>FFID:</b>	OH597152435700	<b>Funding to Date:</b>	\$ 10.7 million
<b>Size:</b>	164 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.9 million(FY 2008)
<b>Mission:</b>	Provided logistical support to the military services by supplying electrical and electronic material	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2002/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	solvents, pile runoff (VOCs and SVOCs), metals, residual POLs		
<b>Media Affected:</b>	Groundwater and soil		



Kettering, Ohio

**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 station include underground storage tanks; areas of past industrial operations; and landfills 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 (AOCs). The station formed a Restoration Advisory Board (RAB) 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. In FY04, the installation completed a 5-year review.

The installation has identified 22 Installation Restoration Program (IRP) sites and 18 AOCs, for a total of 40 sites with environmental decision documents (DDs). Twelve of the sites were closed between FY97 and FY01 with No Further Remedial Action Planned (NFRAP) DDs. Another 18 sites have conditional NFRAP DDs where future use is limited to commercial or industrial use. The remaining 10 sites are included in two IRP remedial action DDs (September 2000 and July 2002), which determined that institutional controls are needed at all 10 sites to restrict exposure to potential contamination. To date, one Record of Decision has been signed. All former Air Force property has been transferred. The cleanup progress at Gentile AFS for FY02 through FY05 is detailed below.

In FY02, the focused feasibility study for Parcel E was finalized after making major revisions to the draft final version. The DD for Site SD 001 was finalized and signed by the BCT as planned. The 2001 annual long-term management (LTM) reports for Sites WP 026 and SS 028 were completed. Semiannual groundwater monitoring was also conducted at these two sites. The last remedy-in-place milestone was

reached at Sites LF 008 and SS 035 through the removal of soil contamination and ongoing groundwater monitoring. Two IRP sites (ST 004 and SS 029) were closed with no further remedial action (RA) planned DDs signed by the BCT.

In FY03, the installation finalized the LTM work plan for Parcel E, installed monitoring wells, and conducted five rounds of groundwater monitoring at Sites LF 008 and SS 035. The fourth annual report for Site WP 026 was finalized and semiannual groundwater sampling at Sites LF 008, WP 026, SS 028, and SS 035 was conducted. The installation signed an explanation of significant differences to remove commercial/industrial use restrictions at Sites RW 004 and C6, thus enabling the removal of the restrictive covenant for Parcel C and making the parcel suitable for unrestricted use. The installation wrote an operating properly and successfully (OP&S) demonstration for groundwater monitoring at Sites LF 008 and SS 035 following a soil removal action.

In FY04, Gentile AFS completed the first 5-year review and received EPA concurrence. The installation finalized the OP&S demonstration for Sites LF 008 and SS 035 and received an OP&S approval letter from 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 Sites LF 008, WP 026, SS 028, and SS 035 continued. The Air Force conducted an inventory of Military Munitions Response Program sites (MMRP). No MMRP sites were identified at this installation.

In FY05, the installation transferred the remaining 26-acre Parcel E to the local redevelopment authority. All former Air Force property has now been conveyed. The installation continued RA-O at Sites LF 008, WP 026, SS 028, and SS 035 under a new performance-based contract (PBC). The RAB was formally adjourned after the May meeting.

**FY06 IRP Progress**

The installation continued RA-O groundwater monitoring activities under the new PBC at Sites SS 028 and SS 035, and LTM was conducted at Sites LF 008 and WP 026. 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.

Administrative issues delayed the decommissioning of obsolete monitoring wells.

**FY06 MMRP Progress**

No MMRP sites have been identified at this installation.

**Plan of Action**

Plan of action items for Gentile Air Force Station are grouped below according to program category.

**IRP**

- Continue RA-O and LTM groundwater sampling activities at Sites LF 008, WP 026, SS 028, and SS 035 in FY07.
- Decommission obsolete monitoring wells in FY07-FY08.

**MMRP**

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA957002445300	<b>Est. CTC (Comp Year):</b>	\$ 40.7 million(FY 2036)
<b>Size:</b>	5,062 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/FY 2007
<b>Mission:</b>	Provided tactical fighter operations support	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	33.62; placed on NPL in February 1990		
<b>IAG Status:</b>	FFA signed in October 1990		
<b>Contaminants:</b>	POLs, VOCs, lead		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 100.0 million		



Victorville, California

## Progress To Date

George Air Force Base (AFB) provided tactical fighter operations support. The 1988 BRAC Commission recommended closure of George AFB. In December 1992, the installation closed. 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, petroleum spill sites, underground storage tanks (USTs), waste storage and disposal units, and fire training areas. 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. 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. To date, Records of Decision (RODs) have been signed for OUs 1 and 3. The cleanup progress at George AFB for FY02 through FY05 is detailed below.

In FY02, the geologic conceptual site model (CSM) for the OU 1 groundwater treatment system and the draft OU 2 remedial investigation and feasibility study were completed. Funding was approved for the removal of polyaromatic hydrocarbons (PAHs) and lead shot at the second skeet range.

In FY03, the Air Force and EPA agreed on a risk-based closure of the second skeet range to unrestricted usage of the property. A remedial process optimization study was conducted in November 2002 to identify opportunities for enhancing the effectiveness and efficiency of remediation efforts.

In FY04, George AFB completed the hydrogeologic CSM for the OU 1 groundwater treatment system. 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 average over 1,000 gallons of free product per month. At OU 3, the Air

Force continued to operate several soil cleanup systems. In addition, landfill monitoring and landfill cap maintenance continued. The Air Force conducted an inventory of Military Munitions Response Program (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 landfill monitoring and landfill cap maintenance. The Air Force established OU 4, which included nine 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; 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.

## FY06 IRP Progress

George AFB continued groundwater modeling for OU 1. The installation 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 cost of completing environmental restoration has changed significantly due to technical issues, regulatory issues, and changes in estimating criteria.

The installation submitted the proposed plan for the OU 4 ROD to regulators; however, EPA delayed its approval pending a focused feasibility study. Administrative issues delayed completion of the OU 2 corrective action plan (CAP).

## FY06 MMRP Progress

The installation cleared and closed the explosive ordnance disposal Proficiency Training Area.

## Plan of Action

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

### IRP

- Finalize the OU 4 ROD in FY07.
- Fill data gaps for non-CERCLA fuel and pesticide contamination sites and develop CAPs in FY07-FY08.
- Continue to operate existing SVE systems and monitor the groundwater in FY07-FY08.
- Complete groundwater modeling and identify an appropriate long-term remedy for OU 1 in FY07-FY08.

### MMRP

- Obtain administrative closure for eight MMRP sites in FY07-FY08.

<b>FFID:</b>	NY257002445100	<b>Funding to Date:</b>	\$ 130.4 million
<b>Size:</b>	3,638 acres	<b>Est. CTC (Comp Year):</b>	\$ 26.8 million(FY 2039)
<b>Mission:</b>	Operate air refueling and long-range bombardment facility	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/FY 2007
<b>HRS Score:</b>	34.20; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in June 1990		
<b>Contaminants:</b>	VOCs, heavy metals, PCBs, grease, degreasers, caustic cleaners, dyes, penetrants, TCE, UXO		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Rome, New York

## Progress To Date

The mission of Griffiss Air Force Base (AFB) was to operate as an air refueling and long-range bombardment facility. 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 closure of Griffiss AFB. Sites identified at the installation include landfills, 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 61 sites at Griffiss AFB. To date, the installation has signed 25 of the required 41 environmental Records of Decision (RODs). The proposed plan (PP) was completed for Landfill 1 (LF 001), and five no further action/institutional control RODs were also completed. RODs have now been issued for all LFs. The cleanup progress at Griffiss AFB for FY02 through FY05 is detailed below.

In FY02, a treatability study (TS) commenced for four trichloroethylene (TCE) plumes. Remediation began for three of the five remaining landfills. Six PPs were submitted and approved. Three RODs were executed. The Apron bioventing system was installed and initiated. The installation rescheduled the feasibility study (FS) and remediation activities for the creeks (SD 031 and SD 032) in order to allow for floodplain sampling that will evaluate the possibility of creating new wetlands.

In FY03, the installation completed two landfill closures, continued another, and initiated a fourth. Four landfill areas received closure approval, and an explanation of significant differences was executed, closing the groundwater component

of four sites. The installation completed the FS for the two creeks and approved the associated PPs. The installation reconstructed the landfarming operation, which involved 80,000 cubic yards of contaminated soil. The installation completed remediation of the small arms range (OT 061). Installation of the bioventing systems at Aprons 1 and 2 was completed. The installation removed 11,000 cubic yards of contaminated soil at the Tank Farms 1 and 3 sites. Griffiss AFB completed installation of the Pumphouse 1 (SS 054) free product recovery system and closed 12 petroleum spill sites.

In FY04, Griffiss AFB initiated remediation of the final landfill, completed the LF 2/3 (LF 002) and LF 001 covers, and completed the TS for four TCE plumes. The installation executed the RODs for two creeks and awarded the remediation contract. The installation also issued the remedial investigation and FS results for Area of Concern 9 (SS 062). The Air Force conducted an inventory of Military Munitions Response Program (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 to meet semiannually and the BCT continued to meet at least quarterly.

## FY06 IRP Progress

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 cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Technical issues delayed the processing of six PPs and associated RODs, and the partial NPL delisting.

## FY06 MMRP Progress

Griffiss AFB completed remediation activities at all MMRP sites.

## Plan of Action

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

### IRP

- Resolve vapor intrusion concerns in FY07.
- Recommence processing of six PPs and RODs in FY07.
- Complete three additional PPs in FY07.

### MMRP

- Obtain administrative closure for 12 MMRP sites in FY07-FY08.

<b>FFID:</b>	IN557212447200	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	2,722 acres	<b>Funding to Date:</b>	\$ 20.4 million
<b>Mission:</b>	Serve as host to a refueling wing; formerly housed a bombardment wing	<b>Est. CTC (Comp Year):</b>	\$ 12.6 million(FY 2035)
<b>HRS Score:</b>	N/A	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2018/FY 2007
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Household and industrial waste, spent solvents, fuels, waste oils, pesticides, lead, asbestos, radiation contamination, PCBs, lead-based paints, munitions		



Peru, Indiana

## Progress To Date

In July 1991, the BRAC Commission recommended realignment of Grissom Air Force Base (AFB), which housed a refueling wing and various flying tenants. When the installation was realigned in September 1994, the Air Force Reserve acquired approximately 1,400 acres for military activities and returned 1,322 acres to the community for redevelopment. 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, and various maintenance shops and spill sites. 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 (BCT) and prepared a BRAC cleanup plan (BCP), which is updated via the BCP Annex each year. In FY95, the installation formed a Restoration Advisory Board (RAB). The installation completed its first 5-year review in FY06.

Forty sites have been identified at this installation. Of the 13 BRAC Installation Restoration Program (IRP) sites identified, 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), two landfills (LFs 003 and 004), and an abandoned UST site (ST 009). The draft ROD for IRP site SS 190 at Building 190 is pending. All areas of concern (AOCs) have been addressed and resolved. The Air Force transferred 94 acres in FY05. The cleanup progress at Grissom AFB for FY02 through FY05 is detailed below.

In FY02, ROD documents for FPTAs 1 and 2 were signed. The State approved the proposed remedies for both the flightline gas station (Building 424, AOC 48) and Building 14 (AOC 46). Investigation of the oil-water separator at former Building 122 was completed. Site inspection for the Central Heat Plant (CHP) was completed. Regulators approved the B-58 bomber radioactive waste burial site survey and the removal action report, which recommended no further action (NFA) and unrestricted reuse.

In FY03, the installation initiated the supplemental remedial action (RA) for the BX Gas Station and the supplemental investigation at Building 747 (AOC 7). The installation awarded a performance-based contract for the investigation and cleanup of the CHP. The draft institutional control management plan was completed. EPA concurred with the Air Force demonstration that the remedy at FPTAs 1 and 2 was operating properly and successfully. The BCT concurred with a groundwater monitoring plan for FPTAs 1 and 2, thus streamlining the groundwater monitoring at these sites. Mitigation measures were satisfied for two locations that are eligible for the National Registry of Historic Places, which allows for the transfer and redevelopment of these areas. Remedy in place environmental RODs were completed for two IRP sites and six AOCs.

In FY04, the installation completed the investigation at the CHP and the supplemental investigation of the closed-in-place USTs at Building 747. The installation completed the supplemental RA at Building 407 (AOC 4); the first round of post supplemental RA groundwater samples were non-detect for the contaminant of concern. The installation performed an investigation and discovered previously undocumented groundwater contamination south of Building 190. The Air Force Real Property Agency (AFRPA) conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified on the BRAC portion of the installation.

In FY05, the installation completed the demonstration that natural attenuation has remediated the petroleum contamination of groundwater 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 the RA fieldwork for Building 747. In addition, the installation completed the groundwater remedial investigation for Building 190. The installation also optimized the FPTAs Groundwater Monitoring Plan to reduce long-term groundwater monitoring costs to the Air Force. The Air Force transferred 94 acres to the Grissom Redevelopment Authority. AFRPA began evaluating requirements at MMRP sites at this installation.

## FY06 IRP Progress

The installation closed former leaking UST sites and decommissioned monitoring wells at Buildings 14, 407, 424, and 747 with NFA. The Air Force completed the feasibility study (FS) for Building 190 and submitted the draft ROD to regulators. The installation completed the first 5-year review. Grissom AFB completed the CHP RA work plan. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Technical issues delayed the FS for CHP.

The RAB met semiannually.

## FY06 MMRP Progress

The installation continued to evaluate requirements at MMRP sites.

## Plan of Action

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

### IRP

- Complete ROD for Building 190 in FY07.
- Complete the FS, proposed plan, and ROD for CHP in FY07.
- Continue groundwater monitoring in FY07.
- Develop SEBS, finding of suitability to transfer, and deed for CHP and Parcels C-1 and D-1 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	GU917002753200, GU917002758300, GU917002758500, and GU917002757600	<b>Contaminants:</b>	PCBs, POLs, solvents, pesticides, heavy metals
<b>Size:</b>	15,306 acres	<b>Media Affected:</b>	Groundwater and soil
<b>Mission:</b>	Maintained and operated facilities; provided services and materials; stored and issued weapons and ordnance in support of the operating forces of the Navy and shore activities; provided services for Guam Naval Activities	<b>Funding to Date:</b>	\$ 123.3 million
<b>HRS Score:</b>	N/A	<b>Est. CTC (Comp Year):</b>	\$ 30.9 million(FY 2015)
<b>IAG Status:</b>	IAG signed in FY93	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/FY 2007
		<b>Five-Year Review Status:</b>	Planned



Apra Harbor, Guam

## 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 [PWC]) for realignment or closure in 1995. NSRF ceased operations in September 1997. Operations that contributed to contamination were support, 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. A local information repository was established in FY94. The complex converted its technical review committee to a Restoration Advisory Board in FY95.

The four commands have 30 CERCLA sites, 26 RCRA sites, and 8 BRAC sites. The installation has achieved response complete at 44 sites. The Navy transferred 2,725 acres to the Government of Guam in FY00 and decided to retain NSRF. 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 FY02 through FY05 is detailed below.

In FY02, the installation completed remedial actions at NAVACTS Areas of Concern (AOCs) 1 and 3.

In FY03, the installation completed the site closeouts for NAVACTS solid waste management unit (SMWU) 49 and PWC AOC 1, and signed NFA DDs for NAVACTS SWMU 49 and PWC AOC 1. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites and identified no MMRP sites at this installation.

In FY04, the installation completed a NFA DD for NAVACTS 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 AOC 1, AOC 3, and PP/draft DD for NAVACTS Site 28. A public meeting and two BRAC cleanup team (BCT) meetings were held. The BCT performed review of the PP and both EPA and Guam EPA (GEPA) attended the Navy public meeting providing cooperative regulator support. The Navy worked closely with EPA and GEPA to resolve land use control (LUC)/institutional control language for the DD.

## FY06 IRP Progress

Guam Apra Harbor Complex continued to resolve LUC language issues concerning transferred parcels. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Regulatory issues concerning the LUC language delayed the draft DD and remedial action (RA) work plan for NAVACTS Site 28.

## FY06 MMRP Progress

The Navy has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Guam Apra Harbor Complex are grouped below according to program category.

### IRP

- Complete DD and RA work plan for NAVACTS Site 28 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA921402303800
<b>Size:</b>	669 acres
<b>Mission:</b>	Conducted Reserve training
<b>HRS Score:</b>	N/A
<b>IAG Status:</b>	None
<b>Contaminants:</b>	Metals, VOCs, SVOCs, fuel hydrocarbons, PCBs, PAHs, POLs, pesticides
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil

<b>Funding to Date:</b>	\$ 36.9 million
<b>Est. CTC (Comp Year):</b>	\$ 6.0 million(FY 2006)
<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/FY 2003
<b>Five-Year Review Status:</b>	Planned



Novato, California

## 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, onshore and offshore 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 (RAB).

In FY96, the Army transferred Out Parcels A2, A3, A5, and A6 to the City of Novato. 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 (RODs) in FY03. The cleanup progress at Hamilton Army Airfield for FY02 through FY05 is detailed below.

In FY02, the Army completed some final remedial actions (RAs) outlined in the draft ROD for the airfield sites. The Army completed coastal salt marsh (CSM) sampling, and prepared and submitted the feasibility study (FS) draft for review. The Army completed the finding of suitability to transfer (FOST) for Hospital Hill. The installation signed a no further action decision document for Out Parcel A4 and forwarded the FOST to U.S. Army Forces Command for signature. The installation prepared the draft closure report and corrective action plan (CAP) for POL Hill. The RAB reviewed and provided comments on the draft ROD for the Main Airfield Parcel. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY03, the installation completed a combined ROD for the inboard and CSM sites. The Army completed a FS for the CSM sites. The Army completed a finding of suitability for early transfer (FOSET) for 630 acres and transferred those acres. Hospital Hill parcel was transferred to the City of Novato and Parcel A4 to a developer. The installation completed the closure report, CAP, and FOST for POL Hill. The Army completed the CTT range and site inventory and identified one low risk Military Munitions Response Program (MMRP) site that required no action. The RAB reviewed the ROD/RA plan and FOSET for the Main Airfield Parcel and the POL Hill FOST.

In FY04, the installation completed the FOST for the levee parcel. The Army transferred the POL Hill and levee parcels.

In FY05, Hamilton Army Airfield completed the remedial design (RD) and RA for the CSM sites. The installation completed the remaining RD/RAs for inboard sites, except the target range. The Army conducted sampling that indicated that the skeet range was complete and did not require a RA.

## FY06 IRP Progress

Hamilton Army Airfield completed the last RD/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 CSM. The installation also completed close-out documentation for sites POL Hill, East Fort Baker, and the Revetments.

Contracting and funding issues delayed the project documentation and closeout of the remaining sites on the installation.

## FY06 MMRP Progress

The Army conducted no MMRP actions at this installation.

## Plan of Action

Plan of action items for Hamilton Army Airfield are grouped below according to program category.

### IRP

- Complete documentation and close BRAC office in FY07.
- Perform biological monitoring for the CSM sites in FY07.
- Complete closeout reports for the CSM, dichlorodiphenyltrichloroethane (DDT) sites, and the testing range in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	MA157172442400	<b>Funding to Date:</b>	\$ 36.6 million
<b>Size:</b>	826 acres	<b>Est. CTC (Comp Year):</b>	\$ 9.8 million(FY 2020)
<b>Mission:</b>	Support Electronic System Center	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2003/None
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA under negotiation		
<b>Contaminants:</b>	VOCs, chlorinated solvents, gasoline, jet fuel, tetraethyl lead, PCBs, mercury		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Bedford, Massachusetts

## Progress To Date

Hanscom Air Force Base (AFB) supports the electronic system center. EPA placed the installation on the NPL in May 1994. 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 area, a jet fuel residue and tank sludge area, two landfills, three former fire training areas, a paint waste disposal area, a mercury spill area, the 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. A 5-year review was completed for the Operable Unit (OU) 2 remedy in FY97. Another 5-year review was completed for the Hanscom Field/Hanscom AFB Superfund Site in FY02. Both of these reviews concluded that the remedies were protective of human health and the environment. In FY02, a 5-year review was also completed for two Massachusetts Contingency Plan (MCP) sites, which recommended continued monitoring.

Studies have identified 22 sites at the installation. Fourteen sites have been closed out and remedies are in place at the eight remaining sites. To date, Records of Decision (RODs) have been signed for OU 3/Installation Restoration Program (IRP) Sites 6 and 21. An interim ROD was signed for OU 1. The cleanup progress at Hanscom AFB for FY02 through FY05 is detailed below.

In FY02, the installation finalized the ROD, continued the removal action, and began the design and construction of the final remedy for OU 3/IRP Site 21. In addition, remedial action-operations (RA-O) continued at OUs 1, 2, 3/IRP Site 6, the Army and Air Force Exchange Service (AAFES) service station, and base motor pool sites. The installation completed the second 5-year review of the Hanscom Field/Hanscom AFB Superfund Site. The review concluded that the remedies in place, or programmed, are expected to be protective of human health and the environment. The installation also completed a 5-year review of two MCP sites that recommended continued monitoring of both sites.

In FY03, the installation completed the design and construction of the final remedy for OU 3/IRP Site 21 and began RA-O. The remedy incorporated the previous removal action. It is also the final remedy required for the installation. In addition, RA-O continued at OUs 1, 2, 3/IRP Site 6, the AAFES service station, and base motor pool sites.

In FY04, the installation continued RA-O at OUs 1, 2, 3/IRP Site 6, OU 3/IRP Site 21, the AAFES service station, and base motor pool sites.

In FY05, the installation continued RA-O at OUs 1, 2, 3/IRP Site 6, OU 3 IRP Site 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.

## FY06 IRP Progress

Hanscom AFB continued RA-O at OUs 1, 2, 3/IRP Site 6, OU 3 IRP Site 21, the AAFES service station, and base motor pool sites.

## FY06 MMRP Progress

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

## 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, 3/IRP Site 6, OU 3/IRP Site 21, AAFES service station and base motor pool sites in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	NE79799F041100	<b>Est. CTC (Comp Year):</b>	\$ 48.2 million(FY 2037)
<b>Size:</b>	48,753 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2037/FY 1999
<b>Mission:</b>	Produced, loaded, and stored ammunition	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	42.24; placed on NPL in June 1986		
<b>IAG Status:</b>	IAG signed in 1998		
<b>Contaminants:</b>	UXO, VOCs, PAHs, heavy metals		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 75.4 million		



Hastings, Nebraska

## 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 1998. USACE formed a Restoration Advisory Board at this property.

To date, EPA has signed two Records of Decision (RODs), one for removal of explosives and metal contaminated surface soil, and a second in FY02 for removal of carcinogenic polycyclic aromatic 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 FY02 through FY05 is detailed below.

In FY02, USACE completed the OU 4 proposed plan (PP) and ROD for the cPAH-contaminated soils at the NAD residential properties. The Army and EPA signed the residential cPAH ROD, completed the design, and began soil remediation. USACE completed the OU 15 pistol range removal action and constructed the soil vapor extraction (SVE) system at Area 10. The Army approved the removal action to provide alternate water to residents with contaminated groundwater. The Army completed the initial 5-year review.

In FY03, USACE completed the cPAH remedial action (RA) for the residential properties and installed water supply wells for residents with contaminated groundwater. USACE completed investigations to support the design of the OU 14 groundwater remediation system and initiated groundwater modeling based on the investigation results. A feasibility study (FS) to document completed removal actions for the OU 16 sites was initiated. USACE initiated discussions with the regulators concerning cPAH cleanup levels for the non-residential properties.

In FY04, USACE completed the explanation of significant differences, which modified the FY02 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 RA. USACE completed the groundwater FS and continued groundwater modeling optimization. USACE supported the Department of Justice (DOJ) with litigation against a potentially responsible party (PRP). Operation of the SVE system at Area 10 (OU 15) continued. USACE completed the ordnance and explosive recurring review work plan and site visit.

In FY05, USACE completed remediation of cPAH-contaminated soils at the non-residential properties. Also, 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 towards settlement with a PRP. The installation completed the munitions and explosives concern (MEC) recurring review report and submitted it for regulatory review.

## FY06 IRP Progress

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 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.

Technical issues delayed the submission of the final OU 16 FS.

## FY06 MMRP Progress

Regulators approved the ordnance and explosives recurring review report.

## Plan of Action

Plan of action items for Hastings Groundwater Contamination Site are grouped below according to program category.

### IRP

- Submit and receive regulatory approval of the Groundwater FS Addendum and PP for groundwater remediation in FY07.
- Address regulatory comments from the draft OU 15 baseline risk assessment and submit the final risk assessment for review in FY07.
- Complete the removal action to address the lead contamination identified at the new OU 16 property and submit final OU 16 FS to regulators in FY07.
- Assist DOJ to finalize PRP settlement in FY07.
- Initiate preliminary RA design efforts in FY07.

### MMRP

- Evaluate recommendations included in the MMRP recurring review report and implement as required in FY07.



<b>FFID:</b>	UT857172435000	<b>Funding to Date:</b>	\$ 238.2 million
<b>Size:</b>	6,698 acres	<b>Est. CTC (Comp Year):</b>	\$ 290.8 million(FY 2027)
<b>Mission:</b>	Provide logistics support for weapons systems	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/FY 2014
<b>HRS Score:</b>	49.94; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	IAG signed in April 1991		
<b>Contaminants:</b>	Solvents, sulfuric acid, chromic acid, metals, petroleum wastes, TCE		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Ogden, Utah

## Progress To Date

The mission of Hill Air Force Base (AFB) is to provide logistics support for weapons systems, to host two fighter wings, and to operate the Utah Test and Training Range (UTTR). EPA placed the installation on the NPL in July 1987 and the Air Force signed an interagency agreement (IAG) in April 1991. 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, sulfuric acid, and trichloroethylene (TCE). The installation formed a Restoration Advisory Board (RAB) in FY95. The installation conducted 5-year reviews in FY97 and FY03.

Since FY87, 111 sites have been identified. Forty-two of these sites have been grouped into 12 operable units (OUs). The remaining sites have either been closed out or have achieved response complete (RC). To date, the installation has signed Records of Decision (RODs) for eight OUs (26 sites). The cleanup progress at Hill AFB for FY02 through FY05 is detailed below.

In FY02, the installation completed a remedial action and closed one site. The installation continued to partner with regulatory agencies and to foster RAB involvement. The RAB met quarterly, and held four RAB training meetings and site tours. RAB members attended two information fairs in affected communities. Updates were provided to seven different city councils and regular meetings with State and federal regulators kept project managers informed and involved.

In FY03, the installation conducted a 5-year review and installed remedial systems at two sites. In addition, one site was closed and a feasibility study (FS) was completed for OU 8. Partnering with regulatory agencies and fostering RAB involvement continued. Four RAB meetings and four RAB training sessions were held. Regulatory and RAB participation occurred in numerous community meetings.

In FY04, Hill AFB completed a remedial investigation and an FS 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 signing an innovative cleanup agreement for the UTTR. The base 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. Five public information sessions and eight presentations to city councils from communities around the base were conducted.

In FY05, Hill AFB achieved four remedies in place (RIP), three RCs, closed out one site, and reduced the risk at OU 9. The installation also completed the study phase for four sites. 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-ground treatment system at OU 12. The RAB held four quarterly meetings, three working group meetings, and five training sessions. The installation held 4 public meetings and made 11 presentations to city councils and planning boards representing cities adjacent to the base. The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

## FY06 IRP Progress

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 BDU practice bombs into material suitable for use in a permeable reactive barrier to treat TCE-contaminated groundwater at the base. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

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

face-to-face meetings with five local city mayors to discuss cleanup activities affecting surrounding communities.

## FY06 MMRP Progress

Hill AFB initiated site inspection (SI) activities at its MMRP sites.

## Plan of Action

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

### IRP

- Complete the ROD for OU 9 in FY07.
- Complete the ROD for OU 12 in FY07.

### MMRP

- Complete PAs and SIs at all identified sites by the end of FY07 and FY10, respectively.

<b>FFID:</b>	FL457212403700	<b>Est. CTC (Comp Year):</b>	\$ 19.1 million(FY 2036)
<b>Size:</b>	2,938 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/FY 2016
<b>Mission:</b>	Served as host to the Air Combat Command 31st Fighter Wing	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	42.24; placed on NPL in February 1990		
<b>IAG Status:</b>	FFA signed in March 1991		
<b>Contaminants:</b>	VOCs, cyanide, pesticides, solvents, PCBs, heavy metals		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 32.3 million		



Homestead, Florida

## Progress To Date

Homestead Air Force Base (AFB) housed the Air Combat Command 31st Fighter Wing. EPA placed the installation on the NPL in February 1990 and the Air Force signed a federal facility agreement (FFA) in March 1991. In July 1993, the BRAC Commission recommended that Homestead AFB be realigned. Subsequently, the 31st Fighter Wing was deactivated, and all other operations except Air Force Reserve activities were relocated. The 2005 BRAC Commission recommended the installation for further realignment. Homestead AFB is a joint-use base that uses both BRAC and Environmental Restoration Account funds to reach cleanup goals. Sites identified at the installation include the JP-4 jet fuel leak area, a landfill, a polychlorinated biphenyls (PCBs) spill area, 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 installation formed a Restoration Advisory Board (RAB) in FY94, which was chartered in FY96. The installation has also formed a BRAC cleanup team (BCT). In FY03, the installation completed its first 5-year review.

In FY94, an Environmental Baseline Survey identified more than 540 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) in FY96. To date, Records of Decision (RODs) have been signed for OUs 2, 11, 18, 20, 21, 26, 28, 29, 30, and 31. The cleanup progress at Homestead AFB for FY02 through FY05 is detailed below.

In FY02, the feasibility study and proposed plan for OU 11 and the remedial actions (RAs) for OUs 20/21, 30, and 31 were completed. The RA for OU 11 was initiated with the completion of the remedial design. An evaluation of the groundwater analytical data at OU 26 showed a cyclical upswing in contaminant levels that may be tied to seasonal groundwater levels. This indicated the presence of a continuing source of solvent contamination. An additional source removal was undertaken along with the addition of a biomass amendment to stimulate microbial action. The RAB met quarterly, which allowed the Air Force and regulators to update the community on the program's status.

In FY03, the installation completed its first 5-year review and obtained regulatory concurrence. The Air Force and EPA signed the ROD for the canal portion of OU 11, which received concurrence from the State. The installation initiated the RA for OU 11.

In FY04, the installation completed the canal remediation at OU 11. The sampling schedule for the long-term monitoring sites was negotiated and OU 22 was moved from the Installation Restoration Program (IRP) to the State Petroleum Program. OUs 11 and 18 were transferred from the Air Force Real Property Agency (AFRPA) to the Air Force Reserve Command (AFRC), the 482nd Fighter Wing, and OUs 14, 20/21, 22, 26, and 28 through OU 31 were separated into their own parcel. AFRPA conducted an inventory of Military Munitions Response Program (MMRP) sites. No MMRP sites were identified on the BRAC portion of the installation.

In FY05, the installation obtained operating properly and successfully documentation from EPA for OU 26 and updated the solid waste management unit inventory to reflect current ownership in preparing for the renewal of the RCRA permit. The BCT and RAB continued to meet semiannually.

## FY06 IRP Progress

The installation received EPA signature on the ROD for OUs 20/21, 30, and 31. AFRPA transferred the final 24 acres to Miami-Dade County. AFRPA and EPA signed the ROD for the terrestrial portion of OU 11, which designated responsibilities outlined therein to the AFRC. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The BCT and RAB continued to meet semiannually.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Resume long-term management in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA917002278400	<b>Est. CTC (Comp Year):</b>	\$ 719.8 million(FY 2014)
<b>Size:</b>	934 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/None
<b>Mission:</b>	Repaired and maintained ships	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	48.77; placed on NPL in November 1989		
<b>IAG Status:</b>	FFA signed in September 1990 and revised in January 1992		
<b>Contaminants:</b>	Heavy metals, PCBs, petroleum hydrocarbons, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		
<b>Funding to Date:</b>	\$ 387.3 million		



San Francisco, California

## Progress To Date

In July 1991, the BRAC Commission recommended closure of Hunter's Point Annex-Treasure Island Naval Station. The station ceased operations on April 1, 1994, and is now in caretaker status and is the responsibility of the Naval Facilities Engineering Command's Southwest Division. 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 quarterly.

To date, environmental studies at the installation have identified 78 CERCLA sites. The installation completed a Record of Decision (ROD) for no further action at Parcel A and conveyed the parcel to the San Francisco Redevelopment Agency (SFRA). The cleanup progress at Hunter's Point Annex-Treasure Island Naval Station for FY02 through FY05 is detailed below.

In FY02, the installation completed time-critical removal action closeout reports for Parcels C and D. The Parcel D draft feasibility study (FS) was completed. The Navy has completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this time.

In FY03, the installation completed the Parcel A draft final finding of suitability to transfer (FOST). The installation also completed the Parcel B Risk Management Review. The Navy successfully completed innovative groundwater cleanup technology under treatability studies (TSs) for the plumes and data gap sampling for Parcels C and E.

In FY04, the installation finalized the FOST for 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 significant VOC

contaminant reduction through zero-valent iron (ZVI) in situ treatments under a 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 a Parcel E2 created as a new operable unit comprising the industrial landfill and adjacent areas. The installation began work on a remedial investigation (RI)/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 rad-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 through 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.

## FY06 IRP Progress

Hunter's Point Annex-Treasure Island Naval Station 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 additional engineering controls are necessary. The Navy revised the basewide radiological action memo and began removal actions at Parcel B. The cost of completing

environmental restoration has changed significantly due to technical issues, regulatory issues, and changes in estimating criteria.

Regulatory issues delayed the draft Parcel B TMSRA and new PP to support a ROD amendment. Completion of revised FS and FS radiological addenda for Parcels C, D, and F, and an RI/FS for Parcel E2 were delayed due to technical issues.

## FY06 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 TMSRA on Parcel B and issue a new PP to support a ROD amendment in FY07.
- Complete FS and FS radiological addenda on Parcels C, D, and F, and an RI/FS on Parcel E2 in FY07.
- Complete removal actions at Metal Reef, Metal Slag, and PCB sites in FY07.
- Complete removal action at Site IR 02 and evaluate methods to address the deeper waste in FY07.
- Continue radiological surveys identified in the HRA in FY07.
- Remove unsound wooden piers and complete radiological removal action at Parcel B in FY07.
- Conduct ZVI TS at Parcel D in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	MD317002410900	<b>Contaminants:</b>	Waste propellants, explosives, acids, paints, solvents, heavy metals, low-level radioactive material, TCE, industrial wastewater
<b>Size:</b>	3,423 acres	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Mission:</b>	Provide services in energetics through engineering, operational support, manufacturing technology, and production, and conduct research, development, and testing of energetic and ordnance device	<b>Funding to Date:</b>	\$ 37.3 million
<b>HRS Score:</b>	50.00; placed on NPL in February 1995	<b>Est. CTC (Comp Year):</b>	\$ 68.4 million(FY 2017)
<b>IAG Status:</b>	FFA signed in FY01.	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/FY 2016
		<b>Five-Year Review Status:</b>	Underway



Indian Head, Maryland

## Progress To Date

Indian Head Naval Surface Warfare Center (NSWC) 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. In 2005, the BRAC Commission recommended Indian Head NSWC 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. A federal facility agreement (FFA) was completed in FY01. The Indian Head Installation Restoration (IR) partnering team meets approximately 10 times a year and has been highly successful in facilitating agreements between the Navy and regulators.

The installation has identified 61 IR and 28 Military Munitions Response Program (MMRP) sites. Records of Decision (RODs) have been completed for 7 sites and no further action (NFA) RODs, or equivalent decision document (DD) for 26 sites. The cleanup progress at Indian Head NSWC for FY02 through FY05 is detailed below.

In FY02, the installation completed the desktop audit of 28 FFA areas of concern (AOCs). A DD recommended no action for 17 AOCs. The relative risk of Site 28 was re-evaluated following sampling, moving it to the high-risk category and the installation initiated a remedial investigation (RI). Removal actions for Sites 12 and 41 were started. The NFA ROD for Site 44 was signed. The Navy completed an inventory of all MMRP sites. MMRP sites were identified at this installation.

In FY03, the installation completed the removal action for Site 12. The NFA documents were signed for Sites 32, 34, 51, and 52. In addition, the pilot study using a hydrogen-reducing compound was implemented at Site 57. The lessons learned for Site 12 were compiled and included information on erosion control measures and selection of fill material. The installation developed a range inventory and created 24 new MMRP sites.

Additionally, the installation initiated preliminary assessments (PAs) for all MMRP sites.

In FY04, the installation completed RIs for Sites 6, 11, 13, 17, 21, 25, 28, 39, 45, and 47. Indian Head NSWC began long-term monitoring at Site 12, and completed a 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 SWMU 74. The installation improved techniques by using desktop evaluations for several sites to reach decisions for NFA. The installation completed the draft final PA reports for the Indian Head main facility and Stump Neck Annex MMRP sites.

In FY05, Indian Head NSWC completed baseline ecological risk assessments (BERA) 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, 43, 36, and 38. 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. Site 24 was recommended to undergo an RI. Indian Head NSWC completed PAs, site recommendations, site prioritization, and cost analysis documents for MMRP sites.

## FY06 IRP Progress

Indian Head NSWC completed removal or remedial actions 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, and 23. The cost of completing environmental restoration has changed significantly due to regulatory issues.

Regulatory review delayed completion of removal actions at Site 6. The installation is undergoing additional investigation

and regulatory review for Sites 1, 8, 19, 26, 27, 36, 38, 43, and SWMUs 14 and 30 in order to complete SSP investigations.

Technical issues delayed the signing of RODs for Sites 11, 17, and 21.

## FY06 MMRP Progress

The installation restarted removal actions at Unexploded Ordnance (UXO) 32, and completed Phase I (identification, demilitarization, and disposal of scrap munitions items). The Navy was unable to be complete the actions due to delays in preparing an explosives safety submission.

## Plan of Action

Plan of action items for Indian Head Naval Surface Warfare Center are grouped below according to program category.

### IRP

- Complete removal actions at Sites 6 and 28 in FY07.
- Complete FS for Sites 11, 17, and 47 in FY07.
- Complete SSP investigations for Sites 1, 8, 19, 26, 27, 36, and SWMU 14 and 30 in FY07.
- Sign RODs for Sites 11, 21 and 57 in FY07.

### MMRP

- Complete site inspection work plan for 17 MMRP sites at the Stump Neck Annex in FY07.
- Complete removal action at UXO 32 in FY07.

<b>FFID:</b>	IA721382044500	<b>Funding to Date:</b>	\$ 95.3 million
<b>Size:</b>	19,011 acres	<b>Est. CTC (Comp Year):</b>	\$ 21.1 million(FY 2039)
<b>Mission:</b>	Load, assemble, and pack munitions	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/FY 2017
<b>HRS Score:</b>	29.73; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in December 1990		
<b>Contaminants:</b>	Explosives, low-level radioactive materials, heavy metals, VOCs		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Middletown, Iowa

## 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 was placed in the NPL in August 1990, and signed an interagency agreement (IAG) in December 1990. The installation formed a Restoration Advisory Board (RAB) in FY97. The Army completed a 5-year review in FY05.

Environmental studies have identified 52 sites at the installation. Of those sites, 42 require further action. To date, the installation has completed one interim Record of Decision (ROD) and one final ROD to address soil contamination. Three Atomic Energy Commission sites have been accepted into Formerly Utilized Sites Remedial Action Program (FUSRAP). The cleanup progress at Iowa AAP for FY02 through FY05 is detailed below.

In FY02, the Army removed soil contaminated with VOCs from the former fuel station. Congress designated the installation for inclusion into the FUSRAP to address impacts from former

Atomic Energy Commission industrial activities. Funds were provided to conduct an aerial radiological survey. The Army continued to study off-post groundwater and prepared the remedial investigation (RI) activities for the Line 800 pink water lagoon. The Army completed the metals treatment for soil from the west burn pads area.

In FY03, the installation continued the off-post groundwater characterization and completed a supplemental soil removal at the fire-training pit. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY04, the Army awarded a performance-based contract to address the entire Installation Restoration Program (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 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 (PCBs) Site required NFA during Phase IV soil efforts. The Army released the proposed plan for off-post groundwater for public review and also submitted the draft ROD to regulators. The Army completed the CTT range and sites inventory. The Army has identified three Military Munitions Response Program (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 RI sampling for OU 4. Additionally, the installation conducted the off-site groundwater pilot study and began the on-site groundwater treatability study. 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.

## FY06 IRP Progress

Iowa AAP continued soil treatment at Site IAAP 020 and completed the on-site groundwater treatability study. The baseline ERA was also completed. The Army implemented Bush Creek point source controls.

Technical issues delayed the RD for off-installation groundwater. Regulatory issues delayed the supplemental RI for OU 4 soils. Scheduling issues delayed soil removals at OU 1.

The RAB reviewed project activities and provided stakeholder input.

## FY06 MMRP Progress

Iowa AAP initiated site inspections (SIs) at three MMRP sites.

## Plan of Action

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

### IRP

- Complete OU 1 soil removal in FY07.
- Complete RD for OU 3 off-site groundwater in FY07.
- Implement RA for OU 3 off-site groundwater in FY07.
- Complete explanation of significant differences to merge OU 4 soils into OU 1 in FY07.

### MMRP

- Continue SIs at three MMRP sites in FY07.

<b>FFID:</b>	FL417002441200	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	3,820 acres	<b>Funding to Date:</b>	\$ 90.0 million
<b>Mission:</b>	Maintain and operate facilities; provide services and materials to support aviation activities and aircraft overhaul operations	<b>Est. CTC (Comp Year):</b>	\$ 20.3 million(FY 2021)
<b>HRS Score:</b>	31.02; placed on NPL in November 1989	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/FY 2013
<b>IAG Status:</b>	FFA signed in October 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Waste solvents, caustics, cyanide, heavy metals, POLs, low-level radioactive wastes, oils, paints, PCBs, pesticides, phenols, radioisotopes		



Jacksonville, Florida

## 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.

Jacksonville NAS has identified 84 sites, including 55 CERCLA sites, 24 underground storage tank (UST) sites, and 5 RCRA solid waste management units. The installation has completed Records of Decision (RODs) for Operable Units (OUs) 2 and 3, Point Sources of Contamination (PSCs) 11, 16, 21, 46, and 51. The installation also completed no further action (NFA) designation for USTs 13 and 17. The cleanup progress at Jacksonville NAS for FY02 through FY05 is detailed below.

In FY02, the installation completed a site assessment report (SAR) for UST 14. The remedial action (RA) for PSCs 11 (Building 780) and 48, and UST 15 continued. RAs began for PSCs 11 (Areas B, C, D) and 15 (Area G), and UST 14. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, Jacksonville NAS completed SARs at the Petroleum Contaminated Areas (PCAs) 5, 18, 19, 23, 22I, and completed soil excavation at PCAs 5 and 14. The installation continued the RA for PSCs 11 (Building 780 and Area B), 15 (Area G), and 48; PCAs 4, 14, and 16; and USTs 14 and 15. The installation

completed the remedial investigation/feasibility study (RI/FS) for PSCs 46 and 51.

In FY04, the installation completed a RI/FS for PSCs 52 and 11 (Areas A and E). The installation completed the treatability studies (TSs) for 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 RAs at PSC 46 and continued a TS at PSC 47. Lastly, the installation received NFA status on PCA 14. Jacksonville NAS developed the cost to complete cleanup for the identified MMRP site.

## FY06 IRP Progress

Jacksonville NAS completed the ROD for PSC 11 Area A. The installation also completed a proposed plan (PP) for PSCs 11 and 52.

Regulatory issues delayed the ROD for PSC 52. Further investigation of the contamination plume was necessary, which caused delay in the TS at PSC 47. Funding issues delayed interim excavation removals at PSC 46.

## FY06 MMRP Progress

The installation initiated site assessments for seven potential MMRP sites. A draft final preliminary assessment (PA) report was also issued by the Navy.

## Plan of Action

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

### IRP

- Complete TS at PSC 47 in FY07.
- Complete PP and ROD at PSC 47 in FY07.
- Excavate contaminated soils at PCA 16 and PSC 46 in FY07.
- Initiate interim measure at PSC 47 in FY07.
- Complete ROD for PSC 52 in FY07.

### MMRP

- Initiate site inspection for MMRP unexploded ordnance Site 1 in FY07.
- Receive approval for cleanup of new MMRP sites discovered during PA in FY07.

<b>FFID:</b>	IN521382045400	<b>Funding to Date:</b>	\$ 26.6 million
<b>Size:</b>	55,270 acres	<b>Est. CTC (Comp Year):</b>	\$ 15.3 million(FY 2035)
<b>Mission:</b>	Performed production acceptance testing of ammunition, weapons, and their components	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/FY 2003
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Solvents, petroleum products, VOCs, PCBs, heavy metals, depleted uranium, UXO		
<b>Media Affected:</b>	Groundwater and soil		



Madison, Indiana

## Progress To Date

In December 1988, the BRAC Commission recommended closure of Jefferson Proving Ground 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 known to be heavily 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 (TAPP) contract to support the RAB in FY99.

To date, the Army has transferred the Defense Reutilization and Marketing Office (DRMO) 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). The cleanup progress at Jefferson Proving Ground for FY02 through FY05 is detailed below.

In FY02, the installation completed the remedial investigation (RI) of the area south of the firing line and submitted the final document to the regulators. The installation forwarded a revised finding of suitability to transfer (FOST) for the Airfield Area to Headquarters, Department of the Army for approval and signature. The Army completed the transfer of the DRMO Parcel area. The installation completed a draft FOST for the Northeastern Parcel and made it available for public review. Additional RI fieldwork at selected sites continued. The installation completed fieldwork for the last UXO clearance south of the firing line. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites

with UXO, discarded military munitions or munitions constituents. The RAB held quarterly meetings and the community TAPP provider reviewed the draft final RI.

In FY03, the installation completed the feasibility study (FS) for the area south of the firing line. The Army signed the FOSTs for the Airfield Area and Northeastern Area. The Army distributed a draft FOST for the Western Wooded Parcel for public review. The Army completed the inventory of CTT ranges and sites and identified 15 Military Munitions Response Program (MMRP) sites. The community TAPP provider reviewed the draft FS.

In FY04, the Army transferred the Airfield Parcel. The installation completed the proposed plan 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 via 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 for areas south of the firing line. The installation began the long-term groundwater monitoring of sites covered under the ROD.

## FY06 IRP Progress

Jefferson Proving Ground 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. The cost of completing environmental restoration has changed significantly due to technical issues.

The installation submitted the proposed plan (PP) for restoration of the Open Burn Unit; however, administrative issues delayed final approval.

## FY06 MMRP Progress

The Army conducted no MMRP actions at this installation.

## Plan of Action

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

### IRP

- Obtain EPA approval of the Open Burn Unit restoration PP and begin soil restoration in FY07.
- Conduct administrative hearing to address local environmental issues in FY07.
- Continue 5-year depleted uranium area site characterization in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	IL521382046000	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	4,677 acres	<b>Funding to Date:</b>	\$ 111.9 million
<b>Mission:</b>	Manufacture, load, assemble, and pack munitions and explosives	<b>Est. CTC (Comp Year):</b>	\$ 12.9 million(FY 2013)
<b>HRS Score:</b>	35.23 (Loading, Assembling, and Packing Area); placed on NPL in March 1989; 32.08 (Manufacturing Area); placed on NPL in July 1987	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2007
<b>IAG Status:</b>	IAG signed in June 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Explosives, heavy metals, VOCs, PCBs		



Wilmington, Illinois

### 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 contamination of soil. 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 53 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 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 cleanup progress at Joliet AAP for FY02 through FY05 is detailed below.

In FY02, the installation completed bioremediation of 36,000 tons of explosives-contaminated soil. The Army conveyed 455 acres to Will County, Illinois. The Army initiated the ROD for future USDA lands. The installation initiated an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance (UXO), discarded military munitions, or munitions constituents that identified Military Munitions Response Program (MMRP) sites at this installation. Two sites were cleared of UXO. The Army resumed excavation of explosives-contaminated soil from the TNT production area and excavated over 40,000 tons. Prior to the last tenant leaving the installation, the installation swept their function test area and removed UXO debris prior to acceptance of the property.

In FY03, the installation excavated an additional 40,000 tons of explosives-contaminated soil from the TNT production area and bioremediated 36,000 tons of soil. The Army initiated a site inspection (SI) at four MMRP sites. A multi-agency group, which includes the Army, EPA, Illinois EPA, USDA, the U.S. Forest Service, U.S. Fish and Wildlife Service, and the Illinois Department of Natural Resources, reached agreement on the cleanup goals for Joliet AAP lands transferred to USDA.

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 SIs for 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.

### FY06 IRP Progress

The installation completed cleanup and developed transfer documentation for 235 acres to the State of Illinois, 20 acres less than the original estimate. It also completed cleanup and developed transfer documentation for 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.

Technical issues delayed the transfer of 145 acres to the USDA.

### FY06 MMRP Progress

The installation initiated the remedial design for three MMRP sites and implemented RA for one MMRP site.

### Plan of Action

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

#### IRP

- Complete RA at soil OU in FY07.
- Continue LTM at groundwater OU in FY07.
- Initiate LTM at applicable soil OU in FY08.
- Transfer remaining acreage to the USDA in FY08.

#### MMRP

- Complete RA at all MMRP sites in FY07.



<b>FFID:</b>	MI557002476000	<b>Funding to Date:</b>	\$ 57.6 million
<b>Size:</b>	4,953 acres	<b>Est. CTC (Comp Year):</b>	\$ 20.9 million(FY 2036)
<b>Mission:</b>	Conducted long-range bombardment and air refueling operations	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/FY 2007
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Petroleum, pesticides, heavy metals, solvents		
<b>Media Affected:</b>	Groundwater and soil		



Gwinn, Michigan

## 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, 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. 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. In FY94, a Restoration Advisory Board (RAB) was formed and the installation received a technical assistance for public participation (TAPP) grant for work performed in FY99. TAPP funding was used for the technical review of documents for Sites Landfill (LF) 001, ST 004, and FT 006. The final RA plan (RAP) was completed for LF 001 and a draft RAP was completed for ST 004. In addition, RAs were completed at LF 001. The installation completed its first 5-year review in FY06.

Thirty Installation Restoration Program (IRP) sites have required additional investigation at this installation. To date, no further action closure documents have been completed for 21 sites. The cleanup progress at K.I. Sawyer AFB for FY02 through FY05 is detailed below.

In FY02, operation of the treatment systems and groundwater monitoring continued. A basewide RAP was submitted to the State as planned. Remedial design (RD) was completed and RA construction (RA-C) began for the removal of contaminated soil and the installation of a soil venting system at Site OT 013. RD was also completed and RA-C was initiated for the alteration and upgrade of the fuel recovery trench at Site ST 004.

In FY03, the installation attained response complete at two sites, FR 026 (Firing and Machine Gun Range) and XE 027

(Explosive Ordnance Disposal Range). The installation also transferred 93 acres to the County of Marquette. A remedial process optimization review was planned to identify opportunities for enhancing the effectiveness and efficiency of remediation efforts.

In FY04, the installation completed the RA-C at Site OT 013 and the modification of the Site ST 004 interceptor trench. The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

In FY05, the installation completed closure sampling for the soil vapor extraction system at Site FT 006 in anticipation of system shutdown and decommissioning. The closeout sampling protocol was also initiated at Site 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) remains 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.

## FY06 IRP Progress

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 (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 cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

The RAB held an annual meeting.

## FY06 MMRP Progress

The installation evaluated requirements at MMRP sites.

## Plan of Action

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

### IRP

- Deed Escanaba DFSP in FY07.
- Optimize routine inspections in FY08.
- Refresh the basewide groundwater optimization in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	KS721382046700	<b>Funding to Date:</b>	\$ 33.6 million
<b>Size:</b>	13,727 acres	<b>Est. CTC (Comp Year):</b>	\$ 16.8 million(FY 2038)
<b>Mission:</b>	Produce munitions and maintain replenishment production capability	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/FY 2011
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Explosives, metals, dioxins, furans, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, sediment, soil		



Labette County, Kansas

## Progress To Date

The 2005 BRAC Commission recommended Kansas Army Ammunition Plant (AAP) for closure. The Army established Kansas AAP in 1941-42 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 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), semi-volatile 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 FY02 through FY05 is detailed below.

In FY02, the installation completed the final data gap study for various contaminants in soil and groundwater at KAAPs 01, 02, 03, 04, 05, 09, 10, 16, 17, 19, 20, 21, 22, 28, and 37.

In FY03, Kansas AAP completed the installation of a monitored natural attenuation system for the 700 Area Groundwater. The installation also completed additional investigation of the groundwater at KAAP 22.

In FY04, the installation completed remedial actions for soil at KAAPs 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 KAAPs 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 at KAAP 43.

## FY06 IRP Progress

The installation presented a sitewide Statement of Basis to the public. The Army initiated an Environmental Condition of Property report in response to the BRAC 2005 recommendation for closure of the installation.

## FY06 MMRP Progress

The Army conducted no Military Munitions Response Program (MMRP) actions at this installation.

## Plan of Action

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

### IRP

- Upgrade landfill covers at KAAPs 03, 04, and 05 in FY07.
- Complete the Environmental Condition of Property and CERFA reports in FY07.
- Continue installationwide groundwater long-term management in FY07-FY08.
- Complete 1200 Area soil removal project in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	TX657172433300	<b>Est. CTC (Comp Year):</b>	\$ 79.8 million(FY 2023)
<b>Size:</b>	3,997 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/FY 2007
<b>Mission:</b>	Provide depot-level aircraft and engine repair	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	N/A		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Metals, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 253.4 million		



San Antonio, Texas

## 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, 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 (TAPP) funding that allowed the RAB to review the base-wide groundwater assessment and the Agency for Toxic Substances and Disease Registry (ATSDR) public health assessment. The installation completed a 5-year review in FY06.

Investigations identified 52 Installation Restoration Program (IRP) sites and several areas of interest at the installation. This includes 35 IRP sites that have been identified on the non-realigned (BRAC) portion of this installation. Sites were separated into five zones. Two range sites have also been identified. To date, the installation has transferred approximately 428 acres to the local redevelopment authority (LRA). The cleanup progress at Kelly AFB for FY02 through FY05 is detailed below.

In FY02, the installation removed inactive portions of the former industrial wastewater treatment plant (IWTP). Also, a permeable reactive barrier to contain groundwater at the base boundary and a bioaugmentation system to treat the warehouse area groundwater source were installed. The installation submitted the Zones 4 and 5 draft final corrective measures studies (CMSs) for the off-base shallow groundwater contamination to regulators. Groundwater containment trenches were installed at a former evaporation pit and at a fuel spill site. Soil removal was completed and installation of another groundwater containment trench began at an IRP site. A bioaugmentation remedy was installed on East Kelly, and excavation of acidic tar materials began at the far south side of the base. The last aboveground fuel storage tank was demolished and the soil was removed as needed. Construction

of a groundwater treatment plant on the north end of the base began. Five RAB meetings were held. Three TAPP reviews were conducted to evaluate proposed cleanup plans for two sites and an ATSDR public health assessment. Several other partnerships were established with the community and regulatory agencies to address public health issues.

In FY03, the installation awarded design and construction contracts for two permeable reactive barriers in off-base residential areas. Petroleum storage tank removals were completed and one tank site was closed. Ten no further action determinations were approved for radiological sites. The installation decontaminated and demolished building and interior sewer lines with low-level radiological contamination. Twenty-six low-level radiological sites were closed. The installation submitted and obtained conditional approval of shallow groundwater CMSs. Additional protective measures were completed through a unique partnership with several agencies. Demonstration projects for injection technology were conducted and 6.5 acres were transferred by deed to the LRA.

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 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 Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation. The community relations plan 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.

## FY06 IRP Progress

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 CMSs. 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 cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

The RAB met quarterly. Five BCT meetings were held.

## FY06 MMRP Progress

The Air Force developed a sampling plan for soils associated with the small arms firing range.

## Plan of Action

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

### IRP

- Continue LTM and operations of remedial systems in FY07-FY08.
- Submit Class 3 modification to the RCRA compliance plan to regulators for approval of the final remedies for Zones 2 and 3 sites in FY07-FY08.
- Install soil remedies at five Zone 3 sites and submit closure report for Site D 10 in FY07-FY08.
- Prepare operating properly and successfully determination reports for Zones 4 and 5 remedial systems in FY07-FY08.

### MMRP

- Sample soils associated with small arms firing range following demolition of Building 3430 in FY07-FY08.

<b>FFID:</b>	WA017002341900	<b>Funding to Date:</b>	\$ 33.1 million
<b>Size:</b>	340 acres	<b>Est. CTC (Comp Year):</b>	\$ 9.5 million(FY 2031)
<b>Mission:</b>	Test, prove, overhaul, and issue torpedoes	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/None
<b>HRS Score:</b>	32.61; placed on NPL in October 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in FY90		
<b>Contaminants:</b>	VOCs, heavy metals, petroleum hydrocarbons, herbicides, fuel, PCBs, pesticides		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Keyport, Washington

## 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.

To date, environmental investigations have identified 13 sites at this installation. The installation completed a Record of Decision (ROD) for Operable Units (OUs) 1 and 2. The cleanup progress at Keyport NUWC for FY02 through FY05 is detailed below.

In FY02, the installation continued remedial action-operations (RA-O). The results from that monitoring period provided data satisfying the sampling requirements set forth in the ROD for OU 1. Negotiations with state regulators began for the contingency actions for off-base domestic wells. Long-term management (LTM) sampling was performed for OUs 1 and 2. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed a contingency plan for off-base domestic wells for OU 1. In addition, it continued RA-O at OU 1 and LTM at OUs 1 and 2.

In FY04, the installation continued RA-O at OU 1 and 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.

## FY06 IRP Progress

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.

## FY06 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 in FY07.
- Continue LTM at OUs 1 and 2 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	MO721382048900	<b>Est. CTC (Comp Year):</b>	\$ 77.6 million(FY 2037)
<b>Size:</b>	3,935 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/None
<b>Mission:</b>	Manufacture, store, and test small-arms munitions	<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	33.62; placed on NPL in July 1987		
<b>IAG Status:</b>	IAG signed in September 1989		
<b>Contaminants:</b>	Explosives, heavy metals, solvents, VOCs, POLs		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 131.9 million		



Independence, Missouri

### 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.

Environmental studies identified 73 sites at the installation, which have been consolidated into 35 sites for further investigation. The Army completed two Records of Decision (RODs). The cleanup progress at Lake City AAP for FY02 through FY05 is detailed below.

In FY02, the Army completed an environmental database for all of the operable units (OUs), resulting in improved work planning, cost reduction, and better management decisions. Characterization work continued in the Northeast Corner OU (NECOU) and Area 18 OUs.

In FY03, the installation completed permeable reactive wall plume delineation activities, which included the collection and review of data, and prepared a summary report. The field characterization work plan for the Installationwide OU (IWOU) was completed. The Army installed monitoring wells to confirm and monitor VOC plumes in NECOU. The installation completed source characterization sampling, completed field screening, and installed approximately 35 of the 70 total monitoring wells. The installation initiated the installation of the remaining 35 wells and began soil sampling. Sampling of Area 18 monitoring wells was completed. The installation continued pump-and-treat operations to contain contaminated groundwater. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

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 OUs. Sampling activities began in Area 18. The installation began the IWOU remedial investigation and feasibility study (RI/FS). The PBC contractor developed a schedule for completion of remedies in place by FY07. The installation completed a new groundwater model and developed a groundwater management strategy. Sampling was completed to validate the public health risk assessment for the active firing range. 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 CTT ranges and sites inventory and identified one closed Military Munitions Response Program (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 the pilot tests in Area 18 and 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.

### FY06 IRP Progress

The installation continued to operate the pump-and-treat system to contain contaminated groundwater. It also completed RI activities and FSs for the NECOU, IWOU, and Area 18 OU.

Technical and procedural issues delayed the removal actions at Area 31 and the inactive sumps. At Area 31, Lake City AAP discovered projectile bodies that contained depleted uranium. The Army established Area 10 Sand Piles as a separate OU due to funding issues.

### FY06 MMRP Progress

The Army conducted no MMRP actions at this installation.

### Plan of Action

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

#### IRP

- Continue operation of the pump-and-treat system to contain contaminated groundwater in FY07.
- Complete RODs and installation of remedies for three OUs in FY07.
- Complete RI/FS for Area 10 in FY07.
- Complete removal actions at Area 31 and inactive sumps in FY07.

#### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	NJ217002727400	<b>Est. CTC (Comp Year):</b>	\$ 40.1 million(FY 2046)
<b>Size:</b>	7,382 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2000/FY 2012
<b>Mission:</b>	Perform technology development and engineering	<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	50.53; placed on NPL in July 1987		
<b>IAG Status:</b>	FFA signed in October 1989		
<b>Contaminants:</b>	Fuels, PCBs, solvents, TCE, waste oils		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 55.2 million		



Lakehurst, New Jersey

## 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, 45 potentially contaminated sites have been identified. As of FY99, the installation has completed Records of Decision for all sites. The cleanup progress at Lakehurst NAES for FY02 through FY05 is detailed below.

In FY02, the evaluation of oxygen release compound (ORC) injected at Sites 13, 16, 17, and 32 was completed. The initial round of ORC injection was not effective in reducing groundwater contaminant levels to meet applicable or relevant and appropriate requirements. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. Six MMRP sites were identified at this installation.

In FY03, 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 aeration systems, and one natural restoration site. The installation began using bimetallic nanoscale particles (BNP) to treat areas of higher level groundwater contamination in Areas I and J. The installation submitted a list of ranges at Lakehurst NAES to be addressed under the MMRP. A preliminary site survey, conceptual models, and draft preliminary assessments (PAs) have been completed for these ranges.

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 nanoscale 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 PAs for four sites.

In FY05, Lakehurst NAES conducted treatability testing of in situ chemical oxidation for treatment of groundwater at Site 16. The installation continued O&M, monitoring, data interpretation, and reporting for three pump-and-treat systems, four 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, a site visit, and prepared a PA for the Lakehurst Proving Grounds.

## FY06 IRP Progress

Lakehurst NAES completed a 5-year review of the remaining sites. The facility expanded the BNP 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.

## FY06 MMRP Progress

The Navy distributed final PAs for Lakehurst Proving Ground and Small Range sites to regulators for review and comment.

## Plan of Action

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

### IRP

- Conduct subslab sampling of buildings in Areas B, H, and K to determine the potential for vapor intrusion in FY07.
- Abandon recovery and monitoring wells at completed Site 28 in FY07.
- Update quality assurance plan for remaining sites in FY07.
- Expand treatment systems at Sites 10, 13, 16, 17, and 32 to accelerate groundwater remediation in FY08.

## MMRP

- Initiate characterization of Lakehurst Proving Ground in FY07.
- Complete site inspections for Small Range Sites in FY08.

<b>FFID:</b>	VA357212447700	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	3,152 acres	<b>Funding to Date:</b>	\$ 72.6 million
<b>Mission:</b>	Serve as host to many organizations, including Air Combat Command Headquarters, 1st Fighter Wing, 74th Tactical Control Facility, 480th Reconnaissance Technical Group, and NASA Langley Research Center	<b>Est. CTC (Comp Year):</b>	\$ 7.6 million(FY 2019)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/FY 2017
<b>IAG Status:</b>	FFA under negotiation	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>Contaminants:</b>	Petroleum products, chlordane, PCBs, solvents, heavy metals		



Hampton, Virginia

### 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 base was placed on the NPL in May 1994. In 2005, the BRAC Commission recommended Langley AFB for realignment. Sites at this installation include landfills, underground storage tanks, a bulk fuel distribution system, and storm sewers. Investigations have determined that contaminants are migrating into Tabbs Creek, the Back River, and ultimately the Chesapeake Bay. The installation formed a Restoration Advisory Board in FY94. Five-year reviews were completed in FY01 and FY04 for Spill Site (SS) 61.

To date, the Air Force has identified 57 sites at the installation. Six bilaterally signed Records of Decision (RODs) and two unilaterally signed RODs have been signed. The cleanup progress at Langley AFB for FY02 through FY05 is detailed below.

In FY02, the installation completed remedial designs (RDs) for seven sites. The installation also completed a remedial investigation (RI) for SS 63 and a proposed plan (PP) for Site OT 55. All fiscal year requirements were met to prepare for the 5-year review at SS 61. The Sites WP 02 and 14 site feasibility studies (FSSs) were completed. Dispute resolution was invoked concerning the institutional control language used for Langley Environmental Restoration Program sites.

In FY03, the installation completed a site inspection (SI) for Areas of Concern (AOCs) 66, 67, and 68, and an FS for Landfill (LF) 17, Site OT 55, and SS 63. Remedial actions (RAs) for LFs 05, 07, 12, and 18, as well as RDs for Sites WP 02 and 14, were also completed. In addition, the Air Force closed Site OT 55 and met all fiscal year requirements to prepare for the 5-year review at SS 61. The installation initiated a no further RA planned determination for Site OT 55 as recommended by the RI/FS.

In FY04, Langley AFB completed a 5-year review at SS 61. In order to put all sites on the same schedule, LFs 05, 07, 10, 12 and 18, and Site FT 41 were added to the 5-year review. Long-term monitoring for LFs 05, 07, 12 and 18, and Site FT 41 was completed. The installation also completed SIs for three

AOCs, an FS for three sites, and RA-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 Sites WP08, LF 17, OT 25, SS 63, and LF 70, as well as long-term monitoring at Sites LF 05, LF 07, LF 12, LF 18, FT 41, SS 61, and OT 64. The installation also developed an NPL delisting 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 cooperative 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.

### FY06 IRP Progress

Langley AFB completed interim RAs for SS 61 and Site OT 06A. The installation amended FSs for LF 17 and Site OT 25, and completed one FS for SS 63. The Air Force issued a revised PP and ROD amendment for LF 01 and completed RA-C at LFs 01, 11, and 22. Langley AFB continued long-term monitoring at Sites LF 05, LF 07, LF 12, LF 18, 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, Site OT 25, and SS 63/Black River Sediments.

Regulatory issues delayed completion of the FS, PP, and ROD at Site OT 64, as well as the completion of PPs, RODs, RA work plans, RDs, and RAs at Sites LF 17, OT 25, and SS 63/Black River Sediments.

### FY06 MMRP Progress

The installation continued PAs at all identified MMRP sites.

### Plan of Action

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

#### IRP

- Complete PPs, RODs, RDs, and RA-C for LF 17, Site OT 25, and the LTA Cove portion of SS 63 in FY07.
- Complete the RA-C for LF 10 in FY07.
- Complete no further action decision documents for AOCs 66, 67, 68, and 69 in FY07.
- Complete the SI for AOC 70 in FY07.
- Revise unilateral RODs for Sites LF 05, LF 11, LF 15, and OT 56 to gain bilateral signature in FY07.
- Complete FS, PP, and ROD for Site OT 64 in FY07.

#### MMRP

- Initiate SIs at all identified sites in FY07.

<b>FFID:</b>	PA321382050300	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	18,683 acres	<b>Funding to Date:</b>	\$ 117.4 million
<b>Mission:</b>	Store, maintain, and decommission ammunition; rebuild and store tracked and wheeled vehicles; rebuild, store, and maintain missiles	<b>Est. CTC (Comp Year):</b>	\$ 23.9 million(FY 2014)
<b>HRS Score:</b>	34.21 (Southeastern Area); placed on NPL in July 1987; 37.51 (Property Disposal Office); placed on NPL in March 1989	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/None
<b>IAG Status:</b>	IAG signed in February 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, POLs, PCBs, heavy metals, explosives, asbestos		



Franklin County, Pennsylvania

## 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 on the NPL: the Southeastern (SE) Area in July 1987 and the Property Disposal Office (PDO) in March 1989. Both sites are in 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 (RAB). The Army completed a 5-year review for the SE area in FY02.

To date, the Army has signed eight Records of Decision (RODs) and transferred approximately 761 acres. The cleanup progress at Letterkenny AD for FY02 through FY05 is detailed below.

In FY02, the installation completed a Phase II limited depth transfer, and decontaminated Buildings 651 and 652. The Army completed the SE area 5-year review. The installation completed the soil removal action for PDO Operable Unit (OU) 5 and the Defense Reutilization and Marketing Office scrap yard PCBs. The installation initiated the focused feasibility study (FFS), proposed plan, and ROD for SE OU 11 and SE OU volatile organic chemical (VOC)-contaminated groundwater. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. No Military Munitions Response Program (MMRP) sites were identified at this installation.

In FY03, the installation signed a finding of suitability to lease. Groundwater sampling results of Phase III parcels demonstrated that the Phase III parcels were clean. The Phase III finding of suitability to transfer (FOST) was signed. The installation conducted a tour of the installation sites for the RAB. Letterkenny AD was announced as the 2002 winner of the Secretary of the Army's Environmental Award for Environmental Restoration.

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 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.

## FY06 IRP Progress

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 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 Ammo Area on the TNT Washout Plant and SE OU 12 Landfill 5 (Area G). The installation continued to address landfill issues at SE OU 9 Landfill (LF) 2 (Area J).

Technical issues delayed the FFS and remedial design (RD) phase for the on- and off-post contaminated groundwater (SE OUs 3, 6, and 11). Mission changes and force protection issues delayed the property transfer of the Phase IV parcels.

## FY06 MMRP Progress

The Army has identified no 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 the FFS and RD phase for the on- and off-post VOC-contaminated groundwater (SE OUs 3A, 6, and 11) in FY07-FY08.
- Continue to cleanup the Ammo Area on the TNT Washout Plant and SE OU 12 LF 5 (Area G) in FY07-FY08.
- Continue to address landfill issues at SE OU 9 LF 2 (Area J) in FY07-FY08.
- Complete the Phase IV parcels property transfer in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	KY421382050900	<b>Funding to Date:</b>	\$ 28.4 million
<b>Size:</b>	780 acres	<b>Est. CTC (Comp Year):</b>	\$ 2.4 million(FY 2005)
<b>Mission:</b>	Conducted light industrial operations, including paint stripping, metal plating, etching, and anodizing	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	VOCs, SVOCs, heavy metals, PCBs, pesticides, herbicides, asbestos		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Lexington, Kentucky

## Progress To Date

In December 1988, the BRAC Commission recommended closure of the Lexington Facility, Lexington-Bluegrass Army Depot (LBAD). 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 LBAD into two parcels: the 211-acre public benefit conveyance and the 564-acre economic development conveyance (EDC). Past studies at LBAD identified 64 sites that required further investigation at the installation. 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, LBAD 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.

The cleanup progress at LBAD for FY02 through FY05 is detailed below.

In FY02, the Army excavated the Defense Reutilization and Marketing Office storage yard pavement due to polychlorinated biphenyl (PCB) contamination. LBAD and KDEP agreed on a sitewide arsenic resolution. The Army prepared a draft finding of suitability to transfer for the public benefit conveyance to be transferred for recreational purposes and submitted it to KDEP and EPA for preliminary review. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions,

or munitions constituents. No Military Munitions Response Program (MMRP) sites were identified at this installation.

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 six 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)/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 LBAD was completed and KDEP approved the interim actions as completed final actions.

## FY06 IRP Progress

LBAD 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.

Administrative issues delayed submission of the final deed for transfer of the EDC to the Commonwealth of Kentucky.

## FY06 MMRP Progress

The Army has identified no 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

- Submit the deed for transfer for the EDC to the Commonwealth of Kentucky in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

**FFID:** TX621382183100  
**Size:** 15,546 acres  
**Mission:** Load, assemble, and pack ammunition  
**HRS Score:** 31.85; placed on NPL in July 1987  
**IAG Status:** IAG signed in September 1990  
**Contaminants:** VOCs, petroleum, heavy metals, explosives  
**Media Affected:** Groundwater and soil  
**Funding to Date:** \$ 26.2 million

**Est. CTC (Comp Year):** \$ 8.0 million(FY 2037)  
**IRP/MMRP Sites Final RIP/RC:** FY 2006/None  
**Five-Year Review Status:** Completed and planned



Texarkana, Texas

## 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.

The ODA is the only CERCLA site at the installation. One Record of Decision has been signed to date. The cleanup progress at Lone Star AAP for FY02 through FY05 is detailed below.

In FY02, the Army completed construction of the soil cover erosion controls at Site 17 (the NPL site) and initiated the remedial design (RD) at Site 16 (High Explosives Burning Ground). The remedial action (RA) at Site 33 (G Ponds) was completed. The installation determined that the RD at Site 422 (B 8 Battery Washdown Sump) was unnecessary. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The inventory identified one closed range (Site 17), which the Army had previously included in the Installation Restoration Program (IRP).

In FY03, the installation continued groundwater monitoring at Sites 2, 17, and 34.

In FY04, the installation continued long-term management (LTM) at Sites 2, 17, 24, 33, and 34. Remedial investigations (RIs) began at Sites 6, 9, and 101. The installation completed the RD 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 the RI at Site 101 with NFA. The installation initiated LTM at Site 16 and continued LTM at Sites 2, 17, 24, 33, and 34. RAs were completed at Sites 9, 16, and 20. The installation initiated RA at Site 6.

## FY06 IRP Progress

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 Army began the RA at Site 6; however, technical issues delayed completion. Administrative issues delayed LTM at Sites 2, 16, 17, 24, 33, and 34. Technical issues delayed the groundwater modeling study at Site 2.

The installation solicited community interest for a RAB; however, no interest was shown.

## FY06 MMRP Progress

The Navy conducted no Military Munitions Response Program (MMRP) actions at this installation.

## Plan of Action


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

### IRP

- Perform groundwater modeling study and continue RA operations at Site 2 in FY07.
- Continue LTM at Sites 2, 16, 17, 24, 33, and 34 in FY07.
- Complete RA report for Site 6 in FY07.
- Complete ECP and CERFA reports in FY07.
- Abandon monitor wells at Sites 17, 33, 34, and 101 in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA917002727200, CA917002755400, CA917002319000, and CA917002726700	<b>Contaminants:</b>	Solvents, acids, blasting grit, paints, heavy metals, industrial liquid wastes	 <p>Long Beach, California</p>
<b>Size:</b>	1,563 acres	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil	
<b>Mission:</b>	Provided logistics support; performed work in connection with construction, alteration, dry docking, and outfitting of ships and craft assigned; performed manufacturing, research, development, and test work	<b>Funding to Date:</b>	\$ 63.2 million	
<b>HRS Score:</b>	N/A	<b>Est. CTC (Comp Year):</b>	\$ 10.0 million(FY 2013)	
<b>IAG Status:</b>	None	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/None	
		<b>Five-Year Review Status:</b>	Planned	

## Progress To Date

The Long Beach Naval Complex consists of the Long Beach Naval Shipyard (NSY), Naval Station (NS) Long Beach, and the Long Beach Naval Hospital (NAVHOSP). The Long Beach Naval Complex 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 regulators and the Local Reuse Authority, meets quarterly. In addition, the Joint NS and NSY technical review committee was converted to a Restoration Advisory Board (RAB). The RAB meets regularly. 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, 8, 10, 11, 12, and 13. The cleanup progress at Long Beach Naval Complex for FY02 through FY05 is detailed below.

In FY02, the installation worked toward completing long-term operation/long-term management (LTM) for Site 14. The feasibility studies (FSs) and proposed plans (PPs) for Sites 8, 10, and 11 were completed. The Sites 9, 12, and 13 FSs were completed. The Navy completed an inventory of Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at Long Beach Naval Complex.

In FY03, remedial assessment operations at Sites 1, 2, and 14 continued on schedule. Significant progress was made on the ROD for Sites 8 and 10; Site 11 was removed from the ROD in order to facilitate property transfer issues.

In FY04, the installation began 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 FS, Sites 8 and 10 ROD/remedial action plan (RAP); and Sites 9, 12, and 13 PPs on schedule. The installation initiated a PP for Site 7 and RODs for Sites 7, 9, 11, 12, and 13. The draft 5-year review for Sites 1-6A, 14, and Palos Verdes operable unit (OU) 1 was completed. Drafts of the Sites 9, 12, and 13 PPs were completed. 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. Both the RAB Navy and community co-chair attended the Navy-hosted RAB workshop in July 2004 and the Navy solicited new RAB membership.

In FY05, Long Beach Naval Complex 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 also finalized the 5-year review for Sites 1-6A, 14, and Palos Verdes OU 1. In addition, the Navy drafted the Site 7 FS addendum and finalized the Site 9 ROD/RAP. The Navy also drafted the remedial design (RD)/RA work plans for Sites 8, 9, and 10, and completed the Site 16 expanded site inspection and obtained clean closure. Lastly, the Navy conducted pre-closure groundwater sampling for Buildings 101 and 118 and initiated a screening level ecological risk assessment (SLERA) for Palos Verdes OU 1.

## FY06 IRP Progress

Long Beach Naval Complex 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, 9, 10, 11, 12, 13, and 14. The installation also conducted groundwater monitoring at Site 14. The decision was made to combine the RD/RA work plan for Sites 8, 9, and 10 and the RD/RA work plan for Sites 11, 12, and 13 into one work plan. The installation began development of a strategy to achieve site closure for radiological concerns at Sites 1 and 2. A SLERA was issued and LTM was performed for Palos Verdes OU 1. Long Beach Naval Complex began an evaluation on the status of AOCs on Navy owned property. The Navy met with regulators and determined that no further action was required at Site 6B. The cost of completing environmental restoration has changed significantly due to technical issues.

The radiological investigation work plan and fieldwork for Sites 1 and 2 were not completed due to contractor issues. The installation did not complete the draft ROD for Site 7 due to delays in finalizing the FS addendum. The Navy did not initiate documentation of ICs for Site 14 due to delays in the finalization of a ROD for Site 14. Technical issues delayed the basewide RCRA permit closure and request for basewide ROD for ICs.

The BCT met quarterly and the RAB met semi-annually.

## FY06 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 development of a site closure strategy and issue a work plan to address radiological issues at Sites 1 and 2 in FY07.
- Issue the final ROD for Site 7 in FY07.
- Issue the final RD/RA work plan for Sites 8, 9, 10, 11, 12, and 13, and continue LTM at these sites and Site 14 in FY07.
- Obtain site closure for Sites 8, 9, 10, 11, 12, 13, and 14 in FY07.
- Finalize the SLERA and continue LTM at Palos Verdes OU 1 in FY07.
- Complete groundwater monitoring in FY07.
- Complete evaluation of the status and achieve closeout for AOCs on Navy owned property in FY07.
- Complete basewide RCRA permit closure and regulatory request for basewide ROD for ICs in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	TX621382052900	<b>Funding to Date:</b>	\$ 99.5 million
<b>Size:</b>	8,493 acres	<b>Est. CTC (Comp Year):</b>	\$ 19.6 million(FY 2015)
<b>Mission:</b>	Loaded, assembled, and packed pyrotechnic and illuminating signal munitions	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/FY 2009
<b>HRS Score:</b>	39.83; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in October 1991		
<b>Contaminants:</b>	Explosives, heavy metals, VOCs, perchlorate		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Karnack, Texas

## 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 included 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 in FY02 for Sites 12, 16, 18, and 24. The installation updated the community relations plan (CRP) in FY03. In FY04, the installation formed a Restoration Advisory Board (RAB).

Environmental studies identified 50 sites at the plant, 18 of which are eligible for the Installation Restoration Program (IRP). 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 6,800 acres to date. The cleanup progress at Longhorn AAP for FY02 through FY05 is detailed below.

In FY02, the Army completed the 5-year review report for interim actions at Sites 12, 16, 18, and 24. The installation completed the perchlorate investigation and remedial investigation (RI) reports, including risk assessments, for Groups 2 and 4. It also completed the Site 16 feasibility study (FS). The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance (UXO), discarded military munitions, or munitions constituents. The Army identified three Military Munitions Response Program (MMRP) sites at this installation.

In FY03, the Army was the recipient of over \$1 million of funded grant work from the Environmental Security Technology Certification Program and the National Institutes of Health for field pilot studies designed to treat groundwater contaminated with perchlorate. The Army completed a successful FS for in situ treatment of perchlorate in soils. The installation completed work plans for the background study and ecological risk

assessment (ERA). The Army held a public meeting, compiled community surveys, and updated the CRP.

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 installation 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 2 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 support the FY05 transfer of a 125-acre tract of CERFA Category 1 land to the FWS. The installation reviewed the environmental site assessment/Environmental Baseline Survey for the Production Area. The installation achieved response complete (RC) at LHAAP 045 without an RI/FS. The installation initiated site inspections for three MMRP sites and reviewed historical record reports and site conceptual models for 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. The installation provided UXO, 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 installation completed two FSs for LHAAP 12 and 67. The installation completed the sitewide 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 LHAAP 32 recommended NFA. The installation completed MMRP site inspections for three sites and initiated an engineering evaluation and cost analysis (EE/CA) for each of the sites. The RAB ratified its charter, elected a co-chair, and held quarterly meetings.

## FY06 IRP Progress

The installation completed the FS for LHAAP 37 and drafted the proposed plans for LHAAP 8, 32, 37, 48, 53, and 67. Longhorn AAP signed the ROD for LHAAP 12 and prepared the remedial design with land use controls. The Army transferred 288 acres to FWS.

Funding and contractual issues delayed RC at LHAAP 4, 49, 50, 55, 60, and 66. Regulatory issues delayed the RODs for LHAAP 8, 32, 37, 48, 53, and 67 and the sitewide ERA.

## FY06 MMRP Progress

The installation completed the fieldwork for the three EE/CAs for three MMRP sites. The Army anticipates that two of the three sites will require further action. The installation found no fused munitions at any of the sites.

## Plan of Action

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

### IRP

- Complete RODs for LHAAP 8, 32, 37, 48, 53, and 67 in FY07.
- Complete installationwide ERA in FY07.
- Achieve RC and complete RODs for LHAAP 4, 49, 50, 55, 60, and 66 under the PBC in FY07-FY08.
- Complete 5-year reviews of the interim remedies at Sites 16, 17, 18, and 24 and the final remedy at Site 12 in FY07-FY08.

### MMRP

- Complete EE/CAs for three MMRP sites in FY07.

<b>FFID:</b>	ME157002452200	<b>Funding to Date:</b>	\$ 136.2 million
<b>Size:</b>	9,472 acres	<b>Est. CTC (Comp Year):</b>	\$ 19.2 million(FY 2301)
<b>Mission:</b>	Support B-52 bombers and KC-135 tankers	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2000/FY 2007
<b>HRS Score:</b>	34.49; placed on NPL in February 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in April 1991; revision signed in 1994		
<b>Contaminants:</b>	VOCs, waste fuels, oils, spent solvents, PCBs, pesticides, heavy metals		
<b>Media Affected:</b>	Groundwater and soil		



Limestone, Maine

## Progress To Date

Loring Air Force Base (AFB) was established in 1952 to support B-52 bombers and KC-135 tankers. 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 base. 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. Interim remedial actions (RAs) were initiated in FY93 and included removal of free product at three sites, source removal at two sites, and treatability studies of bioventing and solvent extraction. 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. Five-year reviews were completed in FY00 and FY05.

Sites at Loring AFB are grouped into 13 operable units. 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). The cleanup progress at Loring AFB for FY02 through FY05 is detailed below.

In FY02, the installation drafted a cleanup plan for Mattawamkeag pump station and submitted it to the Maine Department of Environmental Protection (DEP). The installation developed an action plan for recently identified polychlorinated biphenyl (PCB) contamination near the east branch of Greenlaw Brook. The installation provided support to the State and EPA for their pilot study at the former quarry. Groundwater monitoring and the operation of soil cleanup systems continued. Several systems were optimized based on reviews of FY01 progress.

In FY03, the installation submitted the institutional control management plan and received comments from the Maine DEP. Groundwater monitoring and soil cleanup systems operations continued. A finding of suitability to transfer (FOST)

was coordinated for the 200-mile pipeline from Loring AFB to Searsport.

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 towards 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 Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

In FY05, the installation completed the FOST for all remaining property, which was transferred to the LDA. Operations and monitoring continued for all remaining cleanup systems. The installation completed the second 5-year review. RAB and BCT activities continued. The Air Force began evaluating requirements at MMRP sites at this installation.

## FY06 IRP Progress

The installation completed the RA at the Base Laundry. The Air Force continued to operate, monitor, and optimize remedies across the installation. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

The installation initiated the Fuel Tank Farm RA by excavating and land farming approximating 20,000 cubic yards of soil; however, scheduling issues delayed completion. Future 5-year review requirements prevented the closure of the Base Laundry site.

## FY06 MMRP Progress

The Air Force completed explosives safety certification at all identified sites and continues to evaluate appropriate administrative requirements.

## Plan of Action

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

## IRP

- Continue to operate and monitor remedies across the installation in FY07.
- Complete Fuels Tank Farm RA in FY07.
- Close out petroleum cleanup at Nose Dock Area by excavating and landfarming contaminated soil in FY08.

## MMRP

- Complete any required administrative actions in FY07.

<b>FFID:</b>	LA621382053300	<b>Funding to Date:</b>	\$ 59.8 million
<b>Size:</b>	14,974 acres	<b>Est. CTC (Comp Year):</b>	\$ 1.3 million(FY 2009)
<b>Mission:</b>	Manufacture ammunition metal parts and maintain ammunition production facilities	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/FY 2009
<b>HRS Score:</b>	30.26; placed on NPL in March 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in 1989		
<b>Contaminants:</b>	TNT, RDX, HMX, oils, grease, degreasers, phosphates, solvents, metal plating sludges, acids, fly ash		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Doyline, Louisiana

## 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. 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 FY02 through FY05 is detailed below.

In FY02, the Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY03, the installation completed a draft remedial investigation (RI) for Sites 09 (nine load lines and three test areas) and 10 (groundwater for the entire installation). The installation also completed a human health assessment and an ecological risk assessment for these sites. The Army completed the MMRP CTT ranges and sites inventory that identified two MMRP sites at this installation.

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 RI for Sites 09 and 10. In accordance with congressional directive, the Army transferred the installation to the Louisiana Army National Guard.

## FY06 IRP Progress

The Army completed a 5-year review.

The installation completed a draft groundwater feasibility study (FS) and ROD for soils Site 09. However, administrative issues delayed a final FS, a ROD for groundwater, remedy in place/response complete (RIP/RC) achievement, and the PBC award. Technical issues delayed proposed plans (PPs) for the soils of nine load lines and three test areas.

Louisiana AAP conducted public meetings to discuss PPs for soils and groundwater treatment.

## FY06 MMRP Progress

Louisiana AAP conducted a stakeholder briefing on the MMRP SI results.

## Plan of Action

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

### IRP

- Complete FS and ROD for groundwater in FY07.
- Achieve RIP/RC in FY07.
- Complete the PBC in FY07.
- Initiate long-term management in FY07.

### MMRP

- Initiate RI/FS for three munitions response sites in FY07.
- Complete RI/FS and ROD in FY08.

<b>FFID:</b>	KY417002417500	<b>Media Affected:</b>	Groundwater, sediment, soil
<b>Size:</b>	142 acres	<b>Funding to Date:</b>	\$ 19.0 million
<b>Mission:</b>	Overhauled repair, and manufacture weapon systems and components used on naval vessels	<b>Est. CTC (Comp Year):</b>	\$ 0.5 million(FY 2007)
<b>HRS Score:</b>	N/A	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/None
<b>IAG Status:</b>	None	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	Asbestos, chlorinated and nonchlorinated solvents, chemical agents, heavy metals, industrial liquid waste and sludge, paint, pesticides, POLs sludge, plating wastes, PCBs		



Louisville, Kentucky

## 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 (BCT) partnering effort with the Navy, EPA Region 4, and the Kentucky Department of Environmental Protection. In FY00, all draft RCRA facility investigation reports were completed.

The installation has identified nine sites. 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. Property was conveyed via early transfer in FY04. The cleanup progress at Louisville NSWC for FY02 through FY05 is detailed below.

In FY02, the installation submitted volumes 3 through 8 of the corrective measures study reports, and received regulatory approval for all except volume 4. The solid waste management unit 70 interim measure was completed and a finding of suitability for early transfer was submitted for approval. Negotiations were initiated with the Louisville/Jefferson County Redevelopment Authority on an Environmental Services Cooperative Agreement (ESCA). Monthly BCT meetings were held to review progress and plan future actions. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, efforts to complete the early property transfer continued.

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 monitoring 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 the RCRA Part B permit modification. This modification incorporated the final corrective action for all sites at Louisville NSWC which resulted in long-term monitored NA and monitoring of LUCs as remedies. Long-term monitoring of NA and monitoring of LUCs continued.

## FY06 IRP Progress

The Navy continued NA long-term monitoring and LUC monitoring for all sites at Louisville NSWC.

## FY06 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 NA long-term monitoring in FY07-FY08.
- Continue LUC monitoring in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CO857002413000	<b>Funding to Date:</b>	\$ 88.0 million
<b>Size:</b>	1,866 acres	<b>Est. CTC (Comp Year):</b>	\$ 14.6 million(FY 2012)
<b>Mission:</b>	Housed the 3400th Technical Training Wing; served as a technical training center	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/FY 2007
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Underway and planned
<b>IAG Status:</b>	IAG under negotiation		
<b>Contaminants:</b>	Waste oil, general refuse, fly ash, coal, metals, fuels, VOCs, solvents, TCE, petroleum hydrocarbons		
<b>Media Affected:</b>	Groundwater and soil		



Denver, Colorado

## 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 (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 and the Air Force Reserve Personnel Center remain at Lowry in cantonment areas, but will be closed under BRAC 2005. Environmental sites at the former base include fire training areas, landfills, 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 cleanup progress at the former Lowry AFB for FY02 through FY05 is detailed below.

In FY02, the delineation of the fire training zone dioxin contamination was completed. The environmental services cooperative agreement (ESCA) for privatization of the landfill and groundwater was finalized. Groundwater pilot studies were conducted.

In FY03, remedial actions (RAs) were completed for soil contamination at two newly-discovered tank sites: Building 1432 and the Fifth and Trenton site. Two investigations and RAs were completed for contaminated soil sites. An RA and no further action (NFA) documentation were completed for the skeet range.

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 landfill progressed on schedule. Investigations and 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 Military Munitions Response Program (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 landfill 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.

## FY06 IRP Progress

The installation signed a comprehensive agreement to privatize the remaining Installation Restoration Program (IRP) and MMRP actions. Lowry AFB received concurrence from regulatory agencies and NFA documentation for establishing a foreign trade zone after soil removal, confirmation sampling, and site restoration are complete. The Air Force also received regulatory approval on the final reports for the landfill 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 landfill 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 5. The installation completed a risk assessment simulation study to evaluate the human health risk associated with asbestos in soil at Filing 28; the report is pending. The installation submitted the final report on quarterly monitoring for radioactive parameters at the landfill zone to regulators.

Contractual issues delayed RA and NFA documentation for Buildings 777 and 898.

The RAB continued to meet on a monthly basis.

## FY06 MMRP Progress

The installation performed clearance and soil excavation at the Outdoor Firing Range and the site received NFA.

## Plan of Action

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

### IRP

- Complete RA and NFA documentation for Buildings 777 and 898 in FY07-FY08.
- Complete the 5-year review in FY07-FY08.
- Continue LTM at the landfill and Building 606 in FY07-FY08.
- Continue investigation at Building 1432, sampling and abatement of asbestos in soil at various areas, and treatment of chlorinated solvents in groundwater in FY07-FY08.
- Continue payments for the privatization cooperative agreements in FY07-FY08.

### MMRP

- Continue to evaluate requirements at MMRP sites in FY07-FY08.



<b>FFID:</b>	CA957212452700	<b>Est. CTC (Comp Year):</b>	\$ 21.1 million(FY 2021)
<b>Size:</b>	6,606 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/FY 2007
<b>Mission:</b>	Maintain, repair, and refuel aircraft	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	31.94; placed on NPL in November 1989		
<b>IAG Status:</b>	FFA signed in September 1990		
<b>Contaminants:</b>	VOCs, POLs, PCBs		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 149.0 million		



Riverside, California

## Progress To Date

March Air Force Base (AFB) was placed on the NPL in November 1989 and the installation signed a federal facility agreement (FFA) the following year. In July 1993, the BRAC Commission recommended realignment to serve as an Air Reserve Base. Base realignment occurred in April 1996. The 2005 BRAC Commission recommended the installation for further realignment. A preliminary assessment and site inspection (PA/SI) identified fire training areas, inactive landfills, underground storage tanks (USTs), an engine test cell (Site 18), sludge drying beds at a sewage treatment plant, and various spill sites. March AFB is a joint-use base that uses both BRAC and Environmental Restoration Account funds to reach cleanup goals. In FY94, a base technical review committee was converted to a Restoration Advisory Board (RAB) to support cleanup efforts. In FY99, a memorandum of agreement was signed between the Air Force Reserve Command and the Air Force Base Conversion Agency for sharing environmental responsibility. The first 5-year review was completed in FY03.

To date, 48 sites have been identified at March AFB and grouped into 3 operable units (OUs): OUs 1, 2, and 4. Of the 25 BRAC Installation Restoration Program (IRP) sites identified, all Records of Decision (RODs) have been signed. The cleanup progress at March AFB for FY02 through FY05 is detailed below.

In FY02, the groundwater pump-and-treat system was initiated and soil vapor extraction continued at Building 550. The basewide remedial investigation and feasibility study (RI/FS) continued and the Site 43 (ST 043) UST soils site was closed. A project was initiated to characterize mercury found in the sewer system at the hospital and dental clinic. The modified portions of the OU 1 plume remedial action (RA) entered service, which allowed the operating properly and successfully determination efforts to resume.

In FY03, the Air Force closed the groundwater portion of Site 43, continued RA operation (RA-O) activities at the landfills and Building 550, and continued the groundwater monitoring program. The installation also conducted mercury characterizations and research, and determined that an RA was not required. The installation completed the first 5-year review.

In FY04, the Air Force finalized the OU 2 ROD, the OU 4 (formally known as the basewide OU) RI/FS, and the proposed plan. The installation completed the Weapon Storage Area (WSA) PA/SI field work and submitted the draft report. RA-O activities at the landfills and Building 550 continued, as did the groundwater monitoring program. The Air Force Real Property Agency (AFRPA) conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified on the BRAC portion of the installation.

In FY05, the installation finalized the OU 4 ROD. The Air Force completed additional field work and the WSA PA/SI report. The installation continued RA-O activities at two landfills and Building 550, and continued groundwater monitoring. The installation also attained the last remedy-in-place milestone at its BRAC IRP sites. AFRPA began evaluating requirements at MMRP sites. The RAB met on a quarterly basis.

## FY06 IRP Progress

March AFB continued RA-O activities at landfills and Building 550, and continued the groundwater monitoring program. The installation initiated a PA/SI at Site ST 048, a potential source of groundwater contamination on the eastern boundary of the base. The installation also initiated a reevaluation of the Site 4 Landfill remedy as a result of the rise in nearby groundwater. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY06 MMRP Progress

The installation completed MMRP requirement evaluations. AFRPA either administratively closed or determined, with regulatory concurrence, no further action requirements for all MMRP sites.

## Plan of Action

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

### IRP

- Continue groundwater monitoring program including PA/SI at Site ST 048 in FY07.
- Complete whole base transfer in FY07.
- Complete Site 4 remedy evaluation in FY07 and remedy design modification in FY08.
- Complete RA-O activities at Building 550 in FY08.

### MMRP

- Document closure for three MMRP sites in FY07-FY08.

<b>FFID:</b>	CA917002477500	<b>Funding to Date:</b>	\$ 196.3 million
<b>Size:</b>	5,293 acres	<b>Est. CTC (Comp Year):</b>	\$ 55.9 million(FY 2012)
<b>Mission:</b>	Maintained and repaired ships and provided logistical support for assigned ship and service craft	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/FY 2012
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	FFSRA signed in September 1992; renegotiated in July 2002		
<b>Contaminants:</b>	Heavy metals, VOCs, PCBs, pesticides, petroleum hydrocarbons, lead oxides, UXO		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Vallejo, California

## Progress To Date

In July 1993, the BRAC Commission recommended closure of Mare Island Naval Shipyard 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. An administrative record and information repository were established in FY90. Ordnance sites include dredge ponds, storage areas, and the production area. Four offshore areas have identified munitions concerns. The installation formed a technical review committee in FY90 and converted it to a Restoration Advisory Board (RAB) in FY94. 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 grants in FY99, FY02, and FY03.

The installation has identified 44 sites and completed the transfer of approximately 3,500 acres. No further action Records of Decision (RODs) were issued for Installation Restoration (IR) 22 and the H1/landfill area. The cleanup progress at Mare Island Naval Shipyard for FY02 through FY05 is detailed below.

In FY02, the eastern and western early transfer parcels were conveyed to the local redevelopment authority (LRA) and State, respectively. These transfers put the accompanying environmental services cooperative agreements (ESCA) into full effect. One ESCA included the fixed-price cleanup for IR 05, the western magazine, and the nine sites in the H1 landfill area, which remained in Navy ownership. Progress continued for the remedial investigation and feasibility studies (RI/FSs) at areas A1, A2, F1, F2, H1, the production and manufacturing area, and south shore. The installation completed the cleanup effort of the stormwater lines and initiated a site inspection for the source area. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. Ten MMRP sites were identified at this installation.

In FY03, the installation completed drafting the planning document for removal action at Site 28, the Defense Reutilization Marketing Office (DRMO), and the H1 landfill

groundwater slurry wall trench. The installation continued progress with the RI/FSs for A1, A2, F1, F2, and H1. In addition, the installation completed cleanup at the newly discovered petroleum site adjacent to the elementary school site. The installation completed the action memo (AM) and initiated a time-critical removal action (TCRA) at the Marine Corps Firing Range. Offshore munitions surveys were initiated for the production and manufacturing and south shore areas. The RI/FSs are anticipated to determine further response actions for onshore sites. The installation completed drafting the planning documents for a non-TCRA (NTCRA) to operate the open burning/open detonation range for disposal of recovered munitions.

In FY04, the installation continued negotiations with the LRA for ESCAs 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 Naval Shipyard submitted the draft RI for Area F1. The installation also completed the planning documents and AM for the NTCRA at the DRMO site, and commenced cleanup work. Mare Island Naval Shipyard 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 to all be inert. The installation also hosted an Army Corps of Engineers' demonstration of the Contained Detonation Chamber.

## FY06 IRP Progress

Mare Island Naval Shipyard completed the RI/FS, finalized the ROD, and commenced implementation of the final remedy for the H1/landfill area. Cleanup work continued on the DRMO site and the Navy finalized the RI/FS and draft ROD for IR 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 a draft extended site inspection (SI) for the storm drain. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory review delayed the SI for the elementary school site and Parcel XVI.

The RAB continued to meet monthly and provide input on the environmental cleanup program at the installation. The BRAC cleanup team continued to evaluate cleanup at the installation and develop the site management plan.

## FY06 MMRP Progress

The installation completed the Marine Corps Firing Range removal action. The Navy formulated an agreement on transferring MEC cleanup responsibilities of early transfer parcels. MEC validation surveys and investigations for offshore MEC sites and onshore sites from the Projection and Manufacturing Area (PMA) to the Western Magazine Area (WMA) also began at Mare Island Naval Shipyard.

## Plan of Action

Plan of action items for Mare Island Naval Shipyard are grouped below according to program category.

### IRP

- Complete implementation of the final remedy of the H1/landfill area in FY07.
- Complete the DRMO removal action and complete the final ROD for IR Site 17 in FY07.
- Complete TCRAs at Area F2 (Site 4), Horse Stables Area, Paint Waste Area, and Parcel XVI in FY07.
- Formulate agreement on transferring IR cleanup responsibilities of early transfer parcels in FY07.

### MMRP

- Formulate agreement on transferring MEC cleanup responsibilities of early transfer parcels in FY07.
- Complete MEC validation surveys and investigations for offshore and onshore MEC sites from the PMA to the WMA in FY07.
- Begin MEC NTCRA within the PMA and South Shore Area in FY07.

<b>FFID:</b>	VA317302472200	<b>Funding to Date:</b>	\$ 60.0 million
<b>Size:</b>	60,000 acres	<b>Est. CTC (Comp Year):</b>	\$ 36.8 million(FY 2015)
<b>Mission:</b>	Provide military training and support research, development, testing, and evaluation of military hardware	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/FY 2015
<b>HRS Score:</b>	50.00; placed on NPL in June 1994	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in February 1999		
<b>Contaminants:</b>	PCBs, pesticides, VOCs, SVOCs, phenols, heavy metals, petroleum hydrocarbons, arsenic		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Quantico, Virginia

## Progress To Date

Marine Corps Base 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. A technical review committee was formed in FY89. The facility signed a federal facility compliance agreement in December 1991. In FY92, the installation established three information repositories, each containing a copy of the administrative record. Contamination at the old landfill area was the primary reason for the installation's placement on the NPL in June 1994. In 2005, the BRAC Commission recommended Marine Corps Base Quantico for realignment. The installation completed a community relations plan in FY95, which was updated in June 2003. The installation signed a federal facility agreement (FFA) in February 1999. In FY02, the installation conducted a 5-year review for Site 4.

EPA has identified 303 areas of concern (AOCs) at Quantico. The Navy currently recognizes 102 Installation Restoration Program (IRP) sites and RCRA solid waste management units (SWMUs). 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 (NFA) Record of Decision (ROD) for Sites 1 and 5 in FY00, and Site 17 in FY01. The cleanup progress at Marine Corps Base Quantico for FY02 through FY05 is detailed below.

In FY02, the installation completed environmental engineering and cost analyses (EE/CAs) for Sites 2 and 97. Site 97 was closed with NFA and a removal action was implemented for Site 2. The installation implemented Quantico Watershed investigation sampling. In addition, work was done on the EE/CA and interim remedial action (IRA) at Site 20. Through extensive partnering agreements, 42 IRP sites and 84 AOCs were closed. The installation conducted a 5-year review of the interim ROD for Site 4. The U.S. Army Corps of Engineers completed an inventory of all Military Munitions Response program (MMRP) sites. MMRP sites were identified at this installation in the archive search report and preliminary range assessment.

In FY03, the installation completed the EE/CAs on four sites and implemented IRAs at three sites. The installation submitted the final feasibility study (FS) for Site 4 to regulators for review. The installation completed the final post-IRA report for Quantico Embayment. The installation awarded the IRA at Site 20.

In FY04, the installation completed Phase I of the 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 FS for review. Sampling work continued for the remainder of the Quantico Watershed Study site inspections (SIs) and remedial investigations. The installation completed EE/CAs for five sites.

In FY05, Marine Corps Base 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.

## FY06 IRP Progress

Marine Corps Base Quantico completed IRAs at six sites and achieved remedy in place 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 completed a treatability study at one groundwater site and implemented an IRA. The cost of completing environmental restoration has changed significantly due to regulatory issues.

Regulatory issues delayed two RODs.

## FY06 MMRP Progress

The installation awarded a basewide MMRP SI, and work commenced.

## Plan of Action

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

### IRP

- Complete IRA at Sites 9 and 95 in FY07.
- Finalize three RODs for Sites 4, 5, and 20 in FY07.
- Complete site closure for eight sites in FY07.
- Complete embayment remedial design, ROD, and award remedial action in FY07-FY08.

### MMRP

- Complete SI at MMRP sites in FY08.

<b>FFID:</b>	MA157282448700	<b>Media Affected:</b>	Groundwater, surface water, soil
<b>Size:</b>	22,000 acres	<b>Funding to Date:</b>	\$ 580.1 million
<b>Mission:</b>	Provide Army and Air National Guard training and support the East Coast Air Defense and Coast Guard Air and Sea Rescue Units	<b>Est. CTC (Comp Year):</b>	\$ 422.3 million(FY 2055)
<b>HRS Score:</b>	45.93; placed on NPL in November 1989	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/None
<b>IAG Status:</b>	FFA signed in July 1991; last amended in June 2002	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Petroleum fuel-related compounds, waste solvents, VOCs, pesticides, metals		



Falmouth, Massachusetts

### 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. The installation completed 5-year reviews in FY97 and FY03.

Studies have identified 85 sites at the installation. To date, Records of Decision (RODs), interim RODs, or decision documents have been signed for 78 sites, and 66 sites have been closed. The cleanup progress at MMR for FY02 through FY05 is detailed below.

In FY02, the MMR completed remediation at 14 sites and installed 4 soil vapor extraction (SVE) subsurface soil treatment systems. Work continued on engineering designs for groundwater treatment systems for Sites CS 4, 20, 21, and FS 29. The second MMR 5-year review process was initiated.

In FY03, the installation completed construction and started operation of the Site FS 1 groundwater treatment system, and finalized the 5-year review. Remedial investigation began on the Site CS 23 groundwater plume and pre-design data was gathered for the CS 18 and 19 unexploded ordnance (UXO) disposal sites. The installation continued monitoring, operation, and optimization of eight groundwater treatment systems and four SVE systems. Two of the SVE systems achieved cleanup goals and were decommissioned.

In FY04, the installation completed engineering designs for off-base groundwater treatment systems for Sites CS 4, 20, 21, and FS 29. Real estate support finalized or continued processing easements for 45 properties. MMR commenced soil removal at the CS 19 UXO disposal site, and continued the monitoring, operation, and optimization of eight groundwater treatment systems and two 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 aggressive 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, 21, and FS 29. Real estate support finalized or continued processing easements for 70 properties. The MMR in-house geoprobe rig completed 35 groundwater profile borings to 230 feet deep, installed 11 piezometers, and completed 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 aggressive CI efforts.

### FY06 IRP Progress

MMR completed construction on its largest groundwater remediation system, which treats over 4.7 million gallons per day from four sites. Construction is 80 percent complete on the LF 1 expansion and Site CS 23 groundwater treatment systems. MMR continued monitoring, operating, and optimizing eight groundwater treatment systems with a combined capacity of over 17 million gallons per day. The installation completed two RODs, one interim ROD, and one decision document 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, 21, and FS 29. MMR completed the Phase III removal action at the CS 19 UXO disposal site, and obtained a NFA determination for the CS 13 groundwater site. The Air Force submitted a delisting package

for 63 sites to EPA. The cost of completing environmental restoration has changed significantly due to technical issues.

The CI program continued.

### FY06 MMRP Progress

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

### Plan of Action

Plan of action items for Massachusetts Military Reservation are grouped below according to program category.

#### IRP

- Complete construction of the LF 1 and Site CS 23 groundwater treatment system in FY07.
- Complete RODs and associated RIPs for LF 1, Sites CS 10, 23, and Ashumet Valley in FY07.
- Begin construction of a wind turbine in FY07.
- Complete construction of a system optimization for the uncaptured portion of the Site FS 28 groundwater plume in FY07.
- Finalize the delisting of 63 sites from the NPL in FY07.
- Initiate the third 5-year review in FY07.

#### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA957002474300	<b>Funding to Date:</b>	\$ 186.3 million
<b>Size:</b>	5,718 acres	<b>Est. CTC (Comp Year):</b>	\$ 87.9 million(FY 2067)
<b>Mission:</b>	Provided navigation and electronic warfare officer training; housed SAC Bombing and Refueling Squadron	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/FY 2007
<b>HRS Score:</b>	28.90; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in 1989		
<b>Contaminants:</b>	Solvents, jet fuel, petroleum hydrocarbons, lead		
<b>Media Affected:</b>	Groundwater and soil		



Sacramento, California

## 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, underground storage tanks (USTs), fire training areas, a trichloroethylene (TCE) disposal site, a weapons storage area, wash rack areas, spill areas, and waste pits. 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 FY94, a Restoration Advisory Board (RAB) and a BRAC cleanup team (BCT) were formed. 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 Site 15 (SD 015) and the RAR for Site 62 (OT 062). The installation completed 5-year reviews in FY00 and FY05.

Studies have identified 89 Installation Restoration Program (IRP) sites at the installation, which were grouped into 6 operable units (OUs): OU 1, Aircraft Control and Warning Site; OU 2, Groundwater; OU 3, Soil; OU 4, Landfill; OU 5, Basewide; and OU 6, Supplemental Basewide. To date, Records of Decision (RODs) have been approved for OUs 1 through 6. The cleanup progress at Mather AFB from FY02 through FY05 is detailed below.

In FY02, construction was completed for the Phase IV groundwater remediation, and capture was expanded into additional baseline areas. The Phase V project was planned to evaluate the performance of the Phase IV extraction system, as well as recommend the necessity of further extraction and any additional cost-reducing enhancements. Sites 19 (WP 019), 56 (SD 056), and 60 (SD 060), as well as Facilities 2595 and 18015 (ST 075) completed in situ vadose-zone treatment. RARs were completed for Sites 56 and 60 and the northeast plume. Closure letters from the Regional Water Quality Control Board were obtained for eight IRP sites and five UST sites. The

installation also underwent the performance and protectiveness review, and remedial process optimization (RPO) evaluation.

In FY03, the installation began two performance and protectiveness reviews/RPO evaluations: one for groundwater monitoring, and one for groundwater remediation. RARs were completed for Sites 69 (OT 069) and 86 (FR 086). The installation discovered additional buried debris and fuel contamination at Site 10C/68 (FT 010/ST 068).

In FY04, Mather AFB installed a new extraction well near the toe of the main base/SAC area plume. 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 Military Munitions Response Program (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/SAC Area plume. Existing groundwater, SVE, and 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.

## FY06 IRP Progress

Mather AFB continued to operate existing groundwater, SVE, and 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 milestone. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The installation began reinstallation of the groundwater remediation system at Site WP 007; however, scheduling issues delayed completion.

RAB and BCT activities continued.

## FY06 MMRP Progress

The installation continued to evaluate requirements at MMRP sites.

## Plan of Action

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

### IRP

- Install an additional extraction well at southwest lobe of Main Base Plume to contain plume in FY07.
- Complete reinstallation of the groundwater remediation system at Site WP 007 in FY07.
- Conduct lead removal action at Site FT 010C in FY07.

### MMRP

- Conduct MMRP investigation and closure of Practice Grenade Range in FY07.

<b>FFID:</b>	WA057182420000	<b>Contaminants:</b>	VOCs, SVOCs, metals, chlorinated solvents, petroleum hydrocarbons, pesticides, radioactive waste
<b>Size:</b>	4,616 acres	<b>Media Affected:</b>	Groundwater and soil
<b>Mission:</b>	Provide airlift services for troops, cargo, equipment, passengers, and mail	<b>Funding to Date:</b>	\$ 25.6 million
<b>HRS Score:</b>	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; delisted from NPL in September 1996	<b>Est. CTC (Comp Year):</b>	\$ 32.2 million(FY 2044)
<b>IAG Status:</b>	FFA signed in August 1989; consent decree with State of Washington signed in February 1992	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2004/FY 2012
		<b>Five-Year Review Status:</b>	Completed



Tacoma, Washington

### 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 areas, landfills, 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. WTA was delisted in September 1996. The installation signed a federal facility agreement (FFA) in August 1989. The installation signed 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, and FY04. It found very little interest in forming a RAB due to the maturity of the program and community trust in the installation. The installation completed two 5-year reviews for the WTA site. The second 5-year review of the WTA recommended that FY04 would be the final CERCLA review for this site. The installation also completed a 5-year review at Area D/ALGT in FY05. The Air Force updated the administrative record in FY06.

Since 1982, 65 sites have been identified at this installation. All 65 sites were classified as remedy in place by FY96; however, Site SS 34 was reopened in FY00. 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 the WTA. The cleanup progress at McChord AFB for FY02 through FY05 is detailed below.

In FY02, the installation completed the remedial investigation and feasibility study for Site SS 34 and submitted the draft report for review. The installation also initiated a remedial design (RD) and began field pilot test preparations. The installation formed an informal relationship with the Washington Department of Ecology for Site SS 34N that would provide prompt document review.

In FY03, the installation completed a field pilot test and obtained information necessary for the RD of an in situ treatment system for TCE. Permanganate injection proved to

be successful in eliminating TCE in all wells included in the pilot test. The installation developed a cleanup action plan for Site SS 34N based on the results of the field pilot test and submitted the document for approval. The RD for Site SS 34N received funding and a contract was awarded.

In FY04, McChord AFB completed the RD and began the Phase I remedial action (RA) at Site SS 34N, where sodium permanganate was injected into the groundwater via a network of 32 wells and proved to be successful in 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 will be necessary at Site SS 34N. The second 5-year review of the WTA Area former NPL site was conducted. Regulators concurred with the review recommendation that this would be the final CERCLA review for this site, and signed the review in September 2004. The installation distributed over 10,000 surveys within the surrounding communities, polling for RAB community interest. Two individuals expressed interest in RAB participation.

In FY05, McChord AFB completed and obtained regulator signatures on the second 5-year reviews and finalized an RA optimization study for the Area D/ALGT. The installation monitored the progress of the Site SS 34N RA and optimized the Phase II execution strategy. McChord AFB continued to update the administrative record. The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

### FY06 IRP Progress

McChord AFB pursued options for delisting Area D/ALGT from the NPL. The installation extended the monitoring of Phase I progress of Site SS 34N. McChord AFB continued to refine the Phase II execution strategy for Site SS 34N. The digital administrative record was updated. The Air Force has ongoing assessments for all identified Installation Restoration Program (IRP) sites. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed the ROD amendment to modify the pump-and-treat extraction system.

The RAB distributed approximately 11,000 information sheets to residents surrounding the base.

### FY06 MMRP Progress

The installation continued PAs at all identified MMRP sites.

### Plan of Action

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

#### IRP

- Continue operation and maintenance for Area D/ALGT and develop an action plan for delisting in FY07.
- Streamline Site SS 34N RA Phase II execution strategy in FY07.
- Continue basewide long-term monitoring NA assessment in FY07.
- Review delisting options for smaller sites in FY07.
- Pursue a ROD amendment to modify the current pump-and-treat extraction system in FY08.

#### MMRP

- Initiate site inspections at all identified sites in FY07.

<b>FFID:</b>	CA957172433700	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	3,452 acres	<b>Funding to Date:</b>	\$ 572.8 million
<b>Mission:</b>	Provide logistics support for aircraft, missile, space, and electronics programs	<b>Est. CTC (Comp Year):</b>	\$ 457.2 million(FY 2066)
<b>HRS Score:</b>	57.93; placed on NPL in July 1987	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2016/FY 2007
<b>IAG Status:</b>	IAG signed in 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	Solvents, metal plating wastes, tic cleaners and degreasers, paints, lubricants, photochemicals, phenols, chloroform, t acids and bases, PCBs, VOCs, TCE, radioactive material		



Sacramento, California

## 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 1987 and the Air Force signed an interagency agreement (IAG) in 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, 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. Two 5-year reviews have been completed for the NPL portion of the base and one 5-year review has been completed for the Davis site, which is located approximately 15 miles west of McClellan AFB.

Sites at the installation are grouped into 11 operable units (OUs), including an installationwide groundwater OU. Interim Records of Decision (RODs) have been signed for OU B 1 and the groundwater OU and one soils ROD has been completed. In addition, two no action RODs have been signed. To date, the installation has transferred 387 acres. The cleanup progress at McClellan AFB for FY02 through FY05 is detailed below.

In FY02, all groundwater and 14 soil vapor treatment systems, covering 19 areas, operated effectively. A removal action at PRL S 33 was completed. The time-critical removal action (TCRA) continued at the large radiological CS 10 site. Extensive work was completed on the initial parcel feasibility study (FS), initial parcel finding of suitability for early transfer (FOSET), and no action ROD. Two finding of suitability to transfer (FOST) documents were completed, which allowed 177 acres to be deed transferred. A TCRA memorandum was signed and a corrective action was initiated to address hexavalent chromium issues at the groundwater treatment plant. The RAB continued to meet regularly.

In FY03, the installation completed the TCRA for the hexavalent chromium treatment system and the six site no action ROD. The TCRA at CS 10 resulted in the excavation of over 51,000 cubic yards of contaminated soil, with approximately one-third of the excavated soil remaining safely on site. Operation of groundwater and soil vapor treatment systems continued.

In FY04, the installation completed the local redevelopment authority (LRA) Initial Parcel #1 ROD and associated FOSET and FOST for 82 acres. A total of 154 acres were transferred by deed. The interim ROD groundwater Phase III off-base design was completed and the interim ROD groundwater Phase III on-base design began. The installation completed the second 5-year review for the NPL portion of the base and also completed the 5-year review for the Davis site. The Air Force conducted an inventory of Military Munitions Response Program (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 cleanup guaranteed firm-fixed price contract to achieve site closeout. The Air Force began evaluating requirements at MMRP sites at this installation. BCT activities and active RAB participation continued.

## FY06 IRP Progress

McClellan AFB completed remedial actions for two of the three action sites in the LRA Initial Parcel #1 ROD. The installation continued to operate the biovent system at the third action site in the LRA Initial Parcel #1 ROD. The Air Force completed the focused strategic sites FS. 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, and accelerated cleanup by expanding the number of treatment systems from 14 to 16 to increase contaminant extraction capacity. The installation conducted verification sampling and completed initial negotiations with regulators to close a completed SVE site. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Regulatory issues delayed the LRA Initial Parcel #2 ROD. Technical issues delayed the Breakout Shallow Soil Gas ROD.

BCT activities and active RAB participation continued.

## FY06 MMRP Progress

McClellan AFB continued to evaluate MMRP requirements and identified two MMRP sites: the former Skeet Range and a suspected discarded military munitions (DMM) landfill site.

## Plan of Action

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

### IRP

- Complete the focused strategic sites ROD in FY07-FY08.
- Resolve issues with regulators on shallow soil gas and complete the LRA Initial Parcel #2 ROD in FY07-FY08.
- Complete the volatile organic compound (VOC) groundwater ROD and its operating properly and successfully determination in FY07-FY08.
- Complete the 62-acre privatization pilot project in FY07-FY08.
- Complete the LRA Initial Parcel #3 FS in FY07-FY08.

### MMRP

- Complete the intrusive field investigation of the DMM site in FY07-FY08.
- Closeout the DMM site based on field investigation results, or add site to Small Volume Site ROD in FY07-FY08.
- Closeout the former Skeet Range site with no further action as part of the focused strategic sites ROD in FY07-FY08.

<b>FFID:</b>	NJ257182401800	<b>Funding to Date:</b>	\$ 55.7 million
<b>Size:</b>	3,500 acres	<b>Est. CTC (Comp Year):</b>	\$ 165.7 million(FY 2032)
<b>Mission:</b>	Provide quick-response airlift capabilities for placing military forces into combat situations	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/None
<b>HRS Score:</b>	47.20; placed on NPL in October 1999	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA under negotiation		
<b>Contaminants:</b>	VOCs, SVOCs, PAHs, BTEX, TPH, metals, PCBs, TCE, pesticides		
<b>Media Affected:</b>	Groundwater, sediment, soil		



Burlington County, New Jersey

## 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. In 2005, the BRAC Commission recommended McGuire AFB for realignment. Sites include landfills, waste piles, fire training areas, hazardous waste storage areas, and spill sites. The installation formed a Restoration Advisory Board (RAB) in 1999.

Forty-two sites have been identified at the installation to date. Six sites were identified at the Boeing Michigan Aeronautical Research Center (BOMARC) facility, a remote location under McGuire AFB jurisdiction. The cleanup progress at McGuire AFB for FY02 through FY05 is detailed below.

In FY02, the free product recovery equipment began operation at the Bulk Fuel Storage Area (ST 09). The remedial investigation (RI) phase to delineate the extent of the trichloroethylene (TCE) groundwater plume at Site OT 16 continued. The basewide background study was completed and a draft report was submitted. The report was under revision based on regulators' comments. The cleanup of the BOMARC missile accident site (RW 01) began. About 50 percent of the contaminated soil and debris was removed and shipped out for disposal. The installation held two RAB meetings, two partnering (Tier I) meetings with regulators, action officers, and base personnel; one Tier II meeting with Tier I members' superiors; and one Tier III meeting.

In FY03, the installation completed operation of the free product recovery equipment at pilot scale for Site ST 09. The basewide background study report was also finalized. Based on an environmental site inspection, 19 former areas of concern were added as new sites, resulting in a total of 42 sites at the installation. Two RAB meetings were held. Seven partnering (Tier I/II) meetings were held with regulators, action officers, and base personnel. Three Tier III conference calls were held.

In FY04, the installation began RI work plan development at Landfills (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 TCE groundwater plume delineation and source

investigation at Site OT 16, as well as for the Spill Site at Building 2227 (SS 24), and document preparation for LF 03. 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 at LF 03 and an RI at Building 2227 (SS 24). The installation initiated a comprehensive basewide conceptual site model (CSM), ecological study, and background study. The Department of Energy 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. The installation held two RAB meetings, one Tier I/II partnering meeting, and one Tier I/II/III partnering meeting. The Air Force updated its Military Munitions Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

## FY06 IRP Progress

McGuire AFB completed additional site surveys and initiated particles cleanup of the Class 1 cleanup area at Site RW 01. The Air Force continued work on the comprehensive basewide CSM, ecological study, and background study. The installation initiated RIs at the LF Operable Unit (OU) (LF 02/Site WP 21, LF 19, and LF 20) and at Site ST 07. McGuire AFB completed the RI study at LF 03. Additionally, McGuire AFB continued the basewide ecological study, which included flyover surveys, a full basewide wetland delineation, and other key ecological components. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The installation began fieldwork at Site OT 16; however, regulatory issues delayed final completion. Regulatory issues also delayed initiation of an RI at Site ST 09.

McGuire AFB held one Tier I/II partnering meeting and two RAB meetings. The base also initiated the RAB Journal. Two RAB mailings were distributed.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Initiate RIs at 16 sites arranged in 4 OUs in FY07.
- Continue RIs at the LF OU and Site ST 07 in FY07.
- Complete RIs at Sites OT 16 and SS 24, and initiate feasibility studies (FSS) for both sites in FY07.
- Initiate FS for LF 03/Site ST 07 OU in FY07.
- Initiate RI at Site ST 09 in FY 07.
- Initiate and complete a rapid site characterization on 11 sites to assist with performance-based contract development in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.



# Mechanicsburg Naval Inventory Control Point

Formerly Mechanicsburg Ships' Parts Control Center

NPL

<b>FFID:</b>	PA317002210400	<b>Funding to Date:</b>	\$ 31.7 million
<b>Size:</b>	824 acres	<b>Est. CTC (Comp Year):</b>	\$ 7.9 million(FY 2015)
<b>Mission:</b>	Provide inventory management and supply support for weapons systems	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2011
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in FY05		
<b>Contaminants:</b>	PCBs, heavy metals, pesticides, VOCs, SVOCs, dioxin		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Mechanicsburg, Pennsylvania

## Progress To Date

Mechanicsburg Naval Inventory Control Point, currently Naval Support Activity, provides inventory management and supply support for weapons systems. Historical defense industrial and inventory disposal operations have caused contamination at this installation. EPA placed the installation on the NPL in May 1994, and the installation signed a federal facility agreement (FFA) in FY05. A technical review committee, formed in FY88, was converted to a Restoration Advisory Board in FY95. The installation placed its administrative record on CD-ROM and completed a community relations plan in FY99. The installation completed a 5-year review in FY04.

Environmental investigations conducted at the installation have identified 15 CERCLA sites. The installation has completed a Record of Decision (ROD) for Sites 1 and 3. In addition, no further action (NFA) documents have been completed for Sites 2, 4, 7, 8, 12, 13, 14, and 15, as well as 49 lower priority areas of concern (AOCs). The cleanup progress at Mechanicsburg Naval Inventory Control Point for FY02 through FY05 is detailed below.

In FY02, the installation finalized NFA documents for Sites 2, 4, and Site 8 soil. AOC 21 underwent an expanded site inspection (SI) and NFA decision documents (DDs) were completed for AOCs 22 and 48. The installation completed a groundwater remedial investigation (RI) for Site 3. The installation also completed the basewide ecological risk assessment and the SI for four AOCs. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, the installation completed the groundwater feasibility study (FS) for Site 9 and the final groundwater FS for Site 3. The installation completed the soil removal at AOC 38. The installation completed a draft 5-year review.

In FY04, the installation completed the 5-year review and a site management plan. The installation completed the Site 3 proposed remedial action (RA) plan (PRAP) and pilot study. NFA DDs were completed for AOCs 36-A and 38. A Site 9 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 was tasked to perform an RI.

In FY05, Mechanicsburg Naval Inventory Control Point signed the FFA. The installation completed the Site 3 ROD and completed the Site 5 RI work plan and fieldwork.

## FY06 IRP Progress

Mechanicsburg Naval Inventory Control Point 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.

Technical issues delayed the Site 9 PRAP and ROD, in order for the installation to reassess the potential remedial alternatives and perform an explanation of significant differences (ESD).

## FY06 MMRP Progress

The Navy conducted no MMRP actions 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 RA at Site 11 in FY07.
- Initiate RA at Site 5 in FY07.
- Initiate net environmental benefit analysis and FS addendum for Site 9 to develop alternative RAs in FY07.
- Initiate ESD and FS addendum for Site 3 groundwater to develop alternative RAs in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	TN421382058200	<b>Funding to Date:</b>	\$ 154.1 million
<b>Size:</b>	22,357 acres	<b>Est. CTC (Comp Year):</b>	\$ 58.4 million(FY 2026)
<b>Mission:</b>	Load, assemble, pack, ship, and demilitarize explosive ordnance	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/FY 2014
<b>HRS Score:</b>	58.15; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	IAG signed in 1989		
<b>Contaminants:</b>	Munitions-related wastes		
<b>Media Affected:</b>	Groundwater and soil		



Milan, Tennessee

## 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). Representatives of the Army, the City of Milan, EPA, and the State of Tennessee completed a contingency plan to ensure that safe drinking water would be available to residents. The city completed a new drinking water well field in 1998 using funds provided by the Army. 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), including one in FY92 for OU 1 groundwater treatment plant construction, one in FY93 to extend a cap over the former O-Line Ponds soil, one in FY00 for the groundwater treatment facility construction at the Western Boundary Area (OU 4 Region 1), and an interim ROD for OU 5 in FY04. The cleanup progress at Milan AAP for FY02 through FY05 is detailed below.

In FY02, the Army completed construction and began operation of a groundwater treatment facility for the Western Boundary Area (OU 4). The installation completed bioremediation of explosives-contaminated soil at Lines H and Z, and Areas M and N. The regulators approved the draft feasibility study (FS) for overall groundwater contamination. The Army submitted the draft ROD for OU 4 Regions 2 and 3 to the regulators. The Army completed remediation of the Y-103 rail classification yard. The installation continued operation of the OUs 1 and 3 groundwater treatment systems.

In FY03, the installation continued operation of the OUs 1, 3, and 4 groundwater treatment systems. The composting of Line X contaminated soil proceeded on schedule. The installation began two studies for examining groundwater quality. The Army completed an inventory of the closed, transferred, and transferring ranges and sites with unexploded ordnance (UXO),

discarded military munitions, or munitions constituents. The inventory identified one closed site totaling 263 acres within the installation's boundaries where there is possible UXO and medium explosives safety risk.

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 OU 1, 3, and 4 groundwater treatment systems. The Army conducted pilot studies on the use of carbohydrates to determine the applicability of these materials 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/OU 2 area. The installation produced a conceptual site model report to begin evaluating a remedy for groundwater treatment. The Army submitted technical memoranda to the regulatory community in an effort to enhance groundwater treatment facilities capabilities. In addition, the installation completed a 5-year review and found no deficiencies. Based on the data generated during the pilot study within OU 5, the Army was unclear about whether the use of a carbohydrate for in situ treatment of soils was appropriate. Due to the low volume of soil exceeding remedial action (RA) goals, ex situ treatment appeared to be the most efficient and economical means of treatment. The Army submitted an SI report for comments for the MMRP sites. The installation attended partnership training sessions with the State, EPA, and Army, and established a charter to address issues that would allow expedited remediation of Milan AAP.

## FY06 IRP Progress

Milan AAP completed soil characterization and excavation for all production lines. EPA Region 4 indicated some concerns about whether the installation statistically evaluated its sampling procedures. Based on review of documentation

provided by the regulators as well as other sources of information, it appears that the Army can statistically validate the soils sampling protocols used for determining cleanup. 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 FS for groundwater to the regulatory community. Comments were received from EPA and the State of Tennessee, which identified unresolved issues about RA objectives and preliminary remedial goals. A Tier II group of management from EPA Region 4, State of Tennessee, Army Environmental Center, Corps of Engineers, and installation restoration personnel was developed to facilitate many of the groundwater issues that have impeded the approval of the sitewide groundwater FS.

RAB members toured all groundwater treatment systems and bioremediation facilities. The RAB co-chair also participated in discussions about the sitewide groundwater draft FS.

## FY06 MMRP Progress

Milan AAP completed the SI report for the MMRP site.

## Plan of Action

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

### IRP

- Complete all excavation of explosives-contaminated soils in the Northern Industrial Areas in FY07.
- Complete FS for sitewide groundwater and RA for OU 5 soils interim ROD in FY07.
- Prepare ROD for OUs 1 and 3 groundwater treatment systems in FY07.
- Prepare explanation of significant differences for OU 4 ROD to include Region 2 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	MS421382296600	<b>Funding to Date:</b>	\$ 0.0 million
<b>Size:</b>	4,214 acres	<b>Est. CTC (Comp Year):</b>	\$ 6.6 million(FY 2032)
<b>Mission:</b>	Management, development, testing, and manufacture of the improved conventional munitions artillery	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 1990/FY 2018
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Metals and solvents		
<b>Media Affected:</b>	Groundwater and soil		



Hancock County, Mississippi

## Progress To Date

In 2005, the BRAC Commission recommended Mississippi Army Ammunition Plant (AAP) for closure. Mississippi AAP is the only ammunition plant built by the Army after the Korean Conflict. The War Department used the property previously in the 1940s as a bombing and gunnery range. From 1969-1980, 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 in order 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. Four amendments have been executed to the 50-year permit with NASA.

In FY93, environmental studies identified 29 solid waste management units and 1 area of concern. In FY97, the Army conducted additional studies of these sites. DoD has returned 2,934 acres to NASA. The cleanup progress at Mississippi AAP for FY03 through FY05 is detailed below.

In FY03, the Army completed the Phase III Range Inventory and identified two Military Munitions Response Program (MMRP) sites. NASA completed the remedial investigation (RI) for the Old Kellar Test Range. The RI indicated that no further action (NFA) was required and NASA submitted NFA documentation to the Mississippi Department of Environmental Quality.

In FY04, NASA installed fencing around the area where it discovered buried metallic objects.

In FY05, the BRAC Commission recommended closure of Mississippi AAP.

## FY06 IRP Progress

The Army initiated an environmental condition of property (ECP) report. The report includes a review of all operations at Mississippi AAP.

## FY06 MMRP Progress

The Army identified two additional MMRP sites (the West Bomb Target and the High Altitude Bomb Target) that were part of the former Hancock Bombing and Gunnery Range.

## Plan of Action

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

### IRP

- Complete the ECP and CERFA reports in FY07.

### MMRP

- Complete MMRP site inspections for the Spin Launch Site and Hancock Bombing and Gunnery Range targets in FY07.

<b>FFID:</b>	CA917002323800	<b>Funding to Date:</b>	\$ 138.5 million
<b>Size:</b>	3,097 acres	<b>Est. CTC (Comp Year):</b>	\$ 72.8 million(FY 2031)
<b>Mission:</b>	Served as host to 7th Infantry Division (Light); supports the Defense Language Institute Foreign Language Center, currently at the Presidio of Monterey, California	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
<b>HRS Score:</b>	42.24; placed on NPL in February 1990	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in July 1990		
<b>Contaminants:</b>	VOCs, petroleum hydrocarbons, heavy metals, pesticides		
<b>Media Affected:</b>	Groundwater and soil		



Sunnyvale, California

## Progress To Date

Moffett Field Naval Air Station (NAS) was headquarters of the Commander, Patrol Wings U.S. Pacific Fleet. Responsible for submarine patrol operations across the Pacific, NAS Moffett Field was the largest P-3 base in the world. 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. 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. Sites at the installation include landfills, underground storage tanks, 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 was divided into seven operable units (OUs). 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. A RAB forum for the Bay Area Community was held and the CRP was updated in FY02. In FY03, the installation completed 5-year review reports for two groundwater remedial sites.

Environmental studies have identified 34 sites at the installation. In addition, 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 completed closure of 35 petroleum sites. The cleanup progress at Moffett Field NAS for FY02 through FY05 is detailed below.

In FY02, the installation completed closure of 35 petroleum sites. The ROD and remedial design (RD) for Site 22 were completed, as well as the proposed plan (PP) and ROD for the NFA sites. The installation submitted 5-year review reports for OU 1, and Sites 1 and 2 to regulatory agencies. Progress continued on the site management plan for delisting Moffett Field from the NPL. Support of the NASA-Navy memorandum of agreement (MOA) continued. The installation initiated an

optimization study for Sites 26 and 28 pump-and-treat systems. A human health risk assessment (HHRA) on MCH started due to groundwater contamination. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed a 5-year review report for both the westside and eastside aquifer treatment systems. Additionally, the installation completed the PP for Site 25 and initiated a time-critical removal action (TCRA) at the new source area, Hangar 1. The installation completed the feasibility study (FS) for Site 27 and the remedial action (RA) for Site 22. The HHRA at MCH was completed, although additional studies are needed to supplement HHRA. An additional seven petroleum sites were closed.

In FY04, the installation completed the Hangar 1 TCRA and started work on the remedial investigation (RI) and FS work plan for Hangar 1. The installation completed the Site 27 PP. Optimization of the Sites 26 and 28 pump-and-treat systems began. The installation completed air sampling at MCH and a work plan drafted for the final phase of 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 RD for RA. The installation continued the site management plan for delisting Moffett Field from the NPL and support of the NASA-Navy MOA.

## FY06 IRP Progress

Moffett Field NAS 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. The cost of completing environmental restoration has changed significantly due to technical issues, regulatory issues, and changes in estimating criteria.

Regulatory issues delayed the PP and ROD for Site 25. Regulatory issues also delayed removal action at Site 29. In addition, procedural issues delayed RA for Site 27.

## FY06 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

- Complete Site 29 removal action in FY08.
- Begin Site 25 RA in FY08.
- Continue resolution of groundwater contaminant responsibility in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	WA09799F331700	<b>Funding to Date:</b>	\$ 18.7 million
<b>Size:</b>	9,607 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.5 million(FY 2009)
<b>Mission:</b>	Served as tactical air command, air transport, and strategic air command base; provided pilot training	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
<b>HRS Score:</b>	50.00; placed on NPL in October 1992	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	IAG signed in March 1999		
<b>Contaminants:</b>	VOCs (specifically TCE)		
<b>Media Affected:</b>	Groundwater and soil		



Moses Lake, Washington

### 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 4 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 2 disposal areas potentially containing tetraethyl lead. EPA placed the property on the NPL in October 1992, and the Army and EPA signed an interagency agreement (IAG) in March 1999. The U.S. Army Corps of Engineers (USACE) established a Restoration Advisory Board at this property.

USACE has identified four projects at this property. The cleanup progress for Moses Lake for FY02 through FY05 is detailed below.

In FY02, USACE initiated the interim remedial action to construct and provide a replacement well for the community of Skyline. The supplemental remedial investigation (RI) work was scoped, awarded, and coordinated. USACE published a draft RI report, with several field sites requiring more investigation.

In FY03, USACE completed the Skyline well replacement project and handed the well over to the owner. USACE completed the final RI report. USACE began a long-term management (LTM) program for domestic well owners on the southern edge of the plume. EPA continued to be an active participant in the restoration process and partnered with USACE and the public during all phases of the project.

In FY04, USACE continued the 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 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/whole-house filter program for residents with private wells in Moses Lake continued. USACE completed the draft versions of the groundwater OU FS and shallow soils OU FS and submitted the FSs to EPA. USACE submitted all deliverables required in the IAG between USACE and EPA.

### FY06 IRP Progress

USACE provided ongoing litigation support to the Department of Justice regarding this 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/ whole house filters program continued to operate for residents with affected private wells in Moses Lake. USACE revised the groundwater and shallow soils FSs; however, regulatory issues delayed its final acceptance.

### FY06 MMRP Progress

USACE completed a draft Archives Search Report for the project.

### Plan of Action

Plan of action items for Moses Lake Wellfield Contamination Site are grouped below according to program category.

#### IRP

- Continue to work with EPA and support the proposed plan/ ROD process in FY07.
- Revise groundwater FS and shallow soils FS as necessary in FY07.
- Continue LTM / whole-house filter program for residential wells in FY07.

#### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	ID057212455700	<b>Est. CTC (Comp Year):</b>	\$ 6.0 million(FY 2013)
<b>Size:</b>	6,000 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/None
<b>Mission:</b>	Provide composite combat air power worldwide	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>HRS Score:</b>	NA; placed on NPL in August 1990		
<b>IAG Status:</b>	FFA signed in January 1992		
<b>Contaminants:</b>	VOCs, POLs, heavy metals		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 14.7 million		



Mountain Home, Idaho

## 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.

Environmental studies conducted since FY83 have identified 32 sites at this installation. To improve and accelerate site characterization, the installation grouped the sites into operable units (OUs). To date, a no further action (NFA) Record of Decision (ROD) has been signed for OUs 2 and 4. RODs have also been signed for OUs 1, 3, 5, and 6; the lagoon landfill; and Fire Training (FT) Area 8. The cleanup progress at Mountain Home AFB for FY02 through FY05 is detailed below.

In FY02, the installation installed five wells, three with vapor sampling ports to assist in monitoring regional groundwater, and eight additional wells to assist in monitoring perched groundwater and benzene, toluene, ethylbenzene, and xylene compounds at Site ST 11. Seventeen sites that were recommended for additional institutional controls in the 5-year review were sampled. The installation began a site inspection (SI) for three areas of concern (AOCs) to determine whether the AOCs qualified as sites.

In FY03, the installation evaluated the results of the SI for the three AOCs and determined that NFA was necessary. Monitoring of vapor ports commenced and monitoring of perched and regional groundwater continued. An additional regional aquifer groundwater well was installed to satisfy RCRA post-closure requirements at Site ST 13. Samples analyzed from two regional aquifer monitoring wells indicated isolated values for benzene and trichloroethylene (TCE), which exceeded maximum contaminant levels.

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 2002, the installation continued remediation of shallow groundwater at Site ST 11, and continued to monitor volatilized vapors from vadose zones at eight sites. In addition, Mountain Home AFB continued to monitor perched groundwater and regional groundwater, and removed 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 conducted groundwater monitoring. The installation awarded a performance-based contract. The Air Force updated its Military Munitions Response program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

## FY06 IRP Progress

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 Sites OT 16, LF 23, SD 27, and SS 29, and initiated pilot studies at Sites FT 08, ST 11, ST 13, and SD 24.

Technical issues delayed the hot spot removals at Sites SD 27 and SS 29, and also delayed completion of the OU 3 ROD amendment.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Complete ESDs for LFs 01 and 02 in FY07.
- Complete removal actions at Sites OT 16, LF 23, SD 27, and SS 29 in FY07.
- Complete pilot studies for Sites FT 08, ST 11, ST 13, and SD 24 in FY07.
- Complete vapor intrusion evaluation in FY07.
- Complete groundwater remedial investigation/feasibility study amendment in FY07.
- Complete OU 3 ROD amendment in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	SC457002482100	<b>Funding to Date:</b>	\$ 53.5 million
<b>Size:</b>	3,937 acres	<b>Est. CTC (Comp Year):</b>	\$ 12.6 million(FY 2036)
<b>Mission:</b>	Served as host to a tactical fighter wing	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/FY 2007
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Spent solvents, fuels, VOCs, metals, asbestos, paints, POLs, thinners, waste oils		
<b>Media Affected:</b>	Groundwater and soil		



Myrtle Beach, South Carolina

## 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, 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 hydrocarbons (PHCs), 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 work plan and fieldwork have been completed for six areas. The cleanup progress at Myrtle Beach AFB for FY02 through FY05 is detailed below.

In FY02, the installation continued remediation at four fuel sites, groundwater monitoring, and operation of existing systems. One pilot study was completed. Drafts were developed for five corrective measure studies (CMSs) and five RCRA Statements of Basis (SBs).

In FY03, the installation began investigation of a new groundwater site and initiated corrective measure implementations at four sites. Fourteen CMSs and SBs were modified and eight decision documents (DDs) were signed. Remediation at four fuel sites as well as groundwater monitoring and operations of existing systems continued. The installation shut down one active treatment system and moved the site into monitored natural attenuation (MNA). The Air Force reached a consent agreement with the State regarding land use control (LUC) issues, which allowed the installation to proceed with postponed documents.

In FY04, the installation initiated remedial actions (RAs) at one site. The installation completed four CMSs and SBs, including the associated public comment period, for three sites. The installation completed field investigations and issued a RCRA facility investigation for the petroleum/oil/lubricant (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 Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

In FY05, Myrtle Beach AFB initiated final RAs at three sites. The installation issued draft documents for two CMSs, one SB, and four DDs. In addition, the installation closed an active treatment system and moved the site into MNA; discontinued monitoring at two landfills; and granted one site no further action. The installation also evaluated and implemented optimization actions at all sites with remedial systems operating and/or long-term management (LTM) ongoing. The installation performed annual inspections of LUCs. The Air Force began evaluating requirements at MMRP sites. 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.

## FY06 IRP Progress

Myrtle Beach AFB continued RA implementation at three sites. The installation 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/revised four DDs, one OP&S document, and two CMSs. The installation continued evaluating and implementing optimization actions at all sites that have active remedial systems and/or are undergoing LTM. A remedial process optimization review was completed. The installation performed annual inspections of LUCs. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Technical issues delayed the implementation of one groundwater RA. Administrative issues and development of implementation work plans delayed finalization of three SBs, five DDs, four OP&S documents, and two CMS draft documents.

Myrtle Beach AFB held two RAB meetings. The BCT held monthly meetings to discuss site remediation and property transfer.

## FY06 MMRP Progress

The installation initiated and continued additional investigations at the former explosive ordnance disposal (EOD) Proficiency Range site due to the discovery of inert munitions debris.

## Plan of Action

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

### IRP

- Complete RA installation at three sites in FY07.
- Complete three SBs, five DDs, six OP&S documents, and two CMSs in FY07.

### MMRP

- Complete investigation and any required removal actions at the former EOD Proficiency Range site in FY07-FY08.

<b>FFID:</b>	PR217002758200
<b>Size:</b>	8,432 acres
<b>Mission:</b>	Provided training and support to Atlantic Fleet operations in the Caribbean
<b>HRS Score:</b>	N/A
<b>IAG Status:</b>	None
<b>Contaminants:</b>	Petroleum hydrocarbons, VOCs, SVOCs, PCBs
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil

<b>Funding to Date:</b>	\$ 22.5 million
<b>Est. CTC (Comp Year):</b>	\$ 0.0 million(FY 2005)
<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/FY 2004
<b>Five-Year Review Status:</b>	5-year review not required for this installation



Ceiba, Puerto Rico

**Progress To Date**

Naval Station Roosevelt Roads (NSRR) 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, NSRR's major mission has been to support the Atlantic Fleet Weapons Training Facility's (AFWTF's) training missions on Vieques Island, located approximately 7.5 miles east of NSRR. 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, NSRR 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 Puerto Rico (NAPR) to serve as the caretaker of the real property associated with the former NSRR and to assist in the transfer of the property. Prior to 1993, environmental activities, having to do with past suspected releases of hazardous constituents, were conducted in accordance with CERCLA regulations under the Department of the Navy's Installation Restoration Program (IRP). The Navy completed the initial assessment study (IAS) in FY84. The study identified sites that showed the potential for releasing hazardous constituents. EPA completed a RCRA facility assessment (RFA) in FY88 and a follow-up visual site inspection (VSI) in FY93, which identified the IAS sites and a number of additional solid waste management units (SWMUs) and areas of concern (AOCs).

To date, the Navy has identified 76 SWMUs, 5 AOCs, and 8 monitored natural attenuation sites. In FY94, NSRR received a RCRA Part B Permit, which included corrective action requirements for SWMUs identified during the FY88 RFA and FY93 VSI. In total, the permit contained 52 SWMUs and 4 AOCs. Two additional sites were identified by the Navy and added to the RCRA Corrective Action Program in FY00. These included SWMUs 53 and 54. Also, EPA created a new site SWMU 55 by splitting a trichloroethylene (TCE) plume previously attached to SWMU 7/8 (petroleum hydrocarbon plume) into a separate SWMU. The cleanup progress at NAPR for FY04 and FY05 are detailed below.

In FY04, following the closure of NSRR and establishment of NAPR, the Navy performed an environmental condition of property investigation to evaluate both the historic and recent

operations at NSRR as relating to compliance with environmental programs. The investigation identified 21 additional SWMUs and 1 AOC.

In FY05, NAPR completed a corrective measures study final report for SWMUs 7/8, 54, and 55, and initiated ecological risk assessment 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 (CMI) for SWMUs 13, 46, 53, and AOC C. The installation initiated an RFI for Pineros and Cabeza de Perro Islands under the Military Munitions Response Program (MMRP).

**FY06 IRP Progress**

NAPR initiated an RFI study for SWMUs 14, 16, and AOC A. The installation performed ecological risk assessment projects for SWMUs 1, 2, 9, and 45. The installation also completed an RFI study for SWMU 14. The Navy completed CMIs for SWMUs 46, 53, and AOC C.

The discovery of additional soil contamination delayed the CMI at SWMUs 9 and 13.

**FY06 MMRP Progress**

The installation performed an RFI for Pineros and Cabeza de Perro Islands. Additionally, the Navy completed a blow-in-place of munitions and explosives of concern discovered during the Phase I RFI.

**Plan of Action**

Plan of action items for Naval Activity Puerto Rico are grouped below according to program category.

**IRP**

- Sign RCRA 7003 Order in FY07.
- Establish the NAPR Restoration Advisory Board in FY07.
- Complete CMI at SWMUs 9 and 13 in FY07.
- Close landfill and initiate post-closure groundwater monitoring in FY07.
- Transfer economic development conveyance and performance-based contract parcels to the Commonwealth of Puerto Rico in FY07 and transfer sale parcels to successful bidders in FY08.

**MMRP**

- Complete Phase I and implement RFI at Pineros Island in FY07.



<b>FFID:</b>	ME117002201800	<b>Funding to Date:</b>	\$ 70.3 million
<b>Size:</b>	7,259 acres	<b>Est. CTC (Comp Year):</b>	\$ 20.4 million(FY 2031)
<b>Mission:</b>	Provided facilities, services, materials, and aircraft for submarine warfare	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/FY 2012
<b>HRS Score:</b>	43.38; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and underway
<b>IAG Status:</b>	FFA signed in 1989; revised in 1990		
<b>Contaminants:</b>	DDT, PCBs, PAHs, VOCs, metals		
<b>Media Affected:</b>	Groundwater and soil		



Brunswick, Maine

## 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. Onsite 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 installation established an administrative record and information repository in FY87. During FY88, the community relations plan was completed. A technical review committee was formed in FY88 and converted to a Restoration Advisory Board (RAB) in FY95. The installation conducted 5-year reviews in FY01 and FY05.

Studies conducted at the installation have identified 21 sites. The installation completed a Record of Decision (ROD) to address the eastern groundwater plume, three USTs, and a waste pit. In addition, the installation has signed a ROD for Sites 4, 7, 9, 11, and 13 and a ROD for the eastern groundwater plume treatment plant. The installation has completed no further action documentation for Sites 14, 15, 16, and 18. The cleanup progress at NAS Brunswick for FY02 through FY05 is detailed below.

In FY02, the installation worked with regulators to develop and implement an exit strategy for Building 95. The Navy and the regulators agreed that a consensus statement would be used to document the exit strategy. The installation evaluated initial diffusion sampling results; the results were similar to traditional techniques. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, the Navy monitored sampling results for Building 95, eliminating maleic hydrazide from the long-term management plan (LTMP). The installation continued to develop an exit

strategy for Building 95. The Navy conducted an additional investigation at Site 12 for possible perchlorate contamination and prepared a sampling plan for this effort. Diffusion sampling was accepted as an alternative to low flow sampling, resulting in cost and time savings. The installation initiated the LTMP for Site 7.

In FY04, the Navy continued to monitor sampling results for Building 95 as the exit strategy. The installation completed the LTMP 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 new extraction wells to improve system effectiveness. In addition, the Navy planned to expand its investigation of Site 2. The Navy prepared and distributed the draft 5-year review.

In FY05, NAS Brunswick 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.

## FY06 IRP Progress

The Navy began the contaminant removal at Site 9. The installation 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 areal extent of 1,4 dioxane, with planned modifications to the groundwater extractions and treatment system if necessary. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory review delayed development of institutional control (IC) boundaries for Installation Restoration Program (IRP) sites.

The installation conducted technical subcommittee (TSC)/RAB meetings and conference calls.

## FY06 MMRP Progress

NAS Brunswick completed the PA for existing sites. The installation identified additional areas of concern, requiring PA/site inspection (SI).

## Plan of Action

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

### IRP

- Complete revised base instructions and develop IC boundaries for IRP sites in FY07.
- Install two extraction wells in FY07.
- Develop and execute a closeout plan for Site 12 in FY07.
- Begin fieldwork at Mere Brook in FY07.
- Complete field investigations north of Sites 2 and 17 (Building 95) in FY07.
- Conduct TSC/RAB meetings and conference calls in FY07.

### MMRP

- Finalize PA/SIs in FY07.

<b>FFID:</b>	VA317002248200	<b>Funding to Date:</b>	\$ 27.6 million
<b>Size:</b>	2,147 acres	<b>Est. CTC (Comp Year):</b>	\$ 16.1 million(FY 2017)
<b>Mission:</b>	Provide logistics facilities and support services to meet the amphibious warfare training requirements of the Armed Forces	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
<b>HRS Score:</b>	50; placed on NPL in May 1999	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA negotiations underway		
<b>Contaminants:</b>	Heavy metals, mixed municipal wastes, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Virginia Beach, Virginia

## 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 (PCP) 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. In 2005, the BRAC Commission recommended NAB Little Creek for realignment. 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 (CRP) 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, four Records of Decision (RODs) have been finalized, and over 100 sites have been closed. The cleanup progress at NAB Little Creek for FY02 through FY05 is detailed below.

In FY02, the installation completed the CRP, the Site 8 interim remedial action (IRA), and draft remedial investigation (RI). The installation also completed pilot studies at Site 13 using an oxygen release compound, and at Site 11 using cyclodextrin to significantly reduce groundwater contamination. The installation closed Sites 5, 15, 16, and Solid Waste Management Unit (SWMU) 2. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed the draft RI for Sites 7 and 8. In addition, the installation completed the draft RI for SWMUs 3, 7, and 8. A facility background study and supplemental site assessment investigation was completed for Areas of Concern (AOCs) H, I, J, and Site 14. The installation also completed a no further action (NFA) closeout for Site 4.

In FY04, the installation signed an FFA, and over 100 sites were closed out upon signature. The installation finalized a

remedial design (RD) and ROD for Sites 9 and 10. The installation completed final RIs for Sites 7, 8, and SWMUs 7 and 8, and closed out 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. It also implemented a pilot study for Sites 11a and 13.

In FY05, NAB Little Creek completed NFA RODs for SWMU 7a and 8. The installation completed an EE/CA for Sites 7 and 8, and initiated construction for an IRA. 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 SWMUs 5, 6, 13, and Site 6. SWMUs 18, 116, and AOC D were closed out 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.

## FY06 IRP Progress

NAB Little Creek completed an 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, FS, and a proposed RA plan for Site 11. The installation also completed an explanation of significant difference 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.

Regulatory issues delayed the RD and RA for Site 12. Procedural issues delayed the FS for Site 13.

## FY06 MMRP Progress

NAB Little Creek completed the site inspection (SI) for multiple sites. The installation identified six potential MMRP sites during the PA of the MWR Skeet Range.

## Plan of Action

Plan of action items for Naval Amphibious Base Little Creek are grouped below according to program category.

### IRP

- Complete Phase II RI for SWMU 3 in FY07.
- Complete RD and RA for Site 12 in FY07.
- Complete FS and ROD for Site 7 in FY07.

### MMRP

- Initiate SIs at two MMRP sites in FY07.
- Recommend NFA at five MMRP sites in FY07.

<b>FFID:</b>	CA917002757500	<b>Contaminants:</b>	Petroleum products, solvents, refuse, ordnance, incinerator wastes
<b>Size:</b>	1,527 acres	<b>Media Affected:</b>	Groundwater and soil
<b>Mission:</b>	Served as an auxiliary airfield for operations from Moffett Field and other Navy facilities in the area; used for practice operations by the Army, Navy, Air Force, and Coast Guard during the 1970s and 1980s and as a research and development site by NASA	<b>Funding to Date:</b>	\$ 25.7 million
<b>HRS Score:</b>	N/A	<b>Est. CTC (Comp Year):</b>	\$ 6.7 million(FY 2014)
<b>IAG Status:</b>	None	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
		<b>Five-Year Review Status:</b>	5-year review not required for this installation



Crows Landing, California

## Progress To Date

The Naval Auxiliary Landing Field (NALF) at Crows Landing was commissioned in May 1943, and served primarily as an auxiliary airfield. The installation established an information repository in FY89. 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 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, 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. The cleanup progress at NALF Crows Landing for FY02 through FY05 is detailed below.

In FY02, groundwater extraction and monitoring activities continued at two source areas at the Administration Area Plume (Site 17). The installation completed corrective actions at underground storage tank (UST) Cluster (CL) 1, and removed a total of 22,000 pounds of petroleum hydrocarbons from the vadose zone. Information gathering for closure reports began for UST sites. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. The installation continued to provide for community involvement, published four fact sheets, updated the CRP, and maintained the local information repository in Patterson, California. BCT meetings were conducted bimonthly.

In FY03, the Navy continued groundwater extraction activities and removed more than 280 pounds of contaminant mass (primarily acetone and gasoline) from the Administration Area Plume (Site 17). The installation completed closure reports for UST CL 7 and UST CL 40, and the regulatory closure of those sites. Information was collected for the revised feasibility studies for Sites 11 and 17. The administrative record and information repository were maintained. Plans for an in situ submerged oxygen curtain (iSOC) groundwater treatment demonstration project were completed. NFA status was achieved for UST CL 7 and UST CL 40. Approximately 19,000

tons of waste and construction debris were removed from IRP Site 11A (sewer systems) during a time-critical removal action (TCRA). A draft engineering evaluation and cost analysis, explosive safety submittal, and a work plan for a TCRA to remove approximately 14,000 tons of buried waste, ordnance, and construction debris from IRP Site 11 were completed. Five fact sheets were sent to the community members and other recipients on the CRP mailing list. The BCT meetings were conducted bimonthly.

In FY04, the Navy continued groundwater extraction activities near the site of a former dry well at the Administration Area Plume (Site 17). In addition, a demonstration project was conducted using iSOC within 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 investigating and response actions at Site 11A. The installation issued four fact sheets and three public notices. The BCT meetings were conducted bimonthly. The BCT continued to partner, evaluating environmental cleanup as well as approving the environmental master schedules for the installation.

In FY05, NALF Crows Landing completed the transitional groundwater extraction near the former dry well at the Administration Area Plume (Site 17). In addition, the investigation of groundwater beneath adjacent property at Site 17 was completed. The installation received regulatory closure on USTs 109 and 117, as well as the CL 2 area. Munitions and explosives of concern evaluations began in four areas at the installation. The iSOC demonstration project within Site 17 was completed. NALF Crows Landing issued an environmental business plan. The BCT continued to partner, evaluating the environmental program as well as approving 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 and completed the removal action at Site 11 (disposal pits).

## FY06 IRP Progress

NALF Crows Landing continued basewide groundwater monitoring at the installation, and prepared a TCRA action

memorandum for excavation and confirmation sampling at IR Site 11B. The installation prepared a work plan for additional investigation at the adjacent property (Site 17).

The installation began an interim remedial action (IRA) alternative evaluation for Site 17; however, procedural issues delayed its completion.

## FY06 MMRP Progress

The Navy has identified no MMRP actions 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

- Conduct TCRA for excavation and confirmation sampling at IR Site 11B in FY07.
- Complete an IRA alternative evaluation and work plan for removal action for Site 17 in FY07.
- Complete fieldwork for additional investigation at Site 17 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	HI917002438800	<b>Funding to Date:</b>	\$ 22.0 million
<b>Size:</b>	2,400 acres	<b>Est. CTC (Comp Year):</b>	\$ 34.4 million(FY 2012)
<b>Mission:</b>	Operate and maintain communications facilities and equipment for naval shore installations and fleet units in the eastern Pacific	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/None
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	Draft FAA cancelled		
<b>Contaminants:</b>	PCBs, metals, petroleum hydrocarbons		
<b>Media Affected:</b>	Soil		



Wahiawa and Lualualei, Hawaii

## 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.

Thirty sites have been identified at this installation, including 24 CERCLA sites and 5 underground storage tank (UST) sites. The installation has completed no further action (NFA) documentation for Site 14 and UST Sites 6 and 22. The cleanup progress at NCTAMS, Pacific for FY02 through FY05 is detailed below.

In FY02, the installation completed the draft remedial investigation (RI) planning documents for Sites 6 and 24. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed draft work plans for the removal action at Sites 17, 18, and 20. In addition, the installation completed the RI fieldwork at Sites 6 and 24. The ecological risk assessment (ERA) for Sites 1, 2, 5, and 22 continued. The installation drafted verification planning documents to confirm the Eureka laboratory results at Sites 14 and 15.

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 Step 3a ERA at Sites 1, 2, 5, and 22.

In FY05, NCTAMS completed final reports for verification sampling to confirm Eureka laboratory results at Sites 14 and 15. The installation completed draft Step 3a ERA at Sites 6 and 24.

## FY06 IRP Progress

NCTAMS completed the RI reports for Sites 1, 2, 5, and 22. The installation also completed an NFA Record of Decision (ROD) for Site 22.

Regulatory issues delayed the RI report for Sites 6 and 24.

## FY06 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 RI report for Sites 6 and 24 in FY07.
- Complete engineering evaluation and cost analysis for Site 24 in FY07.
- Complete action memorandums and interim remedial actions for Sites 2 and 5 in FY07.
- Complete feasibility study for Site 1 in FY07.
- Complete NFA RODs for Sites 1, 2, and 5 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

# Naval Facilities on Vieques

Formerly Vieques Naval Training Range and Naval Ammunition Support

NPL

**FFID:** PR217003172000, PR217006932100

**Size:** 22,687 acres

**Mission:** VNTR provided ground warfare and amphibious training for marines, naval gunfire support training, and air to ground training. NASD provided munitions storage for Atlantic Fleet training

**HRS Score:** NA; placed on NPL in February 2005

**IAG Status:** FAA under negotiation

**Contaminants:** Explosives, metals, VOCs, SVOCs, pesticides, PCBs, gasoline, land waste oil

**Media Affected:** Groundwater, surface water, sediment, soil

**Funding to Date:** \$ 51.1 million

**Est. CTC (Comp Year):** \$ 236.7 million(FY 2026)

**IRP/MMRP Sites Final RIP/RC:** FY 2007/FY 2019

**Five-Year Review Status:** 5-year review not required for this installation



Vieques, PR

## 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 17 potentially contaminated sites at the former NASD. At the former VNTR, the Navy identified 12 RCRA sites and 62 potential Military Munitions Response Program (MMRP) sites. 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. Four thousand of these acres are managed as a National Wildlife Refuge by the U.S. Fish and Wildlife Service (FWS). 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 cleanup progress at Naval Facilities on Vieques for FY02 through FY05 is detailed below.

In FY02, the Navy completed the final report on background contamination for the former NASD.

In FY03, the Navy completed a remedial investigation and feasibility study (RI/FS) at four sites at the former NASD, and the final baseline groundwater work plan for the former VNTR. In addition, the Navy completed the munitions investigation and report for Red and Blue Beach, and placed warning signs in restricted areas throughout the former VNTR.

In FY04, the Navy conducted Phase I fieldwork for the RI for 12 sites on the former VNTR, RI/FS reports for four sites at the former NASD, RI/FS investigations for two sites, and finalized the no further action (NFA) document for nine sites on the former NASD. The TRC was converted to an 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. In addition, the Navy submitted engineering evaluation and cost analyses for four former NASD sites (AOCs J and R, Solid Waste Management Units [SWMUs] 6, and 7). For the former VNTR, the Navy completed a preliminary assessment (PA)/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 12 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 for the former VNTR. In addition, the Navy conducted 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 charter for the RAB.

## FY06 IRP Progress

The Navy conducted RI/supplemental RIs at three former NASD sites (AOCs E, I, and R). The Navy also initiated a background soil investigation and PA/SI at eight PI/PAOC sites at the former VNTR. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed the removal actions at four former NASD sites (AOCs J, R, SWMUs 6, and 7). The installation completed a draft final work plan for RI at the former NASD SWMU 4; however, regulatory issues delayed the final RI.

## FY06 MMRP Progress

The Navy completed a time-critical removal action surface removal of munitions and explosives of concern (MEC) from 200 acres of the approximately 900 acres on the LIA. The Navy completed the work plan for the Phase II SI and expanded range assessment.

Technical issues delayed the Phase II MMRP interim removal action at former NASD SWMU 4. Regulatory issues delayed the

subsurface removal of MEC at selected beaches to be utilized by DOI and FWS.

## Plan of Action

Plan of action items for Naval Facilities on Vieques are grouped below according to program category.

### IRP

- Complete RI report at five former NASD sites (AOCs E, I, J, 6, and 7) in FY07.
- Complete RI and, if necessary, initiate supplemental RI for the former NASD (AOC R) in FY07.
- Perform removal actions at four former NASD sites (AOCs J, R, SWMUs 6, and 7) in FY07.
- Complete the background soil investigation and PA/SI at eight PI/PAOC sites at the former VNTR in FY07.
- Prepare NFA proposed remedial action plans for nine sites in FY07.
- Initiate RI at former NASD site SWMU 4 in FY07.

### MMRP

- Complete burn plan for vegetative removal in LIA and Eastern Conservation Area on VNTR in FY07.
- Complete time-critical removal action surface removal of MEC on 300 acres, of the remaining 700 acres on the LIA in FY07.
- Conduct subsurface removal of MEC at selected beaches and roads in FY07.
- Conduct the Phase II SI for the former VNTR in FY07.

<b>FFID:</b>	CA917002756300	<b>Funding to Date:</b>	\$ 28.4 million
<b>Size:</b>	416 acres	<b>Est. CTC (Comp Year):</b>	\$ 26.9 million(FY 2010)
<b>Mission:</b>	Supply and provide bulk storage of various grades of petroleum fuel product for fleet	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Petroleum products, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater and soil		



Richmond, California

## Progress To Date

The Naval Fuel Depot (NFD), Point Molate supplies and provides bulk storage of fuel for the fleet. In July 1995, the BRAC Commission recommended closure of NFD, Point Molate. Operations at the installation included bulk storage and supply of fuel products, including JP-5, JP-7, and 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 soil and groundwater. There are 13 disposal areas at Point Molate. A Restoration Advisory Board (RAB) was formed in FY03.

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. The cleanup progress at NFD, Point Molate for FY02 through FY05 is detailed below.

In FY02, the installation completed a removal action at Site 1 and initiated long-term management. The Site 4 screening level risk assessment was also completed. The installation continued extraction-trench groundwater treatment under the existing National Pollution Discharge Elimination System permit. The Phase II Environmental Baseline Survey summary report and corrective action plan (CAP) for underground storage tanks (USTs) and fuel pipelines were completed. The installation completed construction of the Site 1 landfill CAP. The installation initiated an engineering evaluation and cost analysis (EE/CA) for Site 3. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed a human health risk assessment/ecological risk assessment at Site 4 and significantly reduced the boundaries of Site 4. The quarterly groundwater and methane monitoring continued at Site 1. An oil-water separator was installed at Site 1. The groundwater extraction continued at Site 3 and the removal began for the three treatment ponds at Site 3. The installation also initiated feasibility studies (FSs) at Installation Restoration Program (IRP) Sites 1, 3, and 4, and investigated the pipes and tanks on the pier. The bi-annual basewide groundwater monitoring continued. The BRAC Cleanup Team (BCT) agreed to stop the

Site 3 EE/CA and action memorandum, and proceed with developing an FS, proposed plan (PP), and ROD for Site 3. The installation revised a community involvement plan. The RAB held a community site tour.

In FY04, the installation completed the Site 3 treatment ponds removal and the Site 1 FS and PP. It also began the environmental and structural closure of the 22 USTs, pipelines, and valve boxes. The installation began a groundwater beneficial use evaluation (BUE) study. Basewide groundwater monitoring and landfill methane monitoring continued. The groundwater extraction continued at Site 3. The installation initiated the Site 3 and Site 4 FSs and PPs. The BCT continued to partner and evaluate the environmental cleanup at the installation and approved the environmental master schedule for the installation.

In FY05, NFD, Pointe 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 landfill methane monitoring continued.

## FY06 IRP Progress

NFD, Point Molate continued to monitor the Site 1 landfill. 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 in regards to the remaining 52 acres on NFD, Point Molate. The installation also updated the environmental master schedule. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Technical and regulatory issues delayed the FS, PP, and CAP at Site 3. Technical and regulatory issues also delayed the completion of the Site 4 draft RATM and PP.

The RAB continued to meet and provide input to the Navy.

## FY06 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

- Complete Site 3 final FS, PP, and CAP in FY07.
- Continue Site 1 landfill monitoring in FY07.
- Complete Site 4 RATM and PP in FY07.
- Obtain environmental closure on remaining USTs and complete closure of four Navy USTs on adjacent private property in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	RI117002424300	<b>Est. CTC (Comp Year):</b>	\$ 56.8 million(FY 2032)
<b>Size:</b>	1,400 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/FY 2009
<b>Mission:</b>	Provide logistical support and serve as a training center	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	32.25; placed on NPL in November 1989		
<b>IAG Status:</b>	FFA signed in March 1992		
<b>Contaminants:</b>	PCBs, POLs, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		
<b>Funding to Date:</b>	\$ 89.7 million		



Newport, Rhode Island

### 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. A community relations plan was completed in FY90, 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 offshore area. The installation also submitted an interim ROD for Tank Farm Number 5. The cleanup progress at Naval Station Newport for FY02 through FY05 is detailed below.

In FY02, the installation completed the Phase II remedial action (RA) for Site 1 offshore area. The draft final feasibility study (FS) for Site 9 was completed. The draft proposed RA plan was submitted to regulators for Site 9. The operations and maintenance plan for the offshore area of Site 1 was initiated. Long-term management (LTM) continued for the Site 1 onshore RCRA cap. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, the Navy completed a total petroleum hydrocarbons (TPH)- and PCB-contaminated soil removal action on Gould Island. The Navy removed 207 tons of TPH-contaminated soils with concentration greater than 5,000 parts per million (ppm) and 8,632 tons of TPH-contaminated soils with concentration less than 5,000 ppm. In addition, the Navy treated and discharged 326,416 gallons of TPH-contaminated water. The Navy removed 693 tons of PCB-contaminated soil and treated and discharged 70,000 gallons of PCB-contaminated water from the excavation. The installation submitted the draft remedial investigation (RI) work plan for the field investigation

at Site 17 to regulatory agencies. The Navy began the preliminary assessment (PA) study for potential MMRP sites at the installation. The internal draft PA report was prepared. The Navy identified unexploded ordnance (UXO) 000001 Carr Point Shooting Range as an eligible MMRP site that will need further investigation, based on initial review. An additional UXO site, Sachuest Point Rifle Range, was also identified, but it was determined that this property fell under the FUDS program. The Navy held a public meeting to discuss an onshore soil removal action at Site 9.

In FY04, the installation performed a site inspection (SI) at Site 4. For Site 8, the installation prepared the draft and 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. For Site 9, 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. It also developed a draft sediment and groundwater monitoring work plan. The installation completed the SI work plan for Sites 12 and 13, and the RI work plan for Site 17. For Site 19, sediment sampling was completed and will be used to update and finalize the FS for the offshore area. For Site 20, a draft SASE was prepared. A 5-year review was completed. The installation prepared the draft, draft final, and final 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, Naval Station Newport initiated Site 12 and Site 13 SIs. The installation completed the Site 17 RI fieldwork. The installation completed the Site 20 study area screening assessment. Removal action for Site 008 was completed. Under the MMRP, the installation finalized the PA for the Carr Point Shooting Range, which recommended proceeding to the SI phase.

### FY06 IRP Progress

Naval Station Newport completed the optimization review for Site 009.

The installation submitted the draft final work plan for Site 008; however, regulatory issues delayed its final completion and the associated fieldwork. Funding issues delayed LTM at Site 001.

### FY06 MMRP Progress

Funding issues delayed the SI for UXO Site 001 Carr Point Shooting Range.

### Plan of Action

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

#### IRP

- Finalize work plan for Site 009 interim RA in FY07.
- Finalize work plan and complete fieldwork for Site 008 RI in FY07-FY08.

#### MMRP

- Complete SI fieldwork and report for UXO Site 001 Carr Point Shooting Range in FY07 and FY08, respectively.

<b>FFID:</b>	WA09799F345500	<b>Funding to Date:</b>	\$ 0.3 million
<b>Size:</b>	191 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.2 million(FY 2009)
<b>Mission:</b>	Served as shipbuilding facility and reserve shipyard	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
<b>HRS Score:</b>	Unknown	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	VOCs, PNAs, PCBs, heavy metals, including arsenic, lead, mercury		
<b>Media Affected:</b>	Groundwater, sediment, soil		



Tacoma, Washington

### Progress To Date

The Naval Station Todd-Tacoma shipyard is located on Commencement Bay between Hylebos and Blair Waterways in Tacoma, Washington. The U.S. 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 called 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 FY02 through FY05 is detailed below.

In FY02, United States Army Corps of Engineers (USACE) continued to assist the Office of Counsel and Department of Justice (DOJ) with the ongoing settlement negotiations. National Resources Damages Assessment (NRDA) Trustees proposed a method for assessing NRDA damages, and solicited and received comments on the methodology.

In FY03, a U.S. District Judge signed a consent decree that included DoD and other federal agencies. USACE continued to assist the Office of Counsel and DOJ with settlement negotiations.

In FY04, 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.

### FY06 IRP Progress

USACE continued to assist the Office of Counsel and DOJ with ongoing settlement negotiations.

### FY06 MMRP Progress

USACE has identified no MMRP work 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 assist the Office of Counsel and DOJ with settlement negotiations in FY07.

#### MMRP

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	VA317002468500	<b>Funding to Date:</b>	\$ 60.2 million
<b>Size:</b>	2,677 acres	<b>Est. CTC (Comp Year):</b>	\$ 8.1 million(FY 2014)
<b>Mission:</b>	Proof and test ordnance	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/None
<b>HRS Score:</b>	50.26; placed on NPL in October 1992	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in September 1994		
<b>Contaminants:</b>	Cleaning solvents, explosives residues, heavy metals, low-level radioactive materials, mercury, PCBs, pesticides		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Dahlgren, Virginia

## 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, operating ordnance ranges, and operating 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 identified 68 sites. Records of Decision (RODs) have been completed for 20 sites since the beginning of the environmental restoration process. The cleanup progress at Dahlgren for FY02 through FY05 is detailed below.

In FY02, the installation completed a remedial investigation and feasibility study (RI/FS), a proposed plan (PP), and a ROD for Site 6, and completed an RI for Site 55. Four Appendix B closeout sites were sampled and documents were finalized for no further action (NFA) remedial designs (RDs) for Sites 6 and 46. Long-term management work plans were finalized for Sites 9, 10, and 17. The installation completed interim remedial actions (IRAs) at Sites 13 and 50. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed two RI/FSs, two PPs, and two RODs for Sites 31 and 55. The Navy completed the 5-year review for Site 2. The installation completed the Site 46 RA and began the Site 6 RA. The installation also initiated the Site 37 RD. The Navy initiated a treatability study (TS) using the in-situ

Multiple Application Gas Nutrient System (Magnus System) to inject nutrients into the groundwater at Site 12. The additional planned RD was not required.

In FY04, the installation completed three RIs (Sites 32, 37, and 61), two FSs (Sites 32 and 37), two PPs, and two RODs for Sites 32 and 37. The Navy completed the 5-year review for Sites 9, 10, 12, and 17. The installation completed the Site 6 RA and began construction on Site 47 IRA. The Site 37 100 percent RD was submitted. The Magnus System TS continued at Site 12. The installation completed annual wetland monitoring reports 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 an annual wetland monitoring report 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 NFA 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 in order 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.

## FY06 IRP Progress

Dahlgren completed an annual wetland monitoring report for Sites 6, 9, 17, 25, 46, 50, and 58, an Appendix B closeout report for Solid Waste Management Unit 128 OWS 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 installation completed an IRA for Site 47a and the closeout documents were submitted for review; however, technical and contractual issues delayed two IRAs at Sites 4 and 15. The installation completed a draft FS for Site 14; however, technical issues delayed its completion.

The Navy held a public meeting to present the Site 37 amended PP, and a RAB meeting was conducted.

## FY06 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

- Complete an FS and a closeout document for one site in FY07.
- Complete PP and ROD for Site 20 in FY07, and Site 61a in FY08.
- Initiate and complete RA for one site in FY07 and FY08, respectively.
- Initiate IRA at one site in FY07, and complete in FY08.
- Complete IRAs and the annual wetland monitoring report for Sites 4 and 15 in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA917002452800	<b>Funding to Date:</b>	\$ 72.2 million
<b>Size:</b>	13,023 acres	<b>Est. CTC (Comp Year):</b>	\$ 78.5 million(FY 2030)
<b>Mission:</b>	Shipped, received, inspected, and classified munitions (tidal area); served as munitions storage and weapons maintenance, inspection, and testing facility (inland area)	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/FY 2015
<b>HRS Score:</b>	50.00; placed on NPL in December 1994	<b>Five-Year Review Status:</b>	Completed and underway
<b>IAG Status:</b>	FFA signed in June 2001		
<b>Contaminants:</b>	Heavy metals and petroleum hydrocarbons		
<b>Media Affected:</b>	Groundwater, surface water, sediment		



Concord, California

### Progress To Date

In 2005, the BRAC Commission recommended closure of Naval Weapons Station (NWS) Seal Beach, Detachment Concord. NWS Seal Beach, Detachment Concord, 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 habitat for threatened and endangered species. EPA placed the installation on the NPL in December 1994, primarily because of surface water and sediment contamination at tidal and litigation-area sites. In FY90, the installation formed a technical review committee, which converted to a Restoration Advisory Board (RAB) in FY95. The Navy and EPA signed a federal facility agreement (FFA) in June 2001. The RAB received a technical assistance for public participation (TAPP) award in FY03. In FY03, the installation updated the community relations plan (CRP) and finalized the 5-year review for the seven litigation-area sites.

NWS Seal Beach has identified 57 sites to date. 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 cleanup progress at NWS Seal Beach, Detachment Concord, for FY02 through FY05 is detailed below.

In FY02, the installation updated the site management plan (SMP), completed the Area of Concern (AOC) 1 (Site 31) removal action design, and initiated the removal action. The Navy completed an inventory of Military Munitions Response Program (MMRP) sites. Eight MMRP sites were initially identified at this installation.

In FY03, the installation finalized the 5-year periodic review assessment report for the seven litigation area sites and concluded that the remedy was not protective in certain areas. Three sites within the litigation area were recommended for a supplemental feasibility study (FS). A revised draft final remedial investigation (RI) report was issued for the three tidal

area sites, but comments received were not in agreement with the NFA and required additional characterization. The AOC 1 time-critical removal action (TCRA) was completed, and the final TCRA summary report issued. EPA approved the draft final annual amendment to the SMP. Additionally, eight MMRP sites were identified for preliminary assessments (PAs) at NWS Seal Beach, Detachment Concord. The CRP was updated and finalized, with significant input from the RAB and regulators. The RAB received an award under the Navy's TAPP program and began work. RAB meetings included training on various technical topics.

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 the remedial design (RD). RAB membership increased to nine and monthly meetings continued.

In FY05, the Navy completed the Site 1 landfill cap RD and initiated remedial action. The Navy completed a treatability study in the litigation areas. The Navy 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-TCRA (NTCRA) memo for Site 30. Also, the Navy initiated the MMRP PA and issued a draft report for review.

### FY06 IRP Progress

NWS Seal Beach, Detachment Concord, 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 after soil, sediment, and groundwater sampling was completed. The installation began the Site 30 NTCRA work plan. The installation also finalized the additional data gap sampling work plan for Site 11 following informal dispute resolution. The Navy began RI sampling at Site 31. The installation began resolution of a litigation area supplemental 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 began the Site 1 low permeability landfill cap construction in the Tidal Area; however, munitions findings delayed completion.

The installation and RAB members reviewed site characterization documents during regular monthly meetings, and coordinated the transition of cleanup under BRAC 2005.

### FY06 MMRP Progress

The Navy completed the draft final MMRP PA. The installation awarded the contract to begin site inspection (SI) work plan preparations.

### Plan of Action

Plan of action items for Naval Weapons Station Seal Beach, Detachment Concord are grouped below according to program category.

#### IRP

- Complete Site 30 NTCRA work plan in FY07.
- Resolve informal dispute, finalize litigation area FS, and prepare proposed plan and ROD in FY07.
- Complete Site 1 landfill cap construction and install groundwater monitoring wells in FY07.
- Complete remaining Site 11 data gap sampling and RI report for Sites 2, 9, and 11 in FY07.
- Transition Tidal Area environmental cleanup program to Army in FY08.

#### MMRP

- Complete SI work plan in FY07.

<b>FFID:</b>	NE79799F041800	<b>Est. CTC (Comp Year):</b>	\$ 406.7 million(FY 2133)
<b>Size:</b>	17,214 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2050/FY 2001
<b>Mission:</b>	Performed ordnance storage and manufacturing activities	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	31.94; placed on NPL in August 1990		
<b>IAG Status:</b>	IAG signed in September 1991		
<b>Contaminants:</b>	Explosives, VOCs, TCE, PCBs		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 89.8 million		



Mead, Nebraska

## Progress To Date

From 1942 to 1956, the 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-site 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. USACE installed groundwater treatment and containment systems. 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. USACE installed groundwater treatment and containment systems. In FY02, USACE approved a 5-year review of the munitions and explosives of concern (MEC) engineering evaluation and cost analysis (EE/CA) removal action.

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 FY02 through FY05 is detailed below.

In FY02, USACE completed the OU 2 containment construction that is currently in the operations and maintenance (O&M) phase. The District Commander signed the OU 2 explanation of significant differences (ESD) and submitted it to EPA. EPA Regional 7, the Nebraska Department of Environmental Quality, and USACE continued to address issues with monthly project managers meetings. USACE conducted a 5-year review of the MEC EE/CA removal action.

In FY03, USACE performed further investigation of trichloroethylene (TCE) groundwater contamination plume discovered south of Load Line 1. The investigation determined the extent of the contamination plume, which allowed the work plans for the pre-design analysis and remedial action (RA) to be

completed. At the request of EPA and the Department of Justice (DOJ), USACE initiated additional investigation activities to document and verify disposal of potential hazardous waste materials reported by the present landowner. In addition, both the Kansas City and Omaha Districts of the USACE worked with the City of Omaha Municipal Utilities District (MUD) and EPA regarding the selected location for their new municipal water well field. The 5-year review of the MEC EE/CA removal action was under review for approval.

In FY04, USACE developed a remedial design (RD) for additional containment and groundwater monitoring wells. USACE continued O&M of the treatment system and conducted quarterly groundwater monitoring. USACE also completed work plans for the Load Line 1 remedial action and developed an RD for a treatment facility south of Load Line 1. In a separate effort, USACE, EPA, and DOJ began negotiations with three potentially responsible parties (PRPs) for cost recovery and settlement of their environmental liability at the 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 MUD monitoring network.

## FY06 IRP Progress

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 legal and technical support to DOJ for settlement

discussions and litigation. The district approved the OU 2 ROD; it has been implemented at the site.

Regulatory issues delayed the bedrock investigation.

## FY06 MMRP Progress

The district delayed completion of the OU 3 ROD until FY09 so that it can include other MMRP sites and incorporate land use controls.

## Plan of Action

Plan of action items for Nebraska Ordnance Plant are grouped below according to program category.

### IRP

- Continue O&M of containment system, quarterly groundwater monitoring, and complete containment evaluation work plan in FY07.
- Complete installation of supplemental groundwater monitoring network on southern and eastern perimeters in FY07.
- Continue implementation of the focused extraction portion of the OU 2 ROD. Place extraction wells in center of Load Line 1 back into operation upon completion of advanced oxidation pretreatment system in FY07.
- Submit 5-year review of OU 2 remedy in FY07.
- Continue legal and technical support to DOJ in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	NC49799F483500	<b>Funding to Date:</b>	\$ 1.5 million
<b>Size:</b>	4 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.0 million(FY 2011)
<b>Mission:</b>	Served as World War II bomber command and Vietnam-era aerospace defense command	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/None
<b>HRS Score:</b>	39.39; placed on NPL in March 1989	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	VOCs and SVOCs		
<b>Media Affected:</b>	Groundwater		



Wilmington, North Carolina

## Progress To Date

New Hanover County Airport served as a World War II bomber command and Vietnam-era air defense command installation. In FY87, a preliminary assessment and a site inspection identified groundwater contamination caused by past fire training activities. These activities involved burning of jet fuel, gasoline, fuel oil, and kerosene. The property included a burn pit, a mockup of an aircraft, and a 10,000-gallon aboveground storage tank that supplied fuel to the burn areas. Other fire training stations at the property included a fire smokehouse, a railroad tanker car, and several automobiles. These fire-training activities contaminated groundwater with benzene. EPA identified DoD, New Hanover County, Cape Fear Community College, and the City of Wilmington as potentially responsible parties (PRPs) for the property and placed the property on the NPL in March 1989.

To date, the PRPs have signed a Record of Decision for property cleanup. The installation will close out the project after settlement negotiations between PRPs and Department of Justice (DOJ) are complete. The cleanup progress at New Hanover County Airport for FY02 through FY05 is detailed below.

In FY02, the 90 percent and final air sparging (AS) remedial design (RD) documents were both approved. U.S. Army Corps of Engineers (USACE) conducted a public comment meeting.

In FY03, a contractor installed the AS system on behalf of the PRP group.

In FY04 and FY05, the Army reported no progress because regulatory issues caused delays.

## FY06 IRP Progress

The DOD and DOJ completed the final settlement with the PRPs. FUDS liability has been resolved and there are no known future FUDS physical restoration activities required. This is the last installation narrative for this property.

Regulatory issues delayed project closeout.

## FY06 MMRP Progress

USACE has identified no Military Munitions Response Program (MMRP) sites at this property.

## Plan of Action

Plan of action items for New Hanover County Airport are grouped below according to program category.

### IRP

- Complete project closeout in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CT117002202000	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	547 acres	<b>Funding to Date:</b>	\$ 60.0 million
<b>Mission:</b>	Maintain and repair submarines; conduct submarine training and submarine medical research; provide a home port for submarines	<b>Est. CTC (Comp Year):</b>	\$ 23.3 million(FY 2042)
<b>HRS Score:</b>	36.53; placed on NPL in August 1990	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/None
<b>IAG Status:</b>	FFA signed in January 1995	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Dredge spoils, incinerator ash, POLs, PCBs, spent acids, pesticides, solvents, construction debris, metals, VOCs		



Groton, Connecticut

## Progress To Date

New London Naval Submarine Base maintains and repairs submarines. Significant sites at the installation include the Area A landfill (Site 2), a number of smaller disposal areas, and fuel and chemical storage areas. The Navy placed the installation on the NPL in August 1990 because of polychlorinated biphenyl (PCB) contamination at Site 2. In 2005, the BRAC Commission recommended New London Naval 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 signed a federal facility agreement (FFA) in January 1995. In FY01, the installation completed a 5-year review.

Twenty-nine sites have been identified at this installation, including 22 CERCLA sites, along with underground storage tanks (USTs) which were grouped into 2 UST sites. The installation has completed Record of Decision (ROD) documents for Sites 2, 3, 6, 8, 20, and the basewide groundwater operable unit (OU). In addition, the installation has signed No Further Action (NFA) RODs for Sites 4 and 15. The installation completed the proposed remedial action plan (PRAP) and ROD for the basewide groundwater OU. The cleanup progress at New London Naval Submarine Base for FY02 through FY05 is detailed below.

In FY02, the installation continued groundwater monitoring at Sites 2, 6, and 8. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the Navy performed additional fieldwork in the adjacent Thames River. The data was included in the feasibility study (FS) for the lower base sites. The installation completed the FS for the basewide groundwater OU.

In FY04, the installation completed the PRAP and ROD for the basewide groundwater OU.

In FY05, New London Naval Submarine Base completed remedial design for the basewide groundwater OU and for the Site 7 Soil OU.

## FY06 IRP Progress

New London Naval Submarine completed remedial action (RA) for basewide groundwater OU and the RA at Site 7 Soil OU. The installation completed a draft 5-year review. Additionally, the Navy drafted an NFA PRAP for the Defense Reutilization and Marketing Office (DRMO) Site 6. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the Thames River study and FS for the lower base sites.

## FY06 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

- Finalize 5-year review and ROD for the DRMO Site 6 in FY07-FY08.
- Complete Thames River study and award FS for lower base sites in FY07-FY08.
- Complete PRAP and ROD for lower base sites in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	OH557002465000	<b>Funding to Date:</b>	\$ 5.8 million
<b>Size:</b>	70 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.7 million(FY 2011)
<b>Mission:</b>	Provided depot-level maintenance for Air Force and DoD missile, navigation, and guidance systems.	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2002/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	VOCs, SVOCs, BCEE, TCE		
<b>Media Affected:</b>	Groundwater and soil		



Heath, Ohio

## Progress To Date

Since 1962, Newark Air Force Base (AFB) has provided depot-level maintenance for missile, guidance, and navigational systems used by most aircraft and missiles. In 1993, the BRAC Commission recommended that Newark be closed. 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 installation completed the first 5-year review in FY05.

Through investigations, the installation has identified 14 sites. The installation prepared no further action decision documents (DDs) for five sites. Upon closure, 56 of the 70 acres comprising Newark AFB were transferred to the Heath-Newark-Licking County Port Authority, and the maintenance and repair are being conducted by contractors through a privatization contract. In FY03, a 13-acre parcel on the northern side of the former Newark AFB was transferred to Licking County Regional Airport. The cleanup process at Newark AFB from FY02 through FY05 is detailed below.

In FY02, a focused supplementary remedial investigation concluded that bis-dichloroethylether (BCEE) in groundwater was due to an up-gradient, off-site source. A feasibility study recommended institutional controls as the remedial action for BCEE. A DD was signed and the last remedy in place (LRIP) for Site LF 002 was achieved. Three of the eight required cycles of quarterly monitoring to assess the success of the vegetable oil injection at the three-quarter acre Site FF 87 were completed. The 5-year review was rescheduled based on the 1999 achievement of LRIP for the 56-acre parcel.

In FY03, the Air Force transferred Site LF 002, totaling 13 acres, to the Licking County Regional Airport Authority. An amended post closure plan (APCP) for Site FF 87 and the hazardous waste storage area was submitted for regulatory review.

In FY04, the APCP for Site FF 87 was completed. Contaminant concentrations dramatically decreased at monitoring well (MW)

87 1A. The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY05, the installation completed the first 5-year review. The enhanced bioremediation at Site FF 87 continues 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 installation presented proposed amendments to the post closure plan for the detection monitoring and bioremediation effectiveness monitoring program. The RAB formally adjourned in accordance with DoD policy because all environmental cleanup sites are closed with the exception of FF 87.

## FY06 IRP Progress

Newark AFB continued remedial action-operation (RA-O) groundwater monitoring activities at Site FF 87. A proposal was submitted to amend the APCP for FF 87. The installation submitted a demonstration of a remedial system operating properly and successfully (OP&S) to EPA Region 5. The obsolete groundwater monitoring wells at previously transferred parcels were closed.

Regulatory issues delayed EPA concurrence on the OP&S demonstration at Site FF 87.

The BCT met twice and signed a consensus statement for no further groundwater monitoring at Site LF 002.

## FY06 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

- Complete OP&S documents and obtain OP&S approval letter for Site FF 87 in FY07.
- Plan and coordinate site closure acceleration activities at Site FF 87 in FY07-FY08.
- Continue RA-O groundwater monitoring at Site FF 87 in FY07-FY08.
- Revise the APCP to focus Site FF 87 groundwater monitoring at key monitoring locations in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	IN521382227200	<b>Funding to Date:</b>	\$ 19.6 million
<b>Size:</b>	6,996 acres	<b>Est. CTC (Comp Year):</b>	\$ 5.6 million(FY 2017)
<b>Mission:</b>	Store and eliminate VX stockpile and related materials, while protecting the workforce, public, and environment	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/FY 2017
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Explosives, heavy metals, VOCs, SVOCs, breakdown products		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Newport, Indiana

## 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).

Environmental studies identified 17 sites. Eleven of these sites have achieved response complete. The cleanup progress at Newport CD for FY02 through FY05 is detailed below.

In FY02, the installation composted approximately 7,000 cubic yards of TNT- and DNT-contaminated soils at Site 024. The installation also treated water that accumulated in excavations with an activated carbon treatment unit. The Army conducted a preliminary assessment of the installation's one Military Munitions Response Program (MMRP) site at Site 022.

In FY03, the installation composted and backfilled approximately 6,700 cubic yards of RDX-contaminated soils in excavations at Site 001.

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 2-foot-thick soil cap and 6-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.

## FY06 IRP Progress

The installation conducted LTM for groundwater at Sites 001, 022, 024, and 025. The installation also conducted cap inspection at Sites 022 and 025.

Newport CD hosted a RAB meeting.

## FY06 MMRP Progress

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.

## Plan of Action

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

### IRP

- Continue LTM for groundwater at Sites 001, 022, 024, and 025 in FY07.
- Abandon 64 unused groundwater monitoring wells in FY07.
- Install groundwater monitoring wells at Site 014 in FY07.
- Conduct soil sampling at Site 016 in FY07.
- Complete the ECP report in FY07.

### MMRP

- Complete HRR in FY07.

<b>FFID:</b>	VA317002741400	<b>Funding to Date:</b>	\$ 93.1 million
<b>Size:</b>	4,631 acres	<b>Est. CTC (Comp Year):</b>	\$ 23.5 million(FY 2020)
<b>Mission:</b>	Provide services and materials to support the aviation activities and operating forces of the Navy	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/None
<b>HRS Score:</b>	50.00; placed on NPL in April 1997	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in February 1999		
<b>Contaminants:</b>	Petroleum products, PCBs, solvents, heavy metals, acids, paints, asbestos, pesticides		
<b>Media Affected:</b>	Surface water and sediment		



Norfolk, Virginia

**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. In 2005, the BRAC Commission recommended Norfolk Naval Base for realignment. 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. The installation signed a federal facility agreement (FFA) in February 1999. In FY03, the installation completed 5-year reviews for Sites 1, 2, 3, 6, and 20.

Sixty-two sites and 173 solid waste management units (SWMUs) have been identified at this installation. The installation has signed Records of Decision (RODs) for SWMUs 12 and 16, and Sites 2, 6, and 22. The cleanup progress at Norfolk Naval Base for FY02 through FY05 is detailed below.

In FY02, the installation signed closeout reports for Sites 10 and 16 and prepared an engineering evaluation and cost analysis (EE/CA) for Site 22. It also completed a removal action consisting of a one-foot soil cover for Site 22 and revised the draft proposed remedial action plan (PRAP) and ROD to address the removal action. As part of an optimization effort, the installation developed a shutdown strategy for the air sparge/soil vapor extraction system at Site 3 Area of Concern (AOC) 1. A nonsignificant difference document was prepared to address the need to treat additional shallow water in the pump-and-treat system at Site 1. The installation initiated the remedial investigation (RI) and feasibility study at SWMU 14 and completed a draft 5-year review. The installation also completed the site inspection (SI) and closeout reports for Site 10. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed a final 5-year review document. Watershed contaminant source documentation was prepared for SWMU 14 in a draft final format. The closeout report was signed for SWMU 6. A consensus was also reached for closure of SWMU 4. The installation prepared an EE/CA to address contamination in a pond area adjacent to Site 22. This removal action consists of a one-foot cover over contaminated sediment. Consensus was reached on the shutdown strategy for Site 3 AOC 1 and the strategy was implemented. The installation prepared a document to record the potential sources of contamination in the watershed of Willoughby Bay. Site 23 was added as a new CERCLA site.

In FY04, the installation completed the one-foot sediment cover removal action at the pond adjacent to Site 22. The installation also finalized the watershed contaminated source document for Willoughby Bay. Additionally, the RIs for SWMUs 12 and 16 were finalized and consensus was reached for no further action (NFA) at these sites. The installation finalized the PRAP and ROD for soil and sediment at Site 22 and initiated the RI at Site 23. The installation initiated a final expanded 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.

**FY06 IRP Progress**

Norfolk Naval Base implemented the shutdown strategy at Site 3 AOC 2.

The installation prepared a draft EE/CA for the concrete cover at Site 23; however, technical issues delayed its completion. Technical issues also delayed RDs for Sites 1, 3, 6, and 20.

**FY06 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 SI for Site 18 in FY07.
- Complete Interim Remedial Action Completion Report for Site 22 in FY07.
- Complete EE/CA at Site 23 in FY07-FY08.
- Complete RDs at Sites 1, 3, 6, and 20 in FY07-FY08.
- Complete EE/CA for an asphalt cover at SWMU 14 in FY08.

**MMRP**

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	VA317002481300	<b>Contaminants:</b>	Heavy metals, PCBs, VOCs, SVOCs, POLs, land solvents
<b>Size:</b>	795 acres	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Mission:</b>	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	<b>Funding to Date:</b>	\$ 25.1 million
<b>HRS Score:</b>	50.0; placed on NPL in July 1999	<b>Est. CTC (Comp Year):</b>	\$ 9.1 million(FY 2014)
<b>IAG Status:</b>	FFA signed in September 2004	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/None
		<b>Five-Year Review Status:</b>	5-year review not required for this installation



Portsmouth, Virginia

## 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. The sites 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. In 2005, the BRAC Commission recommended Norfolk NSY for realignment. 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. The Navy completed a federal facility agreement (FFA) in September 2004.

An initial assessment study identified 19 sites at Norfolk NSY. A RCRA facility investigation (RFI) performed at the installation identified 31 solid waste management units (SWMUs). An RFI supplement 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, the Norfolk NSY reduced the number of identified sites in the FFA to 163. The installation completed two Records of Decision (RODs) for Site 17 and OU 1. The cleanup progress at Norfolk NSY for FY02 through FY05 is detailed below.

In FY02, Norfolk NSY led the development of a joint approach response action (JARA) to address cross-boundary contamination from Norfolk NSY Site 9 onto an adjoining private NPL site. The Department of Justice established the JARA allocation costs. The feasibility study (FS) for Site 17 was completed. The installation completed the St. Helena Annex expanded site inspection, which allowed the property to be excessed. The installation completed remedial investigations (RI) for Operable Units (OUs) 1 and 2. The Navy completed an

inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation drafted an FFA, which identified a total of 163 sites (7 sites which will require a ROD, 5 site screening areas, 5 preliminary screening areas, and 146 no further action sites). The installation completed the JARA to address cross-boundary contamination from Norfolk NSY Site 9. Approximately 44,000 tons of calcium hydroxide and other debris were removed and the site was restored to create 1.5 acres of engineered tidal wetlands.

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 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 for OU 1. The Navy initiated the Phase I NTCRA for OU 2.

## FY06 IRP Progress

Norfolk NSY completed the RODs for Site 17 and OU 1. The remedial action in the Site 17 ROD is to restrict residential development via land use controls. The installation completed the RI/FS for Site 10.

Technical issues delayed completion of the Phase I NTCRA at OU 2.

## FY06 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

- Complete the Phase I NCTRA at OU 2 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA957002434500	<b>Funding to Date:</b>	\$ 119.6 million
<b>Size:</b>	2,221 acres	<b>Est. CTC (Comp Year):</b>	\$ 11.7 million(FY 2024)
<b>Mission:</b>	Supported C-141 airlift operations	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/FY 2007
<b>HRS Score:</b>	39.65; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in 1989		
<b>Contaminants:</b>	Waste oils and fuel, spent solvents, paints, refrigerants, heavy metals, TCE, VOCs		
<b>Media Affected:</b>	Groundwater and soil		



San Bernardino, California

## 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 the first 5-year review in FY00 and the second 5-year review in FY05.

Prior to FY01, a Record of Decision (ROD) was signed for the Central Base Area (CBA) Operable Unit (OU) and a closure report for Site 5 (AT 005) was completed. The installation completed a basewide ROD in FY05. The cleanup progress at Norton AFB for FY02 through FY05 is detailed below.

In FY02, the CBA OU remedial action (RA) systems completed active operations and were shut down. Long-term management of groundwater and operations and maintenance of the Site 2 (LF 002) landfill RA continued. RA planning for Site 10 (LF 010) was initiated, as well as a biological opinion project description detailing endangered and threatened species at the site. A removal action work plan was submitted for Building 752 (Sites RW 029 and RW 030).

In FY03, the installation closed the Air Combat Camera Services and initiated closure of the industrial waste line (IWL). The final basewide feasibility study was approved by regulatory agencies and the interior RA for Building 752 was completed.

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 IWL and industrial wastewater treatment plant (IWTP). The IWL post-closure care plan and permit were submitted for regulatory approval. Finally, RA construction was completed at Site 10 and the Building 752 exterior. The Air Force conducted an

inventory of Military Munitions Response Program (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 were decommissioned, and over 50 groundwater monitoring wells were taken out of service and decommissioned. The installation began preparing the RA completion report for the groundwater pump-and-treat systems. The installation also attained the last remedy in place 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.

## FY06 IRP Progress

Norton AFB completed the RA completion report for the groundwater pump-and-treat systems. The installation initiated the NPL delisting process and EPA completed the Preliminary Closeout Report for the installation. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Technical and regulatory issues delayed concurrence on the remaining two RCRA sites, which also delayed the transfer of all remaining property to the local redevelopment agency.

The BCT continued to meet every two months.

## FY06 MMRP Progress

The installation completed the MMRP requirement evaluations. All MMRP sites were either administratively closed or determined to require no further action.

## Plan of Action

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

### IRP

- Complete basewide transfer in FY07.
- Receive state regulatory concurrence on the remaining two RCRA sites in FY07.
- Receive RCRA Post Closure Permit for the IWL in FY07.

### MMRP

- Document closure of five MMRP sites in FY07-FY08.

<b>FFID:</b>	CA921352066100	<b>Funding to Date:</b>	\$ 41.0 million
<b>Size:</b>	425 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.2 million(FY 2010)
<b>Mission:</b>	Served as host to Military Traffic Management Command, Western Area	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	POLs, TCE, solvents, lead, PCBs		
<b>Media Affected:</b>	Groundwater and soil		



Oakland, California

## 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 (RAB). In FY98, the installation completed an initial BRAC cleanup plan and an Environmental Baseline Survey for each of the base's 26 parcels.

Environmental studies identified 26 BRAC parcels at the installation. 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. The cleanup progress at Oakland Army Base for FY02 through FY05 is detailed below.

In FY02, under negotiations for a finding of suitability for early transfer (FOSET), the state regulatory agency agreed on land use controls to be included in the transfer documents. In addition, EPA granted a land disposal restriction variance, which greatly facilitated the agreement by the state regulatory agency to accept the viability of the financial agreement between the Army and the local reuse authority (LRA). The Army postponed groundwater treatment of the MTBE and benzene plume, which the LRA assumed upon transfer. The Army transferred 18 acres to the Federal Highway Administration. The Army awarded a remedial investigation/feasibility study (RI/FS) contract for the remaining 20-acre Parcel 1. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The inventory identified no Military Munitions Response Program (MMRP) sites at this installation. The RAB reviewed the investigation reports for the Building 1 waste oil site, the OU 4 investigation, and the Phase II investigation as

well as the LRA's remedial action (RA) plan and risk management plan.

In FY03, the Army provided supplementary groundwater monitoring, thus completing FOSET negotiations. Funding was programmed for the Parcel 1 investigation and cleanup. The Army also initiated off-site OU 2 groundwater monitoring. In support of the FOSET, the state regulatory agency issued a ROD approving the LRA RA and risk management plans. The installation transferred 366 acres to the LRA. The RAB initiated the process to formally adjourn.

In FY04, the Army transferred groundwater monitoring responsibility to the LRA for their closure actions. The Army continued to oversee LRA cleanup actions under the terms of the environmental services cooperative agreement (ESCA).

In FY05, the Army completed the Parcel 1 RI and draft FS, and began remedial design (RD)/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.

## FY06 IRP Progress

The Army completed the FS and awarded a contract for RD/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 it of RA responsibility at OU 2. The Army continued oversight of LRA RAs. The cost of completing environmental restoration has changed significantly due to technical issues.

## FY06 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

- Complete the DD for Parcel 1 RAs in FY07.
- Review Parcel 1 FS in FY07.
- Continue oversight of LRA RAs in FY07.
- Implement RAs at Parcel 1 in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	WA09799F832600	<b>Media Affected:</b>	Surface water, sediment, soil
<b>Size:</b>	350 acres	<b>Funding to Date:</b>	\$ 12.1 million
<b>Mission:</b>	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 anti-aircraft artillery battery	<b>Est. CTC (Comp Year):</b>	\$ 0.2 million(FY 2004)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2004/None
<b>IAG Status:</b>	IAG signed in July 1997	<b>Five-Year Review Status:</b>	Planned
<b>Contaminants:</b>	PCBs, heavy metals, petroleum hydrocarbons, dioxins, furans, asbestos		



Kitsap County, Washington

## 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 and furans, and asbestos. The Manchester Annex work group 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 and thus 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, which determined that the remedy continued to be protective.

To date, the Army and regulators have signed one Record of Decision (ROD). The cleanup progress at the Old Navy Dump/Manchester Annex for FY02 through FY05 is detailed below.

In FY02, USACE completed the Phase II remedial action construction. USACE also initiated long-term management (LTM) of the landfill cover.

In FY03, USACE completed the institutional control plan. USACE continued LTM for inspection and maintenance of the landfill cover.

In FY04, USACE continued 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. USACE has identified no Military Munitions Response Program (MMRP) work at this property.

In FY05, USACE conducted the required actions from the 5-year review. The remedy has been functioning as intended. USACE initiated the 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. Contamination did not appear to be reducing the bivalve population.

## FY06 IRP Progress

USACE continued to conduct the compliance monitoring as required in the ROD. The installation 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. 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.

## FY06 MMRP Progress

USACE has identified no MMRP sites at this property.

## Plan of Action

Plan of action items for Old Navy Dump/Manchester Annex are grouped below according to program category.

### IRP

- Continue compliance monitoring in FY07.
- Continue LTM and maintenance of the Landfill Cap in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

# Ordnance Works Disposal Areas

## Formerly Morgantown Ordnance Works

NPL

<b>FFID:</b>	WV39799F346200	<b>Est. CTC (Comp Year):</b>	\$ 0.0 million(FY 2006)
<b>Size:</b>	825 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/None
<b>Mission:</b>	Manufactured chemicals for ordnance	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>HRS Score:</b>	35.62; placed on NPL in June 1986		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	PCBs, PAHs, inorganic compounds, arsenic, mercury		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 1.6 million		



Morgantown, West Virginia

### Progress To Date

On the basis of environmental studies, EPA grouped sites at the Ordnance Works Disposal Areas in Morgantown, West Virginia, into two operable units (OUs). OU 1 consists of an old landfill, a shallow disposal area with topsoil removed, and two lagoons from which sludge was excavated. OU 2 consists of all other projects, particularly those located in processing areas. EPA placed the property on the NPL in June 1986. The remedial investigation and feasibility study (FS) for OU 1 was completed in early FY88. In FY90, EPA issued consent orders for both OUs. In the same year, the potentially responsible party (PRP) group signed a participation agreement for OU 2. In FY94, a pilot-test work plan was approved for the cleanup of soil contamination at OU 1, and remedial work began. In FY95, the PRPs completed a time-critical removal action at five areas in OU 2. In FY96, the U.S. Army Corps of Engineers (USACE) reached an agreement on allocating the cost of remediation at OU 1. During FY97, the PRP group, which includes USACE, completed the removal actions at OU 2 and received EPA concurrence on completion. In August 1998, after state concurrence, EPA approved the remedy proposed for OU 1 in the focused FS.

The Record of Decision (ROD) for OU 1, signed in FY89, required excavation of soil contaminated with polyaromatic hydrocarbon (PAHs) compounds and treatment in a bioremediation bed. EPA issued a new ROD for OU 1 in FY99, superseding the ROD signed in 1989. The cleanup progress for Ordnance Works Disposal Area for FY02 through FY05 is detailed below.

In FY02, field efforts included the off-site treatment of the tar and construction of the treatment wetlands. Materials that were below the chlorinated PAHs limits were consolidated in the on-site landfill. The PRP group initiated work on the final cap, swales and treatment wetland. The discovery of small amounts of oil during the excavation of the tar materials delayed completion of the consent decree.

In FY03, the PRP group completed the final landfill cap and constructed the engineered wetlands for leachate treatment. Recycling for tar disposal and the passive treatment wetlands provided a cost savings. The PRP group completed investigation of the oil discovery following EPA approval of the

work plan. DuPont filed an appeal with the Court of Appeals for the Federal Circuit in July 2003. In September 2003, as a result of "Cadillac Fairview," EPA suggested redrafting the proposed consent decree using the cost recovery model instead of the remedial design/remedial action model.

In FY04, issues with a separate WWII contract indemnification lawsuit delayed the completion of the final consent decree. In April 2004, the Court of Appeals for the Federal Circuit reversed the earlier favorable decision regarding indemnification (E.I. DuPont De Nemours and Company v. United States, 365 F.3d 1367). The Federal Circuit denied the Army's Request for Rehearing and Rehearing En Banc in August 2004. The continued negotiation of a consent decree, expected to resolve DuPont's CERCLA lawsuit against the government as well as all other liability issues for the facility, was held in abeyance as Department of Justice (DOJ) and Army Materiel Command decided whether to seek a writ of certiorari to the U.S. Supreme Court. The Solicitor General of the United States declined to pursue a writ of certiorari to the Supreme Court. USACE has identified no Military Munitions Response Program (MMRP) work at this property.

In FY05, DOJ published a consent decree in the Federal Register for the former Morgantown Ordnance Works, after it was filed with the Court in West Virginia.

### FY06 IRP Progress

USACE entered a signed consent decree, completing USACE/DoD restoration and PRP actions. This is the last installation narrative for this property.

### FY06 MMRP Progress

USACE has identified no MMRP sites at this property.

### Plan of Action

Plan of action items for Ordnance Works Disposal Areas are grouped below according to program category.

#### IRP

- Provide monitoring as required in Administrative Order for Remedial Design and Remedial Action: Operable Unit 1 in FY07.

#### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	FL417002473600
<b>Size:</b>	2,050 acres
<b>Mission:</b>	Serve as naval training center; formerly used as Army Air Force and Air Force bases
<b>HRS Score:</b>	N/A
<b>IAG Status:</b>	None
<b>Contaminants:</b>	Asbestos, paints, POLs, photographic chemicals, solvents, low-level radioactive wastes
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil

<b>Funding to Date:</b>	\$ 36.0 million
<b>Est. CTC (Comp Year):</b>	\$ 7.6 million(FY 2011)
<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2003/None
<b>Five-Year Review Status:</b>	Planned



Orlando, Florida

## 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 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). The installation closed on April 30, 1999. In FY01, the installation conducted a 5-year review.

The installation has identified 55 areas of concern (AOCs) 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. The cleanup progress at Orlando NTC for FY02 through FY05 is detailed below.

In FY02, the installation completed the project plan for Operable Unit (OU) 2. Although completed, the Department of Veterans Affairs declined the transfer of 45.8 acres due to environmental issues. Also, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, operating properly and successfully was granted at Study Area (SA) 36 and is still pending at the remaining AOCs. The installation issued decision documents (DDs) for SA 18 and SA 54. Treatability studies at OU 3 and Building 7125 were completed. Orlando NTC completed the original interim remedial action (IRA) at OU 2. IRAs continued at OU 3 and OU 4. The installation transferred SA 36 and SA 39 (3.42 acres) to the City of Orlando via covenant deferral.

In FY04, the installation continued long-term management (LTM) at SAs 17, 36, 39, 52, and OU 1, and operation and management (O&M)/LTM at OUs 2, 3, and 4. It 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 IRA for SA 55 and continued the IRAs at OU 3, SA 17, and SA 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 DDs for SAs 36, 39, 52, and 55.

In FY05, the installation continued O&M/LTM at OUs 1, 2, 3, 4, SAs 17, 36, 39, and 52. The installation continued IRAs at OUs 2, 3, 4, SAs 2, 36, and 39. The Navy identified a new site at the main base (SA 36 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.

## FY06 IRP Progress

Orlando NTC monitored and evaluated off-site contamination at OUs 2, 3, 4, SAs 17, and 36 NW. The Navy continued to monitor IRAs O&M/LTM at OUs 1, 2, 3, 4, SAs 17, 36, 36 NW, and 52.

Orlando NTC continued transfer of the majority of remaining property via covenant deferral and public actions; however, technical issues delayed completion of the property transfer.

## FY06 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 to monitor IRAs O&M/LTM at OUs 1, 2, 3, 4, SAs 17, 36, 36 NW, and 52 in FY07.
- Monitor and evaluate off-site contamination at OUs 2, 3, and 4, and SAs 17 and 36 NW in FY07.
- Complete transfer of remaining property in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

**FFID:** TX69799F676300, TX69799F655100  
**Size:** 16,000 acres  
**Mission:** Produced and stored military weapons  
**HRS Score:** 51.22; placed on NPL in May 1994  
**IAG Status:** Under negotiation  
**Contaminants:** VOCs, SVOCs, heavy metals, UXO, explosives  
**Media Affected:** Groundwater, surface water, sediment, soil  
**Funding to Date:** \$ 11.6 million

**Est. CTC (Comp Year):** \$ 4.0 million (FY 2003)  
**IRP/MMRP Sites Final RIP/RC:** FY 2002/FY 2003  
**Five-Year Review Status:** 5-year review not required for this installation



Pantex Village, Texas

### Progress To Date

The former Pantex Ordnance Plant began operations in 1942 as an Army Ordnance Corps facility. 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 in FY03.

A preliminary assessment and site inspection (SI) in FY90 identified nine areas of emphasis for investigation. The cleanup progress for Pantex Plant for FY02 through FY05 is detailed below.

In FY02, USACE completed a work plan for DoD-related investigations that Texas Natural Resource Conservation Commission (TNRCC) approved. TTU, the landowner, and potentially responsible parties (PRP) submitted a separate work plan for investigations. Preparations for field investigation at the former Bomb Loading Line area (Zone 9) began. PRP discussions with TTU continued.

In FY03, USACE completed environmental investigations at Zone 9 and other areas of concern (AOCs), including Zone 1, the Burning Grounds, Carbon Black Pits, Landfill, and Lake Mounds areas. In addition, USACE presented investigation results for Zone 9 to TNRCC. DoD continued PRP discussions with landowners. USACE established an electronic administrative record for the TTU FUDS. USACE determined the extent of explosives contamination in soil at Zone 9.

In FY04, USACE completed environmental investigations to determine the extent of contamination for all AOCs, including Zone 2, and continued investigations for sites that may have required additional data. Additionally, USACE presented investigation results for Zone 1, Zone 9, the Burning Grounds, Carbon Black Pits, Landfill, Rock Pile, and Lake Mounds AOCs

to the Texas Commission on Environmental Quality (TCEQ) (formerly the TNRCC), DOE, and TTU. PRP discussions with TTU and DOE continued. The district prepared for a remedial investigation (RI) report and feasibility study (FS) for cleanup of all DoD responsible AOCs. No Military Munitions Response Program (MMRP) work was performed at this property.

In FY05, USACE submitted a final 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 public involvement plan (PIP).

### FY06 IRP Progress

USACE conducted additional sampling and prepared an addendum to the RI to fill data gaps. The PIP for former Pantex Ordnance Plant was completed. USACE developed and placed an administrative record in the Amarillo College and Carson County Public Libraries. The Tulsa District, USACE, transmitted the Installation Response Program (IRP) RI report to the state regulators.

USACE developed an RI fact sheet, in preparation for public distribution. TCEQ sent a letter to all PRPs and committed to scheduling a meeting to establish responsibilities.

### FY06 MMRP Progress

USACE revised the 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.

Administrative priorities delayed the MMRP fact sheet development.

### Plan of Action

Plan of action items for Pantex Plant are grouped below according to program category.

#### IRP

- Review and finalize the draft RI addendum report in FY07.
- Prepare and present a remedial action (RA) proposed plan at public meeting in FY07.
- Monitor groundwater in Zone 9 in FY07.
- Complete contaminated soil removal in three areas upon receipt of regulatory approval and public comments in FY07.

#### MMRP

- Review and revise draft RI report in FY07.
- Submit a draft final RI to TCEQ and DOE review in FY07.
- Receive comments and revise the RI in FY07-FY08.
- Evaluate remedial options for completion of the FS in FY08.
- Initiate RA or additional studies in FY08.

<b>FFID:</b>	SC417302276300	<b>Funding to Date:</b>	\$ 18.4 million
<b>Size:</b>	8,043 acres	<b>Est. CTC (Comp Year):</b>	\$ 17.7 million(FY 2015)
<b>Mission:</b>	Receive, recruit, and combat-train enlisted personnel upon their enlistment in the Marine Corps	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2015
<b>HRS Score:</b>	50.00; placed on NPL in December 1994	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in 2005		
<b>Contaminants:</b>	Industrial wastes, pesticides, paints, POLs, solvents, metals, acids, electrolytes, ordnance compounds		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Parris Island, South Carolina

## Progress To Date

The Parris Island Marine Corps Recruit Depot receives, recruits, and combat-trains enlisted 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. 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 signed a federal facility agreement (FFA) and completed a 5-year review in FY05.

Investigations have identified 48 potential CERCLA and RCRA sites and the installation has identified 33 sites. The installation has signed an interim Record of Decision (ROD) for Sites 1 corrective action plan (CAP), 2, 3, and 12. The cleanup progress at Parris Island Marine Corps Recruit Depot for FY02 through FY05 is detailed below.

In FY02, the installation completed a remedial investigation (RI) and submitted the report to the South Carolina Department of Health and Environmental Control and EPA. The Environmental Security Technology Certification Program requested Site 45 be used to test the effectiveness of Chemox in cleaning volatile organic compounds (VOCs) in the groundwater; baseline testing was completed. The construction of the Site 1 CAP proceeded as scheduled. This installation submitted a groundwater monitoring report, which was approved, and initiated a contamination assessment at a fiber optics vault where petroleum was discovered during installation. Regulators approved the monitoring plan for Building 4022. The installation began planning for a technical review committee. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

In FY03, the installation transferred the contamination assessment at the fiber optic vault from the underground storage tank program to the Installation Restoration Program (IRP) due to the evidence of chlorobenzene in the groundwater. The installation injected Chemox at Solid Waste Management Unit (SWMU) 45 and continued groundwater sampling. The

initial assessment for implementing the CAP at the gas station was completed; however, additional assessment was required and monitoring continued. The installation continued monitoring Building 4022 and the aviation gasoline (AVGAS) pipeline. The Site 1 work plan was approved and construction began.

In FY04, the installation developed an RI addendum work plan to sample the groundwater plume and define the path forward for SWMU 45. It also completed the RCRA facility assessment at fiber optic vault Site 55. The installation issued a draft proposed plan (PP) for SWMU 12. It also completed the landfill Site 1 CAP, and developed a draft long-term monitoring work plan. The installation completed the CAP at the Depot gas station, monitored the AVGAS pipeline and Building 850, and completed negotiations on the FFA.

In FY05, Parris Island Marine Corps Recruit Depot issued a PP and draft ROD for Site 12. It awarded a fixed-price environmental multi-award contract for Site 12 and issued a draft remedial action work plan. The installation completed a long-term monitoring 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 installation also continued work 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.

## FY06 IRP Progress

Parris Island Marine Corps Recruit Depot 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, Depot gas station, and AVGAS pipeline.

## FY06 MMRP Progress

The Navy conducted no MMRP actions at this installation.

## Plan of Action

Plan of action items for Parris Island Marine Corps Recruit Depot are grouped below according to program category.

### IRP

- Complete TS and FS at Site 45 in FY07-FY08.
- Continue monitoring at Sites 1 and 3, Depot gas station, and AVGAS pipeline in FY07-FY08.
- Develop RI work plan and conduct sampling at Site 27 in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	MD317002453600	<b>Est. CTC (Comp Year):</b>	\$ 33.2 million(FY 2014)
<b>Size:</b>	6,800 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/None
<b>Mission:</b>	Test and evaluate naval aircraft systems	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	36.87; placed on NPL in May 1994		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Heavy metals, pesticides, organics, POLs, solvents, UXO		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		
<b>Funding to Date:</b>	\$ 52.4 million		



Lexington Park, Maryland

## Progress To Date

Patuxent River Naval Air Station (NAS) tests and evaluates naval aircraft systems. Three sites were 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, Patuxent River NAS has identified 62 sites. The installation completed Record of Decision (ROD) documents for Sites 1, 11, and 12. In addition, a ROD amendment was completed for Site 17. The installation closed Site 6A (6 Operable Unit [OU] 1) in FY04. The cleanup progress at Patuxent River NAS for FY02 through FY05 is detailed below.

In FY02, the installation completed investigations for Sites 13, 36, 38, and 53; subsequent no further action (NFA) decision documents were completed. The Navy initiated two watershed ecological studies. The installation completed accelerated investigations for Site 27, a National Guard facility on the NAS. Patuxent River NAS conducted 5-year reviews on a site-specific basis, as only three sites required such reviews (Sites 1/12, 11, and 17). The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, Site 37 reached closeout with NFA required. In addition, the installation completed investigations for Sites 48, 49, 50, and 52. The installation initiated the remedial investigation and feasibility study (RI/FS) efforts at Sites 4, 5, 6 (OU 2), 11 (OU 2), 17 (OU 2), and 46, exceeding the goal of four sites. It also initiated preliminary assessment and site inspection efforts at five sites, exceeding the goal of two sites. One ROD was completed. Interim remedial action (IRA) work at Sites 4 and 5 proceeded on schedule.

In FY04, the installation closed Site 6A (6 OU 1) and Site 46 via completion of the RI/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 proposed remedial action plan (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.

## FY06 IRP Progress

Patuxent River NAS completed the RI/FS and PRAP/ROD for Site 17 OU 2. The installation achieved NFA at five sites.

Funding delays impacted the starting dates of the Site 1/12 OU 2 remedial design (RD)/RA and Site 31 IRA. Additionally, funding issues delayed the RD/RA of Site 17 OU 2.

## FY06 MMRP Progress

The Navy has identified no MMRP sites at this installation.

## Plan of Action

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

### IRP

- Complete Site 17 OU 2 RD/RA in FY07.
- Complete Site 1/12 OU 2 RD/RA and Site 31 IRA in FY07.
- Initiate RD/RA at Site 4 in FY07.
- Complete Site 5 RI/FS and RD/RA in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

**FFID:** HI917002434200, HI917002477900, HI917002434100, HI917002434000, HI917002433900, and HI917002433400

**Size:** 2,162 acres

**Mission:** Provide primary fleet support in the Pearl Harbor area

**HRS Score:** 70.82; placed on NPL in October 1992

**IAG Status:** FFA signed in March 1994

**Contaminants:** VOCs, SVOCs, heavy metals, PCBs, pesticides, petroleum, hydrocarbons, solvents

**Media Affected:** Groundwater and soil

**Funding to Date:** \$ 175.8 million

**Est. CTC (Comp Year):** \$ 124.3 million(FY 2035)

**IRP/MMRP Sites Final RIP/RC:** FY 2014/FY 2004

**Five-Year Review Status:** Planned



Pearl Harbor, Hawaii

## 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), semivolatiles organic compounds (SVOCs), and metals. A technical review committee, formed in FY90, was converted to a Restoration Advisory Board (RAB) 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 updated in FY95 and FY05. The installation was placed on the NPL in October 1992. In 2005, the BRAC Commission recommended Pearl Harbor Naval Complex for realignment. The installation signed a federal facility agreement (FFA) in March 1994.

The installation has identified 80 sites and has conducted investigations and cleanups under CERCLA and RCRA at over 60 sites. The installation completed one Record of Decision (ROD) for FISC Site 33. The cleanup progress at Pearl Harbor Naval Complex for FY02 through FY05 is detailed below.

In FY02, the installation completed the draft final site summary reports (SSRs) for the Shipyard Geographic Study Areas, and final amendments to the Naval Housing, Makalapa, Richardson, Naval Sea System Command Inactive Ships On-Site Maintenance Office, and PWC Main Complex SSRs. The installation completed the removal action for Building 49 and initiated the site inspection (SI) for Solid Waste Management Unit (SWMU) 44. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, the installation continued the remedial action operations (RA-O) at Sites 25, 29, 36, 37, 45, and 46 and the remedial investigation and feasibility study (RI/FS) for Site 19. The Navy completed the removal action and remediation verification reports (RVRs) for Sites 25 and 45, the RI/FS for NS Sites 51 through 57, the draft final RI/FS for NS Site 31, and initiated removal actions for NS Sites 51 and 53 through 57.

Removal actions continued at the PWC Sites 4 and 43, and for NS Sites 31 and 35, transformer sites PWC Site 34, NAVMAG Site 19, and NS Site 52. The installation completed the draft groundwater RI for Sites 33 and 39, and supplemental RI for Site 22. The installation completed the draft expanded SI for NSY Site 42, the draft SI for NAVMAG West Loch and Waipio Peninsula Geographic Study Areas, the final SSR for Shipyard Geographic Study Area, and the final SSR amendments for Halawa-Main-Gate, Pearl City Peninsula, and West Loch. Draft final planning documents for site characterization for PWC Site 47 were completed. The Navy added an MMRP site at the NAVMAG West Loch for further investigation of potential munitions-generated constituents in a burning pit. The installation provided site tours for the RAB of NS Sites 51 and 53 through 57, the Material Minimization Facility Center, the Fort Kamehameha Wastewater Treatment Plant, and the Bilge Water/Oily Waste Treatment Facility. In addition, the installation partnered with the EPA Superfund Innovative Technology Evaluation program on two innovative technology treatment demonstrations.

In FY04, the installation completed removal actions for NS Sites 51, 53 through 57, and PWC Site 34 and continued removal actions at NS Site 31, RA-O at Sites 25, 29, 36, 37, 45, and 46, and RI for NS Site 19. The installation initiated the removal site evaluation (RSE) at NS SWMU 6. The installation finalized the innovative Technology Evaluation Report for NSY Site 10 and initiated the SI for NSY Site 49. The installation completed the combined SI for West Loch and Waipio Peninsula and initiated the RSE at PWC Sites 2 and 48 and continued the SI report for SWMU 44.

In FY05, the installation initiated the RSE for FISC Site 26. The installation continued RA-O at Sites 25, 29, 36, 37, 45, and 46, and RI for NS Site 19. The installation continued the SI for NSY SWMU 44, and the proposed plan (PP) for NSY Site 41, and RSE for PWC Sites 2, 25, and 48. The installation initiated SI fieldwork for NSY Site 49 and SI for SWMU 84, and completed the RVR for NS Sites 51 and 53 through 57.

## FY06 IRP Progress

Pearl Harbor Naval Complex completed an RSE for NS SWMU 6 and PWC Site 2. The installation completed RODs for FISC Site 33 and NAVMAG Site 9. Additionally, the installation

completed PPs for NSY Site 41 and NAVMAG Site 9. The installation initiated an FS for FISC Site 39 and completed removal actions for NS Site 35 and FISC Site 26. A site characterization was initiated 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 removal action for FISC Site 44. Pearl Harbor Naval Complex continued RA-O at NS Sites 25, 29, 36, 37, 45, and 46. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the RI/FS at NS Site 19 and removal action for NSY Site 10. Regulatory issues delayed removal action at SWMU Site 44. Procedural issues delayed the ROD at NAVMAG Site 9.

## FY06 MMRP Progress

The installation initiated a preliminary assessment (PA) for NAVMAG unexploded ordinance (UXO) Site 7; however, contractual issues delayed its completion.

## Plan of Action

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

### IRP

- Complete RI/FS for NS Site 31 in FY07.
- Complete RI/FS planning documents and initiate data collection FS for NS Site 19 in FY07.
- Complete engineering evaluation and cost analysis for PWC Site 2 in FY07.
- Complete removal action at FISC Site 44 in FY07.

### MMRP

- Complete PA for NAVMAG UXO Site 7 in FY07.

<b>FFID:</b>	NH157002484700	<b>Est. CTC (Comp Year):</b>	\$ 17.1 million(FY 2048)
<b>Size:</b>	4,255 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2000/FY 2007
<b>Mission:</b>	Served as Strategic Air Command bomber and tanker base	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	39.42; placed on NPL in February 1990		
<b>IAG Status:</b>	FFSRA signed in September 1992; renegotiated in July 2002		
<b>Contaminants:</b>	VOCs, spent fuels, waste oils, POLs, pesticides, paints, TCE		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 160.4 million		



Portsmouth/Newington, New Hampshire

## 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 site remediation agreement (FFSRA) in September 1992, which was renegotiated in July 2002 to address early transfers. Groundwater and soil are contaminated with petroleum products (JP-4 jet fuel) and industrial solvents, such as trichloroethylene (TCE). Before closure, the installation completed interim remedial actions (RAs) at four sites, soil removal at three sites, and test pit operations at two sites. 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.

To date, 10 Records of Decision (RODs) have been signed. The cleanup progress at Pease AFB for FY02 through FY05 is detailed below.

In FY02, the installation initiated the design for the Zone 3 remedy change. Coordination with local water suppliers was underway. RA system operation, monitoring, long-term management (LTM), and trend analysis continued. The installation completed a proposed plan and drafted a ROD amendment for Zone 3. The installation signed a renegotiated FFSRA to address early transfer.

In FY03, the installation prepared and submitted the draft final ROD amendment for the Zone 3 remedy change. The institutional control management plan was developed and implementation of the plan began. The installation submitted the RA plan for flightline sites to the State. RA system operation, monitoring, LTM, and trend analysis continued.

In FY04, the installation constructed the wellhead protection system for the Haven Well. The installation 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 Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

In FY05, the installation completed the RA plan for Plumes 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.

## FY06 IRP Progress

Pease AFB continued monitoring and optimization efforts for all sites. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

The installation awarded the contract for the installation and operation of the RA for Plume 13/14; however, contractual issues delayed the execution of the RA plans.

## FY06 MMRP Progress

The installation evaluated requirements at MMRP sites.

## Plan of Action

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

### IRP

- Construct Plume 13/14 remedy in FY07.
- Continue to operate, monitor, and optimize remedial systems across the installation in FY07.

## MMRP

- Complete administrative MMRP closures in FY07-FY08.

<b>FFID:</b>	FL417002461000	<b>Funding to Date:</b>	\$ 68.2 million
<b>Size:</b>	5,874 acres	<b>Est. CTC (Comp Year):</b>	\$ 47.2 million(FY 2041)
<b>Mission:</b>	Serve as a flight training center	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/None
<b>HRS Score:</b>	42.40; placed on NPL in December 1989	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in October 1990		
<b>Contaminants:</b>	Ammonia, asbestos, benzene, cyanide, heavy metals, paints, PCBs, pesticides, phenols, chlorinated and nonchlorinated solvents, plating wastes		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Pensacola, Florida

## 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 15 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. In FY03, the installation completed a 5-year review.

Pensacola NAS has identified 61 sites. Twelve Records of Decision (RODs) have been signed by the installation, including six for no further action (NFA). The cleanup progress at Pensacola NAS for FY02 through FY05 is detailed below.

In FY02, the installation completed site assessment reports for UST Sites 19 and 24, and remedial action plans (RAPs) for UST Sites 15, 21, and 25. It also completed the interim remedial action (IRA) at Site 43 and initiated the 5-year review. The installation began groundwater monitoring at Site 15 and continued monitoring at Site 1. The RCRA permit for SWMU 1 was renewed. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation removed the groundwater recovery system and continued monitoring for SWMU 1. The installation also completed the 5-year review. An IRA was initiated at Sites 8 and 24. The installation began RAPs for UST Sites 20 and 24.

In FY04, Pensacola NAS continued groundwater monitoring at SWMU 1, and completed RAPs for UST Sites 20 and 24. The IRA was completed.

In FY05, Pensacola NAS completed the NFA ROD for Site 40 Operable Unit (OU) 15. The Navy completed remedial investigation at Sites 44, 45, and 46. The installation completed groundwater monitoring at SWMU 1 and cleanup at UST Sites 15 and 21.

## FY06 IRP Progress

Pensacola NAS completed the NFA ROD for Site 02 (OU 03). The installation also completed the ROD with land use controls (LUCs) for Sites 8 and 24 (OU 13), and Site 38 (OU 11). The Navy continued groundwater monitoring at SWMU 1, Site 01 (OU 01), and Site 15 (OU 04).

Regulatory issues delayed the implementation of optimization fieldwork at Sites 01 (OU 01), 15 (OU 04), and SWMU 1.

## FY06 MMRP Progress

The Navy has identified no MMRP sites at this installation.

## Plan of Action

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

### IRP

- Finalize the ROD with LUCs for Sites 11, 12, 25, 26, 27, and 30 (OU 02) in FY07.
- Obtain NFA status for UST 19 in FY07.
- Implement optimization fieldwork at Site 01 (OU 01) in FY07.
- Continue groundwater monitoring at Sites 01 (OU 01), 15 (OU 04), and SWMU 1 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	PA317002775600, PA317002219800, and PA317002241800	<b>Funding to Date:</b>	\$ 20.4 million
<b>Size:</b>	1,494 acres	<b>Est. CTC (Comp Year):</b>	\$ 0.8 million(FY 2002)
<b>Mission:</b>	Provide logistical support for ships and service craft; overhaul, repair, and outfit ships and craft; conduct research and development; test and evaluate shipboard systems	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2001/None
		<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	N/A		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	POLs, heavy metals, PCBs, solvents, VOCs		
<b>Media Affected:</b>	Groundwater and soil		



Philadelphia, Pennsylvania

## 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, 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.

Philadelphia Naval Complex has identified 31 sites. The installation has signed eight Records of Decision and has transferred 1,218 acres of property. The cleanup progress at Philadelphia Naval Complex for FY02 through FY04 is detailed below.

In FY02, the installation completed the final property transfer, the transfer of utilities and acquired RCRA-closure. Long-term management (LTM) at Sites 4 and 5 continued. The installation identified damage to several monitoring wells and to the riverbank-stabilizing gabion baskets during LTM activities. It also initiated 5-year reviews for Sites 4 and 5. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed the 5-year review pending a final signature. In addition, the installation completed the LTM well repair, and repair of the banks and gabion baskets; however, additional work was needed on one well. The installation continued the LTM for Sites 4 and 5.

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 end LTM at Sites 4 and 5.

## FY06 IRP Progress

Philadelphia Naval Complex discovered new contamination at Site 4.

Regulatory issues continued to delay completion of LTM.

## FY06 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

- Finalize decision from regulators regarding LTM in FY07.
- Perform maintenance and repairs to landfills at Sites 4 and 5 in FY07.
- Assess the need for additional remedial action to address new contamination at Site 4 in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	NY257002477400	<b>Est. CTC (Comp Year):</b>	\$ 19.6 million(FY 2084)
<b>Size:</b>	3,447 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/FY 2007
<b>Mission:</b>	Served as former bomber and tanker aircraft operations	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	30.34; placed on NPL in November 1989		
<b>IAG Status:</b>	FFA signed in July 1991		
<b>Contaminants:</b>	Organic solvents, pesticides, fuels, PCBs, lead		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 58.5 million		



Plattsburgh, New York

## 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. The BRAC Commission recommended closure of Plattsburgh AFB in 1993. 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. Five-year reviews were completed in FY99 and FY04.

Environmental studies at Plattsburgh AFB have identified 41 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 36 sites to date. The cleanup progress at Plattsburgh AFB for FY02 through FY05 is detailed below.

In FY02, the installation completed a cultural resources management plan, and submitted the interactive cultural resources Web site and historic cold war buildings recordation data for approval. A no further action (NFA) ROD was finalized for one site. Cleanup progress included completing a removal action using soil vapor extraction and initiating contaminated soil removal.

In FY03, the Air Force signed a final ROD for one site and an interim ROD for the former fire training (FT) area 002 (FT 002) to facilitate construction of the selected remedy. The installation initiated construction of the final remedy for this site.

In FY04, the installation partially completed construction of the remedy at FT 002 and initiated remedial action (RA) operation. The installation completed a preliminary assessment and site inspection (SI) at the former Weapons Storage Area. 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 Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation. The RAB conducted a tour of the FT 002 RA construction.

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.

## FY06 IRP Progress

Plattsburgh AFB continued operation of remedial systems and LTM activities in support of remedial programs. The installation initiated a remedial process optimization study of the FT 002 source operable unit. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

No RODs were finalized by the installation due to regulatory issues and concerns involving evaluation of soil vapor intrusion (SVI) pathways.

## FY06 MMRP Progress

The installation completed an evaluation of MMRP sites.

## Plan of Action

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

### IRP

- Resolve regulatory issues involving evaluation of the SVI pathway for FT 002 in FY07.
- Evaluate SVI pathway for FT 002 in FY07.
- Finalize RODs for three sites in FY07.

### MMRP

- Administratively close MMRP sites in FY07.

<b>FFID:</b>	ME117002201900	<b>Est. CTC (Comp Year):</b>	\$ 28.8 million(FY 2036)
<b>Size:</b>	278 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/FY 2005
<b>Mission:</b>	Maintain, repair, and overhaul nuclear submarines	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	67.70; placed on NPL in May 1994		
<b>IAG Status:</b>	FFA signed in 1999		
<b>Contaminants:</b>	PCBs, pesticides, VOCs, heavy metals		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		
<b>Funding to Date:</b>	\$ 50.9 million		



Kittery, Maine

## Progress To Date

The Portsmouth Naval Shipyard (NSY) maintains, repairs, and overhauls nuclear submarines. A preliminary assessment (PA) and site inspection identified four potentially contaminated sites. A RCRA facility assessment in FY86 identified 28 solid waste management units (SWMUs). Site types at the installation include a landfill, a salvage and storage area, and waste oil tanks. In FY92, the installation completed a RCRA facility investigation. 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 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. In 2005, the BRAC Commission recommended Portsmouth NSY for realignment. The installation signed a federal facility agreement (FFA) in 1999.

Portsmouth NSY has identified 35 sites. The installation completed and signed a no further action document for SWMUs 12, 13, 16, and 23. The installation completed one Record of Decision. The cleanup progress at Portsmouth NSY for FY02 through FY05 is detailed below.

In FY02, the installation completed interim remediation goals for Operable Unit (OU) 4, and the work plan and fieldwork for the Site 10 additional investigation. Portsmouth NSY also initiated the work plan for Site 31 (Topeka Pier) and began remedial action (RA) for OU 3. The RA for OU 3 started earlier to consolidate a portion of the landfill. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, the installation completed the Site 10 additional investigation report and construction of the OU 3 wetlands. In addition, the installation completed the remedial design for OU 3. Portsmouth NSY also completed the remedial investigation (RI) work plan for Site 32. A site visit for the PA was performed.

In FY04, Portsmouth NSY completed the Phase I 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 RA for OU 3. The Navy identified and excavated 1,000 cubic yards of waste in sediment offshore of OU 3. The installation also continued interim offshore monitoring for OU 4, and started Rounds 1 through 7 of the trending report for interim offshore monitoring.

In FY05, Portsmouth NSY completed the RA for OU 3. The installation initiated OU 2 feasibility study and continued interim offshore monitoring for OU 4. Portsmouth NSY finalized the PA for MMRP.

## FY06 IRP Progress

Portsmouth NSY completed Site 10 fieldwork. The installation initiated an additional scrutiny report and continued the interim offshore monitoring for OU 4. The Navy initiated the operation, maintenance, and monitoring program of the Jamaica Island Landfill.

## FY06 MMRP Progress

The Navy conducted no MMRP actions at this installation.

## Plan of Action

Plan of action items for Portsmouth Naval Shipyard are grouped below according to program category.

### IRP

- Complete 5-year review in FY07.
- Conduct removal action at Site 34 in FY07-FY08.
- Continue interim off-shore monitoring for OU 4 in FY07-FY08.
- Complete RI report for OU 1 in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CO821382072500	<b>Funding to Date:</b>	\$ 124.4 million
<b>Size:</b>	23,121 acres	<b>Est. CTC (Comp Year):</b>	\$ 86.8 million(FY 2023)
<b>Mission:</b>	Store chemical munitions, plan for future closure.	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2016/FY 2019
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Heavy metals, POLs, VOCs, pesticides, explosives, PCBs, UXO, SVOCs		
<b>Media Affected:</b>	Groundwater and soil		



Pueblo, Colorado

## Progress To Date

In December 1988, the BRAC Commission recommended realignment instead of closure of the Pueblo Depot Activity, primarily because of the future chemical demilitarization mission. 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 Materials 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, an explosives-contaminated soil removal, 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 29 unexploded ordnance (UXO) sites, for which the Army has completed most surface and subsurface clearance. The cleanup progress at Pueblo Chemical Depot for FY02 through FY05 is detailed below.

In FY02, the Army made modifications to the groundwater treatment system at Solid Waste Management Unit (SWMU) 17 to improve groundwater capture. Work began on a second pilot study to evaluate in situ biotechnology for expediting groundwater cleanup. The Army completed soil bioremediation and stored the treated soil pending approval from the State for onsite disposal. The Army constructed the SWMU 14 soil vapor extraction (SVE) system and operation commenced. The installation achieved no further action (NFA) status for two sites and was in the final stages of a petition for NFA at another six sites. The Army also initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO,

discarded military munitions (DMM), or munitions constituents (MC). The installation identified areas designated for wildlife reuse for early transfer. The installation initiated a UXO management plan.

In FY03, the installation initiated additional investigations and pilot studies at the Southwest Terrace (SWMU 17) and South Central Terrace (SWMUs 14, 28, 36, and 58) to evaluate in situ groundwater treatment technologies for accelerating cleanup and reducing long-term operations. The installation received Colorado's approval for the SWMU 20 NFA and completed an interim corrective measure for SWMU 36. The installation completed modifications to the groundwater treatment system at SWMU 17. The Army completed the inventory of CTT ranges and sites with UXO, DMM, or MC. It identified 14 Military Munitions Response Program (MMRP) sites at the installation and approved 3 other sites for NFA for UXO clearance.

In FY04, the installation maintained compliance for the groundwater treatment system at SWMU 14. The Army constructed an air-sparging system at SWMU 14 to enhance the SVE system, and initiated in situ groundwater treatment pilot studies at SWMUs 28, 36, and 58. The installation submitted NFA petitions for SWMUs 53, 54, and 55, which were not approved due to environmental covenant requirements. 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 resulting in lower cost with continued assurance that potential groundwater releases from SWMUs can be identified. Under the MMRP, the

installation completed the draft conceptual site model (CSM) for SWMU 34 and submitted it for regulatory review.

## FY06 IRP Progress

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 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 South West Terrace using innovative technology that will result in significant cost savings each year. A fixed-price contract was awarded for the Southern Industrial Area that resulted in additional cost savings and allowed expedited investigation activities.

Administrative and regulatory issues delayed NFA approval from the State for SWMUs 47 and 53.

## FY06 MMRP Progress

Regulatory issues delayed 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 state approval on CMS for SWMU 17, investigation at SWMU 29, and NFA at SWMUs 49 and 50 in FY07-FY08.
- Initiate treatment at SWMUs 28 and 36 in FY07-FY08.

### MMRP

- Receive state approval on CSM for SWMU 34 in FY07-FY08.
- Submit CMS for SWMUs 34 and 45 in FY07-FY08.



**FFID:** WA017002341800 and WA017002342600  
**Size:** 1,392 acres  
**Mission:** Provide logistical support for assigned ships and service craft; perform authorized work in construction, overhaul, and other tasks; provide housing for active duty families and healthcare for eligible personnel  
**HRS Score:** 50.00; placed on NPL in May 1994  
**IAG Status:** IAG signed for Bremerton Naval Complex in 1998; IAG signed for Jackson Park Housing Complex in 2004

**Contaminants:** Heavy metals, VOCs, POLs, grit, paints, solvents, construction debris, acids, silver nitrate, ordnance compounds, munition items  
**Media Affected:** Groundwater, surface water, sediment, soil  
**Funding to Date:** \$ 178.1 million  
**Est. CTC (Comp Year):** \$ 82.5 million(FY 2031)  
**IRP/MMRP Sites Final RIP/RC:** FY 2014/FY 2013  
**Five-Year Review Status:** Completed and planned



Kitsap County, Washington

## 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, 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 FY05. In 2005, the BRAC Commission recommended Puget Sound Naval Shipyard for realignment. A 5-year review was completed for BNC in FY02, and for JPHC in FY05.

To date, 37 sites have been identified at these installations. BNC completed Records of Decision (RODs) for Operable Unit (OU) A, OU BM (Marine), OU BT (Terrestrial), OU D, and OU Naval Supply Center (NSC). JPHC completed a ROD for OU 1. Puget Sound Naval Shipyard transferred approximately two acres of BNC OU D property to the City of Bremerton. The cleanup progress at Puget Sound Naval Shipyard for FY02 through FY05 is detailed below.

In FY02, the BNC remedial action (RA) construction for OU BM was completed; finalization of the RA-operation (RA-O) plan was held pending continued investigation of post construction contamination. BNC completed the feasibility study (FS) and proposed plan (PP) for OU BT. It also initiated the OU BT ROD negotiations and the remedial design (RD). The facilitywide petroleum management plan was completed. The facility completed the draft 5-year review report for BNC. JPHC completed the RA for OU 1. The Navy identified two MMRP sites at JPHC: OU 3T JPHC and OU 3M. The installation completed an archive search report for JPHC.

In FY03, BNC completed negotiations with regulatory and resources agencies for the OU BM RA-O monitoring plan. The

installation initiated biological and sediment monitoring. The OU BM response action characterization requirements were negotiated and characterization of impacted sediment was completed. The installation also completed remedy selection, and completed the draft final ROD for OU BT and the RD for OU BT remedial construction. The installation initiated removal actions and a long-term management (LTM) plan for OU BT. The installation completed a focused remedial investigation (RI)/FS and capping removal action for OU D. The installation continued monitoring and a remedy inspection at OUs A, C, and NSC, and initiated remedy maintenance at OU A. At JPHC, the installation continued ROD-required LTM at OU 1. The draft No Further Action PP for OU 2 was submitted to regulators. The OU 3M preliminary assessment and site inspection (PA/SI) was completed. The installation completed OU 3T JPHC PA/SI, munition hazard assessment, sited temporary storage munition magazines, and initiated the OU 3T RI. The installation completed approximately 30 percent of the Phase I fieldwork.

In FY04, BNC completed the OU D focused RI/FS and 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, and issued an explanation of significant differences and 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 PP, and completed OU 3T Phase I RI fieldwork. The installation completed side scan sonar and bathymetric survey for JPHC OU 3M.

In FY05, Puget Sound Naval Shipyard continued 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 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.

## FY06 IRP Progress

Puget Sound Naval Shipyard 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 benzene seep free product at JPHC OU 1, as well as continued sampling, operation, and maintenance for BNC LTM. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the PP and ROD for JPHC OU 2.

## FY06 MMRP Progress

Regulatory issues delayed JPHC Site OU 3T RI Phase II fieldwork. Procedural issues delayed the RI/FS fieldwork for JPHC OU 3M.

## Plan of Action

Plan of action items for Puget Sound Naval Shipyard are grouped below according to program category.

### IRP

- Update the LTM program for OUs A and NSC in FY07.
- Finalize action plan for OU C in FY07.
- Continue LTM and initiate focused FS to address benzene seep plume at JPHC OU 1 in FY07.
- Resolve informal dispute, and finalize PP and ROD for JPHC OU 2 in FY07.
- Complete RA-O monitoring for OU BM and evaluate sediment natural recovery trend in FY07.

### MMRP

- Resolve formal dispute with EPA regarding JPHC OU 3T Phase II sampling in FY07.
- Complete Phases I and II of RI/FS for OU 3M in FY07-FY08.
- Complete JPHC OU 3T Phase II RI fieldwork in FY08.

<b>FFID:</b>	TX621382073800	<b>Funding to Date:</b>	\$ 45.5 million
<b>Size:</b>	19,113 acres	<b>Est. CTC (Comp Year):</b>	\$ 45.4 million(FY 2015)
<b>Mission:</b>	Provide maintenance for light combat vehicles, support rubber production, store ammunition, and conduct training	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/FY 2014
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	TCE		
<b>Media Affected:</b>	Groundwater, surface water, sediment		



Texarkana, Texas

## 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 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. The cleanup progress at Red River AD for FY02 through FY05 is detailed below.

In FY02, the installation completed the cultural resources memorandum of agreement and submitted it to the regulators for review. It closed the south lagoon and initiated the WIA risk assessment. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The inventory identified five Military Munitions Response Program (MMRP) sites at the non-BRAC, active portion of this installation. It identified no BRAC MMRP sites.

In FY03, the installation completed the groundwater modeling study in the WIA and submitted the study to the regulators. The Army repaired the chrome and storm sewers by relining with cured-in-place-piping. The installation completed the Hays Plant Affected Property Assessment Report (APAR). The Army awarded a contract for the removal of the chrome beds at the industrial waste treatment plant. The installation expanded

sampling at the X 1 Sewer Treatment Plant to define the extent of contamination. The Army presented its proposal to conduct a pilot study of dual phase extraction to determine the potential for removal of TCE from contaminated soils and groundwater. The regulators agreed to the proposal as a sound method for determining the technical practicability for removal of dense non-aqueous phase liquid. The Army Environmental Center analysis of the groundwater modeling projected a negligible environmental impact from groundwater discharge to Panther Creek. The installation initiated an MMRP site inspection (SI) in the active portion of the installation.

In FY04, the installation completed a pilot study to determine the treatability of TCE in the groundwater, which determined that treating the TCE 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 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) 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. In addition, the installation awarded a performance-based contract for achieving response complete at 14 contaminated sites. The Army submitted a corrective measures implementation plan to the State for the closed hazardous waste landfill. The installation completed a draft SI and historical record review reports for MMRP sites.

## FY06 IRP Progress

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 (RAPs) 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 landfill. The installation also completed two FOST documents, totaling 38 acres for future transfer of this property to the RRRA. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

## FY06 MMRP Progress

Red River AD submitted the SI report and received regulator comments.

## Plan of Action

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

### IRP

- Complete X 1 Sewer Treatment Plant remediation project in FY07.
- Construct biowalls to protect Panther Creek from contaminated groundwater in FY07.
- Submit RAP for Panther Creek sediments in FY07.
- Submit RAP and APAR for WIA in FY07.
- Complete the environmental condition of property and CERFA reports for the BRAC 2005 parcel in FY07.
- Implement groundwater monitoring plan for Buildings 371, 373, 1027, the WIA, and the used oil tank facility in FY07-FY08.
- Implement RAP for Buildings 371, 373, 1027, the WIA, the used oil tank facility, and the X 1 Sewer Treatment Plant in FY07-FY08.

### MMRP

- Initiate RCRA investigations at seven MMRP sites in FY08.

<b>FFID:</b>	AL421382074200	<b>Funding to Date:</b>	\$ 144.5 million
<b>Size:</b>	38,300 acres	<b>Est. CTC (Comp Year):</b>	\$ 275.6 million(FY 2043)
<b>Mission:</b>	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	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/FY 2018
<b>HRS Score:</b>	33.40; placed on NPL in June 1994	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA under negotiation		
<b>Contaminants:</b>	Heavy metals, solvents, MEC, perchlorate, CWM, pesticides		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Huntsville, Alabama

## 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 materials, 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 169 sites at RSA, some of which are sites at Marshall Space Flight Center under the responsibility of NASA. The installation completed six interim Records of Decision (RODs) and three final RODs, including one in FY04. Cleanup progress at RSA for FY02 through FY05 is detailed below.

In FY02, the installation developed and implemented a site access control program that will facilitate site usage controls from the investigative phase all the way to the final ROD implementation. It completed fencing for all sites that posed an imminent threat to human health. The installation developed and published a detailed implementation plan containing schedules, manpower curves, and funding requirements for the RSA Installation Restoration Program (IRP). The installation continued to participate in the Alabama Partnering Initiative and developed time and cost-saving process controls as a result. The installation developed a web-based document review process. The Army separated RSA into groundwater operable units (OUs) and surface media OUs. The Army completed all fieldwork for the Phase II Karst Study. 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 22 Military Munitions Response Program (MMRP) sites.

In FY03, the installation prepared remedial investigation and feasibility study (RI/FS) reports for two sites and a draft proposed plan (PP) for RSA 099. The installation transferred five IRP sites to the Army environmental compliance program for ongoing activities. The Army conducted a program review and initiated a re-prioritization effort. The installation completed an archive search report and initiated an in-depth evaluation of the information and visual site inspections (SIs). The installation completed the treatability studies work plan for groundwater site RSA 146 and began the fieldwork. The Army determined that the initial inventory of active, inactive, and CTT ranges were incorrect.

In FY04, the installation completed one RI/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 areas sites. The Army is currently updating the active, inactive, and CTT range inventory for RSA.

In FY05, the Army awarded a performance-based contract (PBC) for the installation. 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 SI reports for RSA 145, 146, 147, 148, and 149. The installation corrected the MMRP inventory which includes only four sites.

## FY06 IRP Progress

The Army grouped the 126 active IRP sites into 17 major groupings. These groupings were used to prioritize the efforts at RSA in order to meet a goal of having all remedies in place by 2014. The installation completed a no further action agreement for MSFC 074. The Army completed a proposed plan for RSA 057 and submitted the ROD, which is in final negotiation. ROD approval is pending the preparation of an interim ROD for land use controls over the groundwater at RSA. Significant movement occurred in the federal facility agreement (FFA) negotiations, as EPA, the State of Alabama, and the Army tentatively agreed on language that would resolve the outstanding issues and allow 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 closed RSA 098 because it was not eligible for the DERP. Regulatory issues delayed the PPs for RSA 011 and 049. An agreement was reached with regulators regarding the path forward for RSA 049, and a PP/ROD is underway. Regulatory issues also delayed RI reports for RSA 053, 095, and 097, while technical issues delayed the RSA 060 RI report. The regrouping effort reprioritized RSA 047 and A. A decision document or ROD for RSA 047 is underway, but RSA A has been delayed until the remainder of the Thiokol South Plant is addressed (ROD to be complete in FY11). Contractual issues delayed FS reports for RSA 087 and 122.

## FY06 MMRP Progress

The installation initiated the installationwide MMRP SI.

## Plan of Action

Plan of action items for Redstone Arsenal are grouped below according to program category.

### IRP

- Submit RIs for RSA 053, 058, 060, 095, 097, 142, and 223 in FY07.
- Complete FFA negotiations in FY07.
- Award additional PBCs and determine whether contamination has spread to the south of RSA in FY07-FY08.
- Negotiate additional resources to be directed to the RSA IRP by the regulatory community in FY07-FY08.
- Complete RODs for MSFC 002/087, RSA 011, 047, 049, 057, 087, 088, 094, 096, 097, 122, and 183, and groundwater interim ROD in FY08.

### MMRP

- Complete SI for MMRP sites in FY07-FY08.

<b>FFID:</b>	TX657152409100	<b>Est. CTC (Comp Year):</b>	\$ 18.8 million(FY 2036)
<b>Size:</b>	2,987 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/FY 2007
<b>Mission:</b>	Conducted pilot training	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	N/A		
<b>IAG Status:</b>	FFA signed in 1987 and terminated in June 1999		
<b>Contaminants:</b>	VOCs, POLs, metals, pesticides, herbicides, TCE		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 114.7 million		



Lubbock, Texas

## 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. The federal facility agreement (FFA), signed in 1987, was terminated in June 1999. Sites identified at the installation include landfills, 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 and an environmental impact survey were 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 18 Installation Restoration Program (IRP) sites. To date, the installation has transferred all of the property (2,987 acres) at Reese AFB. The cleanup progress at Reese AFB for FY02 through FY05 is detailed below.

In FY02, four corrective action wells were installed for the Tower Area plume. Operation of the groundwater treatment system continued, as did long-term groundwater monitoring. A request for funding to expand the groundwater treatment system due to the possible migration of contaminants was submitted.

In FY03, 70 acres were transferred.

In FY04, 141 acres were transferred and EPA approval of operating properly and successfully (OP&S) determinations was obtained for two sites (SS 001 and LF 003). The Air Force also completed the installation of additional monitoring wells and corrective action wells for the Tower Area plume. Groundwater data was collected to support the OP&S determination for the Tower Area. A guaranteed fixed price remediation (GFPR) with insurance contract was issued to complete cleanup at Reese AFB. The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

In FY05, the installation initiated preparation of the first 5-year review. The Air Force conducted pilot studies to test possible

enhancement of remedies for the Tower Area and Southwest Landfill plumes under the GFPR contract. In addition, the installation 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 installation 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 MMRP sites at this installation. The RAB and BCT continued to meet as scheduled.

## FY06 IRP Progress

The installation completed an OP&S demonstration for the Tower Area Plume. Reese AFB transferred all the remaining property (409 acres), completing transfers to the Lubbock Reuse Authority (LRRRA) through the economic development conveyance transfer mechanism, and to Texas Tech University and South Plains College through the public benefit conveyance transfer mechanism. The Air Force successfully used the GFPR contract to expedite environmental remediation, advancing the schedule for groundwater cleanup. The installation identified new IRP sites and added those sites to the inventory. Reese AFB achieved the LRIP milestone and completed the 5-year review. The installation continued the ongoing full scale enhanced remedial action and also continued its compliance with the EPA 7003 Order.

The RAB and BCT continued to meet as scheduled.

## FY06 MMRP Progress

The Air Force determined that no munitions and explosives of concern constituents remain at the installation.

## Plan of Action

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

### IRP

- Continue the GFPR in FY07.
- Complete full scale implementation of the enhanced remedial systems in FY07.

### MMRP

- Complete administrative requirements to close MMRP sites in FY07.

**FFID:** MO757002429200  
**Size:** 429 acres  
**Mission:** Served as host to the 442d Fighter Wing; supported A-10 aircraft  
**HRS Score:** N/A  
**IAG Status:** None  
**Contaminants:** POLs, PAHs, PCBs, VOCs, heavy metals  
**Media Affected:** Groundwater, surface water, sediment, soil

**Funding to Date:** \$ 11.1 million  
**Est. CTC (Comp Year):** \$ 3.1 million(FY 2036)  
**IRP/MMRP Sites Final RIP/RC:** FY 2004/None  
**Five-Year Review Status:** Underway and planned



Kansas City, Missouri

## Progress To Date

Environmental studies at Richards-Gebaur Air Reserve Station (ARS) began in FY82. In July 1991, the BRAC Commission recommended closure of the installation and it was closed on September 30, 1994. Prominent 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). An Environmental Baseline Survey (EBS) was completed in FY94. The installation formed a Restoration Advisory Board (RAB) in 1994, which adjourned in FY04 after unanimous agreement that their mission had been completed. The community relations plan (CRP) was updated in FY04 to indicate the status of remediation efforts and identify ongoing opportunities for community involvement.

The basewide evaluation and consolidation study, completed in FY99, identified 23 sites. Of the 23 sites, 3 sites required no further response action planned (NFRAP) decision documents (DDs), 16 sites required remedial investigations (RIs), and the remaining 4 sites, as well as 6 subsequently identified sites, required closure under Missouri RCRA-C UST regulations. The installation completed the Records of Decision (ROD) for Operable Units (OUs) 1 and 2 in FY04. In FY06, Richards-Gebaur ARS transferred environmental responsibility for Installation Restoration Program (IRP) sites SS 003 and SS 009 to the Marine Corps. The cleanup progress at Richards-Gebaur ARS for FY02 through FY05 is detailed below.

In FY02, the Air Force submitted a supplemental RI report to regulators for two new sites identified as a result of the EBS site inspection. The engineering evaluation and cost analysis was approved by regulators and remedial actions (RAs) were completed to address contaminated soil sites. RAs for the EBS sites were completed. A draft feasibility study (FS) and proposed plan (PP) were completed. The Air Force, along with the U.S. Army Corps of Engineers, held quarterly RAB meetings to keep the public informed of ongoing environmental activities at the base.

In FY03, the draft ROD for OUs 1 and 2 was completed and submitted to regulators. The interim action report for soil and sediment for OU 1, the focused FS for OU 1, and the FS for OU

2 were completed and received regulatory concurrence. NFRAP DDs were completed for Areas of Concern (AOCs) 001 and 002, and Sites OT 010 and ST 007, which attained residential soil remediation goals. The NFRAP DDs for AOCs 001 and 002 and Site OT 010 were signed. The installation completed a finding of suitability to transfer for Parcels K and L. A PP was completed and presented to the community.

In FY04, the ROD for OUs 1 and 2 was completed and signed. The NFRAP DD was completed and signed for Site ST 007. The Air Force conducted an inventory of Military Munitions Restoration Program (MMRP) sites. No 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. The RAB adjourned after the members unanimously agreed that their mission had been completed.

In FY05, the installation completed the land use control/institutional control (LUC/IC) management plan and updated the groundwater monitoring plan. The installation also conducted semiannual groundwater monitoring at six sites and annual LUC/IC inspections. In addition, the installation transferred the remainder of base property to the City of Kansas City and the Marine Corps Reserves.

## FY06 IRP Progress

The installation conducted semiannual groundwater monitoring at six sites and conducted the annual LUC/IC inspections. The Air Force conducted field activities associated with the first 5-year review and prepared the draft 5-year review report. The installation transferred environmental responsibility for IRP sites SS 003 and SS 009 to the Marine Corps.

Richards-Gebaur ARS initiated meetings with the Kansas City Port Authority to evaluate the feasibility of entering into an environmental services cooperative agreement (ESCA) for responsibility of long-term management of the remaining remedies. Technical issues delayed the completion of the 5-year review.

## FY06 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

- Conduct semiannual groundwater monitoring and annual LUC/IC inspections in FY07-FY08.
- Finalize 5-year review and obtain regulator approval in FY07-FY08.
- Submit explanation of significant difference to regulators to remove OU 01 from the ROD in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	OH557002454400	<b>Funding to Date:</b>	\$ 25.9 million
<b>Size:</b>	2,076 acres	<b>Est. CTC (Comp Year):</b>	\$ 3.4 million(FY 2036)
<b>Mission:</b>	Provide base of support for one fighter wing, one refueling wing, and one airlift group	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2001/None
<b>HRS Score:</b>	50.00; proposed for NPL in January 1994	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Pesticides, paints, spent fuels, waste oils, solvents, heavy metals		
<b>Media Affected:</b>	Groundwater and soil		



Columbus, Ohio

## Progress To Date

In July 1991, the BRAC Commission recommended closure of Rickenbacker Air National Guard (ANG) Base, which had supported aircraft operations. In July 1993, realignment was recommended rather than base closure. The installation was realigned on September 30, 1994. Rickenbacker ANG Base 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. 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. In FY06, the installation finalized the first 5-year review.

To date, all Records of Decision have been signed. The Air Force has transferred approximately 1,739 acres to the local redevelopment authority (LRA). No further remedial action planned documents were signed for 16 Installation Restoration Program (IRP) sites and 3 areas of concern. Seven other IRP sites were closed with regulatory concurrence. The cleanup progress at Rickenbacker ANG Base for FY02 through FY05 is detailed below.

In FY02, the amended Site 1 closure and post closure plan was approved. The draft land use control/institutional control (LUC/IC) layering strategy plan was updated and submitted to regulators for comment.

In FY03, the installation transferred 310 acres to the LRA and published the final investigation report for Site 12/597.

In FY04, the installation completed the 2-year report for IRP Sites 2, 21, 41, 42, and 43, and finalized the LUC/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. The first 5-year review was initiated. The Air Force Real Property Agency (AFRPA) conducted an inventory of Military Munitions Response Program (MMRP) sites. No MMRP sites were identified on the BRAC portion of the installation.

In FY05, the installation obtained approval letters for operating properly and successfully (OP&S) demonstrations at IRP Sites 21 and 42. A Statement of Basis for No Further Action was signed for Site 43 contingent upon the land use requirements. The installation transferred 47 acres of Parcel D3A and 15 acres of Parcel D3B containing the petroleum/oil/lubricant bulk storage area to the LRA. The installation continued to work on the draft 5-year review. The Air Force awarded a performance-based contract to close the remaining IRP Sites, Sites 1, 2, 21, 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.

## FY06 IRP Progress

The Air Force implemented site closure acceleration enhancements at Sites 41 and 42; approximately 100 cubic yards of contaminated soil were 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 installation expanded the air sparge system at Site 2. Rickenbacker ANG Base finalized the first 5-year review. The installation submitted the Site 2 demonstration of an RA OP&S document to EPA Region 5 and received approval. Rickenbacker ANG Base completed transfer of Site 43 (Parcels B1/D3E and Parcels 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 ANG.

Ongoing discussions about the pilot study at Site 42 delayed the transfer of Parcel D3D.

The BCT met twice.

## FY06 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

- Obtain OP&S at Site 1 in FY07.
- Transfer Parcels D3D and D3H to the LRA in FY07.
- Complete monitoring well network optimization at Site 1 in FY07-FY08.
- Complete site closure actions at Site 2 in FY07-FY08.
- Decommission obsolete monitoring wells throughout the facility in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA921382075900	<b>Est. CTC (Comp Year):</b>	\$ 2.8 million(FY 2009)
<b>Size:</b>	172 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 1998/FY 2007
<b>Mission:</b>	Manufacture grenades, projectiles, and steel cartridge casings	<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	63.94; placed on NPL in February 1990		
<b>IAG Status:</b>	IAG signed in April 1990		
<b>Contaminants:</b>	Chromium, cyanide, zinc		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 54.7 million		



Riverbank, California

## 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. EPA placed the installation on the NPL in February 1990. In 2005, the BRAC Commission recommended Riverbank AAP for closure. 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. 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. EPA approved the preliminary closeout report and the remedial action completion report. The Army completed 5-year reviews in FY01 and FY06.

To date, the installation has completed one installationwide Record of Decision. The cleanup progress at Riverbank AAP for FY02 through FY05 is detailed below.

In FY02, the Army procured a fluidized bed treatment system for the treatment of nitrates. With the installation of the fluidized bed reactor at the groundwater treatment system, the installation was no longer dependent on the City of Riverbank discharge agreement for its treated water. The installation continued to explore in situ treatment of the chromium-contaminated soil at the source to reduce the overall cleanup duration. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY03, the installation continued to work towards implementing a pilot test for in situ treatment of the

chromium-contaminated soil in the source area, including negotiations with the California Regional Water Quality Control Board (RWQCB) regarding the need for an additional waste discharge permit for this pilot test. Work continued on an evaluation of background groundwater and surface water conditions at the E/P ponds. The installation shut down the fluidized bed reactor because it was no longer needed. Work began on the bench-scale test for cyanide source destruction. The Army completed the inventory of CTT ranges and sites. The inventory identified one Military Munitions Response Program (MMRP) site, a closed small arms range.

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 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 was identified for closure as part of BRAC 2005. 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.

## FY06 IRP Progress

Riverbank AAP continued to optimize the current groundwater treatment system and completed the second 5-year review. The Army initiated groundwater investigative activities 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.

Funding issues delayed the in situ treatment of groundwater.

## FY06 MMRP Progress

The Army conducted a historical records review and archive search for the small arms range.

## Plan of Action

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

### IRP

- Initiate in situ treatment pilot studies for groundwater in FY07.
- Complete BRAC 2005 ECP and CERFA reports in FY07-FY08.
- Complete groundwater investigation activities and initiate potential treatment alternatives to expedite cleanup in FY07-FY08.

### MMRP

- Collect soil samples at the MMRP site in FY07-FY08.

<b>FFID:</b>	GA457172433000	<b>Funding to Date:</b>	\$ 164.7 million
<b>Size:</b>	8,855 acres	<b>Est. CTC (Comp Year):</b>	\$ 126.3 million(FY 2028)
<b>Mission:</b>	Provide logistics support for aircraft	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/None
<b>HRS Score:</b>	51.66; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in July 1989		
<b>Contaminants:</b>	VOCs, paint strippers and thinners, paints, solvents, phosphoric and chromic acids, cyanide, carbon, oils, TCE		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Houston County, Georgia

## Progress To Date

The mission of Robins Air Force Base (AFB) is to provide logistics support for aircrafts. The installation was placed on the NPL in July 1987 and signed an interagency agreement (IAG) in July 1989. Primary contaminants at the site include trichloroethylene (TCE) and tetrachloroethane in soil and groundwater. This installation has formed a Restoration Advisory Board (RAB). Robins AFB completed a 5-year review in FY06.

The NPL Site at Robins AFB is divided into three operable units (OUs): source control (OU 1), wetlands (OU 2), and groundwater (OU 3). An interim Record of Decision (ROD) has been signed for OU 2 and the final ROD for OUs 1 and 3 was completed in FY04. The cleanup progress at Robins AFB for FY02 through FY05 is detailed below.

In FY02, the installation completed corrective action plans (CAPs) for Sites OT 020, OT 023, OT 037, and OT 041, and site closeout for Sites SS 010, OT 022, SS 035, SS 036, and OT 038. Remedial actions (RAs) were installed for Sites OT 037 and OT 041. A feasibility study for OU 2 at Landfill (LF) 004 was completed. Based on negotiations with the regulators, no RA was required for Site SS 036, and the site was closed. The study phases were completed for Sites LF 004, OT 020, OT 023, SS 036, OT 037, and OT 041.

In FY03, the installation completed the proposed plan and remedial design for OU 2 at LF 004; however, a ROD was not necessary since the remediation will be completed under RCRA. The installation completed the CAP for Site SS 040 and installed RAs for Sites OT 020 and SS 040. A 5-year performance-based contract was awarded to perform the CAP for Site DC 34 and remediate the site until no further action is necessary. Operations and maintenance (O&M) activities continued at 12 environmental restoration sites.

In FY04, the installation completed the 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 draft CAP for Site DC 034 was prepared and submitted for regulatory review. The installation completed RAs at Sites OT 029 and SS 042 and the sites achieved response complete

(RC) status. Area of Concern 15 and Site RW 015 also achieved RC status. O&M activities continued at nine environmental restoration sites. The Robins AFB RAB, made up of 17 community participants, regulators, and base members, met quarterly to discuss ongoing restoration activities.

In FY05, Robins AFB completed the CAP and the installation of the RA for Site DC 34. The Air Force completed the RA for OU 2 and the RA for Site SS 039. Robins AFB obtained site closure for Site 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 base. The Air Force updated its Military Munitions Response program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development. The RAB met quarterly to discuss ongoing restoration activities.

## FY06 IRP Progress

Robins AFB obtained site closure at Site SS 039 and completed the 5-year review at the NPL site. The installation conducted O&M activities at eight sites and maintained land use controls (LUCs) at four sites. The Air Force installed final RIPs at all remaining sites. The Air Force awarded Robins AFB the Thomas D. White Restoration award for environmental achievements. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

The RAB met quarterly to discuss ongoing restoration activities.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Obtain site closure for Site OT 029 in FY07.
- Perform O&M activities at eight sites in FY07.
- Maintain LUCs at four sites in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	CO821382076900	<b>Funding to Date:</b>	\$ 1,492.5 million
<b>Size:</b>	17,228 acres	<b>Est. CTC (Comp Year):</b>	\$ 472.2 million(FY 2099)
<b>Mission:</b>	Manufactured and stored chemical munitions	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/None
<b>HRS Score:</b>	58.15; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and underway
<b>IAG Status:</b>	IAG and FFA signed in FY89		
<b>Contaminants:</b>	Pesticides, chemical agents, VOCs, chlorinated organics, PCBs, UXO, heavy metals, solvents		
<b>Media Affected:</b>	Groundwater and soil		



Adams County, Colorado

## Progress To Date

Rocky Mountain Arsenal (RMA) operated as a chemical munitions production facility from 1942 until 1982. It has been the focus of an aggressive 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 those off-post. 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 (RAB). In 1996, the Army and Shell Oil Company (a potentially responsible party) formed an oversight partnership that developed a remedial design (RD) implementation schedule for the On-Post OU. The initial 5-year review covering both OUs was completed in FY01. EPA delisted 957 acres from the NPL in FY03 and 7,399 acres in FY06.

Environmental studies identified 209 sites, potentially requiring remediation at RMA. To date, the Army has transferred approximately 17,000 acres. 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. The cleanup progress at RMA for FY02 through FY05 is detailed below.

In FY02, the installation completed the RD of the last disposal facility, the Enhanced Hazardous Waste Landfill (ELF), and the Section 35 soil remediation projects. The Army completed remedial actions (RAs) for the South Plants structure demolition, the M-1 Pits soil remediation, and the South Plants Balance of Areas and Central Processing Area soil remediation projects. The RAB continued to focus on providing input and

comments to RDs, as well as sharing information with other interested stakeholders.

In FY03, the Army completed the RD for the Section 36 Balance of Areas soil remediation and the Basin F Wastepile remediation projects. The installation completed the RA for the post-ROD removal actions for structures. EPA deleted 957 acres from the NPL, 929 of which were transferred to the General Services Administration (GSA) for disposal. The Army completed an inventory of closed, transferred, and transferring ranges and placed the inventory in the on-site library. The inventory identified 25 closed unexploded ordnance, discarded military munitions, or munitions constituents sites and 3 closed military ranges totaling 459 acres. None of the sites were found to be eligible for the Military Munitions Response Program (MMRP).

In FY04, the Army began the construction of the South Plants cover and RA construction (RA-C) of the 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, reducing the area at the RMA listed on the NPL from an original total of 27 square miles to approximately 17.5 square miles. GSA completed the sale of the Western Tier Parcel, totaling 929 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 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.

## FY06 IRP Progress

The installation completed the 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. The Army completed remediation of 7,399 acres, and EPA removed these acres from the NPL. Of these acres, the Army transferred 7,258 to the U.S. Fish and Wildlife Service, but retained jurisdiction of areas containing water treatment systems.

Technical issues delayed the RD for the North Plants soil remediation projects. The RD remains in negotiations, and a completion date cannot be determined. An expanded scope of work for the Munitions Testing soil remediation project delayed the RA. Regulatory issues delayed the second 5-year review.

## FY06 MMRP Progress

The Army has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for Rocky Mountain Arsenal are grouped below according to program category.

### IRP

- Complete RDs for Section 36 Lime Basins soil remediation projects in FY07-FY08.
- Complete RA for the Section 35 soil remediation, Section 36 Balance of Areas, and Miscellaneous Southern Tier soil remediation in FY07-FY08.
- Complete the second 5-year review and the Basin F Wastepile soil remediation project in FY07-FY08.
- Begin RA for the former Basin F Principal Threat soil remediation and Section 36 Lime Basins soil remediation projects in FY07-FY08.
- Complete RA for the Munitions Testing soil remediation in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA921382078000	<b>Funding to Date:</b>	\$ 65.2 million
<b>Size:</b>	485 acres	<b>Est. CTC (Comp Year):</b>	\$ 16.7 million(FY 2024)
<b>Mission:</b>	Repaired and maintained communications and electronic equipment	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 1997/None
<b>HRS Score:</b>	44.46; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in FY88		
<b>Contaminants:</b>	Oil and grease; solvents; metal plating wastes; and wastewater containing caustics, cyanide, metals		
<b>Media Affected:</b>	Groundwater and soil		



Sacramento, California

## Progress To Date

When in operation, Sacramento Army Depot (AD) provided support for communications and electronic equipment. The July 1987, EPA placed the installation on the NPL. The 1991 BRAC Commission recommended closure of the Sacramento AD, and the Army closed the installation in March 1995. During FY88, the installation signed an interagency agreement (IAG) with EPA. In FY93, the installation completed a CERFA report and a BRAC cleanup plan. The installation formed a Restoration Advisory Board in FY94. The installation completed a 5-year review in FY01.

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 in FY95 signed an installationwide ROD. The cleanup progress at Sacramento AD for FY02 through FY05 is detailed below.

In FY02, the regulators approved the 5-year review. The installation completed the Parking Lot 3 closeout and monitoring plan and submitted it to regulators. The installation completed destruction of the horizontal wells. The Army completed transfer of Parcel 3 and the finding of suitability to transfer for Parcel 2B. The installation received the approved closeout report from EPA and the State of California. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents; it identified no Military Munitions Response Program (MMRP) sites.

In FY03, the installation completed and received approval from EPA on an interim remedial action for groundwater report. The report contained an addendum to a plume capture assessment report that resolved regulatory issues. The installation submitted a supplemental biological assessment to the U.S. Fish and Wildlife Service and received concurrence.

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 Army is using information from this sampling in the forthcoming optimization plan and model. The installation reviewed all leases in support of groundwater monitoring; several were renewed, and one was terminated.

## FY06 IRP Progress

Sacramento AD completed soil and groundwater sampling for the South Post Plume. The installation abandoned three piezometers and one monitoring well. The installation also initiated a 5-year review, which will be completed after issuance of the optimization report. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Contractual issues delayed the optimization evaluation of the groundwater treatment system.

## FY06 MMRP Progress

The Army has identified no MMRP sites at this installation.

## Plan of Action

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

### IRP

- Complete 5-year review and groundwater monitoring plan amendment in FY07.
- Complete the optimization evaluation of the groundwater treatment system in FY07.
- Initiate bioremediation pilot study and the abandonment of select wells in FY07.
- Award contract for bioremediation of residual contamination associated with the Parking Lot 3 Plume in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA917002320200	<b>Funding to Date:</b>	\$ 36.1 million
<b>Size:</b>	541 acres	<b>Est. CTC (Comp Year):</b>	\$ 6.3 million(FY 2009)
<b>Mission:</b>	Provided recruit training for enlisted personnel and specialized training for officers and enlisted personnel	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Pesticides, solvents, POLs, paints		
<b>Media Affected:</b>	Groundwater, sediment, soil		



San Diego, California

## 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 that might present environmental problems: five sites are being addressed under CERCLA and seven 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 held a meeting in March 2004, and has been inactive since.

Nine sites have been identified at this installation. The installation has signed one Record of Decision. The cleanup progress at San Diego NTC for FY02 through FY05 is detailed below.

In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. There were no MMRP sites identified at this installation.

In FY03, the installation initiated a preliminary assessment for Site 101.

In FY04, the installation completed the remedial investigation (RI) for the Site 12 boat channel. The City of San Diego requested initiation of actions necessary to accomplish an early transfer of the Boat Channel. The installation continued facilitating the RAB meetings. The installation also closed Site 101.

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). The installation continued to pursue an early transfer with the City of San Diego.

## FY06 IRP Progress

San Diego NTC met with the RWQCB and received comments on a final RI report. The Navy continued early transfer 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.

The FS report for Site 12 is sequenced to resolution of RWQCB comments on the final report.

## FY06 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

- Continue to pursue an early transfer with the City of San Diego in FY07.
- Conduct a study of the sources of contamination and, depending on the status of early transfer, potentially prepare an FS report for Site 12 in FY07.
- Evaluate reactivation of the RAB in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	IL59799F221600	<b>Funding to Date:</b>	\$ 1.7 million
<b>Size:</b>	43,000 acres	<b>Est. CTC (Comp Year):</b>	\$ 41.0 million(FY 2027)
<b>Mission:</b>	Manufactured and loaded ordnance for shipping	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2016/FY 2027
<b>HRS Score:</b>	43.70; placed on NPL in July 1987	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	IAG signed in September 1991		
<b>Contaminants:</b>	Organic solvents, inorganic compounds, PAHs, PCBs, munitions, heavy metals		
<b>Media Affected:</b>	Groundwater and soil		



Carterville, Illinois

## 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's) 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. In FY96, U.S. Army Corps of Engineers (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 (RA) for MEC begun by USACE in FY98 at the EMMA OU was completed in FY01. The FWS established a technical working group (TWG) in FY00 consisting of FWS, EPA, Illinois Environmental Protection Agency (IEPA) and USACE. An electronic administrative record was developed for the EMMA OU in FY04.

The cleanup progress for Sangamo Electric Dump/Crab Orchard National Wildlife Refuge for FY02 through FY05 is detailed below.

In FY02, USACE performed additional tree planting for erosion control, which completed the RA for the EMMA OU.

In FY03, USACE continued long-term management (LTM) and performed one round of groundwater monitoring well sampling in the EMMA OU. The results were provided to IEPA, EPA, and FWS. The TWG met three times to discuss the land use control (LUC) plan for the entire Crab Orchard National Wildlife Refuge.

In FY04, USACE continued LTM by performing two rounds of groundwater monitoring in the EMMA OU, the results of which it reported to IEPA, EPA, and FWS. USACE also reviewed the draft propertywide FWS LUC plan. In addition, the former Illinois Ordnance Plant developed an electronic administrative

record file for the EMMA OU and provided electronic copies to IEPA, EPA, and FWS. 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 IEPA, EPA, and FWS. 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, and USACE attended one of the meetings.

## FY06 IRP Progress

USACE continued LTM by performing two rounds of groundwater monitoring in the EMMA OU and reported the results to IEPA, EPA, and FWS. Based on IEPA concerns, three wells (two at Crab Orchard Cemetery 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). The USACE participated in the development of the propertywide 5-year review which included site visits by IEPA, EPA, and FWS.

The TWG continued to hold meetings regarding PRP sites and USACE attended one of the meetings. USACE continued LTM for EMMA OU and a 5-year review is underway.

## FY06 MMRP Progress

USACE started preparation of a draft INPR for a new Military Munitions Response Program (MMRP) project to further investigate a new land mine discovery.

USACE continued LTM on EMMA OU and a 5-year review is underway.

## 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 at the EMMA OU in FY07.
- Complete the PRP INPR revision for the PRP project 09 by FY07.
- Obtain regulatory concurrence on project close-out for containerized Hazardous Toxic and Radioactive Waste project in FY07.
- Participate in final review of the propertywide 5-year review in FY07.

## MMRP

- Complete the MMRP INPR revision for MMRP project 10 (additional MEC investigation) in FY07.
- Obtain regulatory concurrence on project close-out for MMRP project 03 in FY07.

<b>FFID:</b>	IL521382080300	<b>Funding to Date:</b>	\$ 114.7 million
<b>Size:</b>	13,062 acres	<b>Est. CTC (Comp Year):</b>	\$ 62.3 million(FY 2045)
<b>Mission:</b>	Receive, store, and demilitarize ammunition; manufacture ammunition-specific equipment	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2016/FY 2017
<b>HRS Score:</b>	42.20; placed on NPL in March 1989	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	IAG signed in FY89		
<b>Contaminants:</b>	Explosives, metals, solvents, POLs, VOCs		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Savanna, Illinois

## Progress To Date

Savanna Army Depot 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 and updated it in FY04 and FY05. 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.

To date, the Army and regulators have signed one Record of Decision and the Army has transferred approximately 4,200 acres of land. The cleanup progress at Savanna Army Depot for FY02 through FY05 is detailed below.

In FY02, the Army successfully completed a removal action at the Pesticide Burial Area. Remedial investigation (RI) fieldwork in the lower post was completed. The installation completed the draft Old Burning Grounds (OBG) ecological risk assessment and submitted it for review. The Army initiated an inventory of closed, transferred, and transferring ranges, and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

In FY03, the Army completed findings of suitability to transfer (FOSTs) and environmental condition of property (ECP) category assessments that contributed to the transfer of 3,002 acres to the U.S. Fish and Wildlife Service and 221 acres to the local redevelopment authority (LRA). Both transfers were preceded by completion of a memorandum of agreement with each transferee. The installation initiated removal actions at

Sites 15/33, 25, 44, and 76AD. The installation also initiated consolidation of all RI efforts at Sites 13 and 14. The Army completed the Military Munitions Response Program (MMRP) inventory and identified 15 MMRP sites at the Savanna Army Depot. The Army awarded the contract for munitions and explosives of concern (MEC) investigation of six large tracts of land once part of open detonation and artillery impact area operations. The installation completed the Zone L Phase II investigation and initiated Phase III.

In FY04, the installation completed Phase I of the 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 FOSTs and ECPs) on the Apple River Island parcel, the Primm's Pond parcel, the 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 Army Depot completed 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 MMRP RI/feasibility study for the OBG.

## FY06 IRP Progress

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 are addressing comments to determine whether early transfer is possible. Savanna Army Depot completed remediation of Site 82SS. The cost of completing environmental restoration has changed significantly due to technical issues.

## FY06 MMRP Progress

Savanna Army Depot 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 75mm 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.

Contractual and procedural issues delayed MEC actions at Zone L and investigations of the A Area Detonation Pits, 155mm High Explosive Proof Range, and Grenade Burial Area.

## Plan of Action

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

### IRP

- Transfer LRA Parcel 11A in FY07-FY08.
- Develop work plans and complete the RI reports for the PBC sites in FY07-FY08.

### MMRP

- Complete Phase III MEC actions at Zone L in FY07-FY08.
- Complete Phase I and II MEC investigations of the A Area Detonation Pits, 155mm High Explosive Proof Range, and Grenade Burial Area in FY07-FY08.

<b>FFID:</b>	NY221382083000	<b>Funding to Date:</b>	\$ 99.8 million
<b>Size:</b>	10,594 acres	<b>Est. CTC (Comp Year):</b>	\$ 39.2 million(FY 2026)
<b>Mission:</b>	Received, stored, distributed, maintained, and demilitarized conventional ammunition, explosives, and special weapons	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/FY 2017
<b>HRS Score:</b>	37.30; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA signed in January 1993		
<b>Contaminants:</b>	Chlorinated solvents, radioactive isotopes, heavy metals, petroleum hydrocarbons		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Romulus, New York

## Progress To Date

During its operation, Seneca Army Depot 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 Army Depot, except for an enclave that will store hazardous materials and ores. 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. The installation closed in September 2000.

To date, the Army has signed five Records of Decision (RODs) and transferred over 7,900 acres. In FY94, the installation completed a solid waste management classification study, identifying 72 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 and feasibility studies (RI/FSs). The 28 sites requiring RI/FSs were divided into 13 groups. In FY03, the Army identified 18 Military Munitions Response Program (MMRP) sites at this location, 13 of which have achieved response complete (RC) status. The cleanup progress at Seneca for FY02 through FY05 is detailed below.

In FY02, the interim remedial actions (IRAs) at the radioactive waste burial site, sludge piles, and paint disposal areas continued. The Army submitted NFA RODs to regulators for approval. The installation completed an investigation at the small-arms range at the airfield and initiated the IRAs in preparation for transfer.

In FY03, the installation completed 10 IRAs for the sludge piles, paint disposal areas, volatile organic compounds (VOCs), and

metals. The Army signed the ROD for 22 no action/NFA sites, closing these sites. The installation also accomplished work to close RCRA storage units. The installation transferred 6,981 acres of property. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. It identified 18 MMRP sites at the installation. By the end of FY03, 13 had already reached RC.

In FY04, the Army signed two RODs with land use controls. The installation completed three 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.

## FY06 IRP Progress

The Army awarded a performance-based contract to address six sites through remedy in place/RC. The installation completed RA at two sites and continued RA at five other sites. The Army also completed RODs for four sites. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed a ROD for 10 other sites, as 7 more sites were added to the document's initiation.

The RAB continued to meet quarterly to discuss restoration activities.

## FY06 MMRP Progress

Seneca Army Depot initiated RA 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.

Technical issues delayed the ROD for 12 MMRP sites with CERCLA hazardous substances.

## Plan of Action

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

### IRP

- Complete RA at two sites and IRA at one site in FY07-FY08.
- Complete RODs for 17 sites in FY07-FY08.
- Transfer approximately 500 acres in FY07-FY08.

### MMRP

- Complete IRA and closeout documents for three sites in FY07-FY08.
- Complete ROD for MMRP sites with CERCLA hazardous substances in FY07-FY08.

<b>FFID:</b>	CA921382084300	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	96,930 acres	<b>Funding to Date:</b>	\$ 89.4 million
<b>Mission:</b>	Receive, store, and maintain conventional ammunition to support demilitarization of conventional ammunition and receive, store, maintain, and issue operational project stocks and general supplies	<b>Est. CTC (Comp Year):</b>	\$ 194.1 million(FY 2014)
<b>HRS Score:</b>	N/A	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/FY 2014
<b>IAG Status:</b>	FFA signed in May 1991	<b>Five-Year Review Status:</b>	Underway
<b>Contaminants:</b>	Petroleum products, solvents (including TCE), explosives		



Herlong, California

## Progress To Date

In 1995, the BRAC Commission recommended realignment of Sierra Army Depot (AD). The 2005 BRAC Commission also recommended Sierra AD for 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 23 sites; 12 sites required no further action (NFA). In FY96, the installation formed a BRAC cleanup team. The latest version of the BRAC cleanup plan was published in FY97. In FY97, the installation established a Restoration Advisory Board (RAB). The installation completed 5-year reviews in FY02 and FY06.

To date, Records of Decision (RODs) address 21 sites. Ongoing operations include groundwater enhancement at four sites and a soil vapor extraction system at the Defense Reutilization and Marketing Office (DRMO) Trench Area. The installation completed a property transfer in FY99, to the Federal Bureau of Prisons. The Herlong Parcel, Honey Lake, and the ordnance and explosives (O&E) clean portion of the Airfield and East Shore parcels were transferred in FY03. The Susanville Road, Cross Depot Access parcels, and 885 additional acres were transferred in FY04. The installation transferred 136 acres of the East Shore area in FY05. The Army has transferred approximately 62,636 acres to date. The cleanup progress at Sierra AD for FY02 through FY05 is detailed below.

In FY02, the Army completed the 5-year review of monitored natural attenuation (MNA) at the TNT area and completed bioventing at the Diesel Spill Area. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The Army completed a draft engineering evaluation and cost analysis (EE/CA) project design for the BRAC East Shore and Airfield parcels.

In FY03, the installation completed the vegetation survey of Honey Lake and a protocol survey for the Carson Wandering

Skipper on two BRAC parcels (Cross Depot Access and Honey Lake). The installation received concurrence from the U.S. Fish and Wildlife Service and the State Historic Preservation Office to transfer all BRAC parcels. The Army transferred the Herlong Parcel, Honey Lake, and the O&E clean portion of the Airfield and East Shore parcels. The Army awarded a guaranteed fixed-price remediation (GFPR) contract that addressed all open restoration sites at Sierra AD. The Army completed the CTT range and site inventory for both the BRAC and active sites, identifying 5 BRAC Military Munitions Response Program (MMRP) sites and 11 active/closed MMRP sites at Sierra AD. The RAB met three times to review the findings of suitability to transfer for the Herlong Parcel, the O&E clean portion of the Airfield and East Shore, and Honey Lake, the finding of suitability to lease for the clean portion of Honey Lake, and the Environmental Baseline Survey addendums for Susanville Road and the Cross Depot Access Parcel.

In FY04, the installation completed the EE/CA and the munitions and explosives of concern 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 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 soil vapor extraction (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.

## FY06 IRP Progress

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 also completed soil removal

action at Building 79. The Army also completed 5-year reviews at the DRMO site, and of MNA at the TNT area. The Army received regulatory approval of the remedial action plan for the Honey Lake Demolition Range. The cost of completing environmental restoration has changed significantly due to regulatory issues.

The regulators approved the Army's temporary discontinuance of the operation of the pump-and-treat system to characterize groundwater contaminant and plume movement.

## FY06 MMRP Progress

The installation completed the SI for seven MMRP active sites, two of which required NFA.

Programmatic issues delayed the SI at the Upper Burning Grounds Area.

## Plan of Action

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

### IRP

- Complete feasibility study for the Abandoned Landfill in FY07.
- Construct pilot SVE system at Building 210 in FY07.
- Complete ROD for the Abandoned Landfill in FY08.

### MMRP

- Conduct SI at the Upper Burning Grounds Area in FY07.

<b>FFID:</b>	MA117002202200	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	2,094 acres	<b>Funding to Date:</b>	\$ 47.0 million
<b>Mission:</b>	Provided administrative coordination and logistical support for Reserve units; provided logistical support for the Marine Air Reserve Training Detachment South Weymouth	<b>Est. CTC (Comp Year):</b>	\$ 40.8 million(FY 2033)
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2007
<b>IAG Status:</b>	FFA signed in April 2000	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>Contaminants:</b>	Petroleum hydrocarbons, solvents, acids, paints, metals, photographic chemicals, industrial wastes, UXO		



Weymouth, Massachusetts

## 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. Initially, eight CERCLA sites and one RCRA underground storage tank (UST) site were identified at the installation. Prominent site types include a landfill, a UST, 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 BRAC cleanup plan was released. A technical assistance for public participation grant was awarded to the RAB in FY99. In FY99, the installation also completed the Environmental Baseline Survey (EBS) Phase II work plan and the surface debris removal action for four Installation Restoration Program (IRP) sites.

Fifteen sites have been identified at this installation (11 CERCLA, 2 RCRA UST, and 2 MMRP Sites). The installation has completed a Record of Decision (ROD) for Sites 2, 3, 4, 5, and 8. The cleanup progress at South Weymouth NAS for FY02 through FY05 is detailed below.

In FY02, the installation completed the remedial investigation (RI) Phase II risk assessments and reports for four CERCLA sites. The installation completed a feasibility study (FS) for Site 2 and initiated FSs for Sites 1 and 7. It also completed the Site 9 pilot study and submitted the RI work plan. The installation completed the proposed plan (PP) and ROD for Site 3 and initiated the Sites 9 and 10 RI work plans. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. Two MMRP sites were identified at this installation.

In FY03, the installation completed an FS at Site 1. The installation also completed a field program and released the Site 4 PP for public comment. The installation continued to

incorporate the EBS to the basewide report work. The Navy completed an inventory of all MMRP sites. Preliminary assessments were completed and no further action (NFA) was planned.

In FY04, the Sites 2 and 4 RODs were signed and the 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 RA at Site 2 consistent with the ROD. South Weymouth NAS collected supplemental groundwater data for Site 5 and favorable results allowed the NFA PP to be finalized. The installation continued 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.

## FY06 IRP Progress

South Weymouth NAS signed the Site 5 ROD. The installation completed the remedy at Site 2. The Navy issued the draft final FS for Site 7. Additionally, the Navy began design for Site 3 and completed state regulation cleanup required at Site 4.

The installation reached agreement with regulators for finalization of the PP for Site 1; however, additional regulatory issues delayed completion of the PP, ROD, and RD for the site.

## FY06 MMRP Progress

The installation completed a removal action for Unexploded Ordnance (UXO) 1.

## Plan of Action

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

### IRP

- Complete RIs and FSs for Sites 9, 10, and 11 in FY07-FY08.
- Finalize PP, sign ROD, and complete RD for Site 1 in FY07-FY08.
- Finalize the FS, PP, and ROD for Site 7 in FY07-FY08.
- Complete design and initiate remedy for Site 3 in FY07-FY08.

### MMRP

- Complete the FS, PP, RD, and ROD for UXO 1 in FY07-FY08.
- Conduct a limited surface clearance as part of operation and maintenance activities in FY07-FY08.



<b>FFID:</b>	VA317002758100	<b>Funding to Date:</b>	\$ 13.1 million
<b>Size:</b>	490 acres	<b>Est. CTC (Comp Year):</b>	\$ 21.8 million(FY 2026)
<b>Mission:</b>	Provide radar testing range and various administrative and warehousing facilities for the nearby Norfolk Naval Shipyard and other local Navy activities	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/None
<b>HRS Score:</b>	50.0; placed on NPL in August 2000	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA signed in July 2004		
<b>Contaminants:</b>	Pesticides, heavy metals, SVOCs, solvents, explosives		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Chesapeake, Virginia

## Progress To Date

Historically, 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 facility. An administrative record was established in FY99. The 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.

Fifteen sites and 12 areas of concern (AOCs) 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. The cleanup progress at St. Juliens Creek Annex for FY02 through FY05 is detailed below.

In FY02, the installation finalized the engineering evaluation and cost analysis (EE/CA) and action memorandum for Sites 3 and 6, and the interim remedial action (IRA) was initiated. A site screening assessment (SSA) closed 14 sites/AOCs. The ecological risk assessment (ERA) work plan for Sites 3, 4, 5, and 6 was completed. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed a draft remedial investigation (RI)/human health risk assessment (HHRA)/ERA for Site 2, as well as a draft feasibility study for Site 4. The installation also completed the final RI/HHRA/ERA report for Sites 3, 4, 5, and 6. St. Juliens Creek Annex completed a draft work plan for the IRA at Site 3. In addition, the installation completed a final work plan for the SSA addendum at Site 8 and AOCs 13, 14, and K, and a site inspection (SI) at Sites 19, 21, and AOC 1. A final site-specific work plan and sampling analysis plan for the basewide groundwater background investigation report was completed. The final technical memorandum site delineation/supplemental RI for Site 3 was completed. The final Site 6 closeout report and Site 3 removal summary was completed. The master project plan was updated and finalized. The final ROD for Site 6 was completed. The

installation completed the final work plan for the Blows Creek baseline ERA (BERA) (Phase I).

In FY04, the installation conducted supplemental investigations for Sites 2 and 5, and a BERA for Blows Creek. The final confirmation closeout report and construction closeout report for the Site 3 IRA were also completed. The installation completed the RI/HHRA/ERA for Site 2, as well as a final FFA. Additionally, the background investigation report SSA addendum for groundwater was completed. A draft Phase II expanded RI work plan technical memo for Site 2 was completed, along with a supplemental SI technical memo of 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 the removal action. The final confirmation closeout report and construction closeout report for the Site 3 IRA (Phase II) were also completed. The installation completed a draft SSA addendum at Site 8 and AOCs 13, 14, and K, along with a draft SI at Sites 8, 19, 21, and AOC 1. The installation also completed a draft watershed contaminated source document for the southern branch of the Elizabeth River watershed.

In FY05, the installation conducted a draft expanded RI (ERI) for Site 2 and completed the final proposed RA plan 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 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 screening site inspection (SSI) and completed a work plan for additional groundwater delineation activities at Site 21. It completed the Phase II Blow's Creek BERA work plan and conducted the 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 Installation Restoration Program (IRP) sites. The Navy developed a draft updated CRP.

## FY06 IRP Progress

St. Juliens Creek Annex completed an RA, RA completion report, groundwater monitoring plan, and land use control

remedial design at Site 4. The installation completed a draft ERI for Site 2 and 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. The cost of completing environmental restoration has changed significantly due to technical issues.

Technical issues delayed the field activities for the storm sewer video survey and repairs. The installation completed a draft SSI report for Site 21; however, technical issues delayed final completion. Technical issues also delayed the final RI for Sites 2 and 5, and the treatability study (TS) for Site 2.

## FY06 MMRP Progress

The Navy has identified no MMRP sites at this installation.

## Plan of Action

Plan of action items for St. Juliens Creek Annex are grouped below according to program category.

### IRP

- Create a conceptual site model and conduct a Triad approach investigation at Site 2 in FY07.
- Finalize the EE/CA and perform preconfirmation sampling at Site 5 in FY07.
- Complete a final closeout report for Site 19 in FY07.
- Conduct additional groundwater and storm water delineation activities at Site 21, finalize the SSI report, and initiate a TS in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CT121382292400	<b>Funding to Date:</b>	\$ 18.6 million
<b>Size:</b>	78 acres	<b>Est. CTC (Comp Year):</b>	\$ 28.9 million(FY 2017)
<b>Mission:</b>	Manufactured engines for heavy armor vehicles and rotary wing aircraft	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2017/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	PCBs, asbestos, fuel-related VOCs, solvents, metals, PAHs		
<b>Media Affected:</b>	Groundwater, sediment, soil, soil vapor		



Stratford, Connecticut

## Progress To Date

In July 1995, the BRAC Commission recommended closure of the Stratford Army Engine Plant. The installation closed in September 1998. Prior to closure, the installation 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 FY96, the installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB). 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, and completed decommissioning in FY99. The installation implemented a community relations plan, which included the establishment of an on-site public information repository.

The cleanup progress at Stratford Army Engine Plant for FY02 through FY05 is detailed below.

In FY02, the installation completed cap construction on the causeway. The Army continued remedial investigation (RI) work in response to comments from regulators by conducting more investigation. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The inventory identified no Military Munitions Response Program (MMRP) sites.

In FY03, the installation submitted the draft final RI to regulators and the RAB for review. The Army completed the final

inspection of the causeway cap. The installation worked with the State to develop feasibility study (FS) alternatives.

In FY04, the installation completed the RI sampling and submitted the final RI to regulators. The installation initiated compliance sampling of subsurface soil gas. Additionally, the installation drafted an FS.

In FY05, the installation submitted the draft FS and proposed plan (PP). The PP outlines the preferred remedial alternatives to address the unacceptable risks associated with soil, soil vapor, and groundwater.

## FY06 IRP Progress

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.

Regulatory issues delayed the FS, PP, and Record of Decision (ROD).

## FY06 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, and PP in FY07.
- Prepare ROD in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	KS721382087800	<b>Funding to Date:</b>	\$ 44.7 million
<b>Size:</b>	9,065 acres	<b>Est. CTC (Comp Year):</b>	\$ 52.4 million(FY 2008)
<b>Mission:</b>	Manufactured smokeless powder and propellants	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/FY 2003
<b>HRS Score:</b>	50.00; proposed for NPL in February 1995; withdrew proposal for NPL in April 2006	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Sulfates, lead, chromium, propellants, nitrates		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



De Soto, Kansas

## Progress To Date

The Sunflower Army Ammunition Plant (AAP) began operations in 1942. Sunflower AAP's primary mission was to manufacture smokeless powder and propellants. Additional installation operations included the manufacture and regeneration of nitric and sulfuric acids and munitions proving. Sunflower AAP no longer has a mission, and the Army designated all real property excess to its needs. EPA proposed placing Sunflower AAP on the NPL in February 1995 after evaluating five propellant manufacturing surface impoundments as potential sources of hazardous waste. EPA withdrew the proposal to add the installation to the NPL in April 2006. Prominent site types at Sunflower AAP include landfills, open burning and open detonation areas, propellant production areas, dump sites, settling ponds, wastewater lagoons, and drainage ditches. An analysis indicated heavy metal contamination of soil and sediment, and nitrate contamination in groundwater. Sunflower AAP has developed a community relations plan. The installation formed a Restoration Advisory Board (RAB) in FY98. The installation completed a 5-year review in FY05.

To date, sources of contamination at the Sunflower AAP include production lines, magazine storage areas, 67 solid waste management units (SWMUs), and 22 areas of concern. The cleanup progress at Sunflower AAP for FY02 through FY05 is detailed below.

In FY02, Sunflower AAP initiated an installationwide stream study, including SWMU 14. The Army completed interim remedial actions (RAs) for SWMUs 18, 32, 33, 34, and 35, and a grazing study. The Agency for Toxic Substances and Disease Registry completed a public health assessment for Sunflower AAP that identified no specific environmental or public health concerns related to the installation. Sunflower AAP initiated RCRA facility investigations (RFIs) for SWMUs 1, 21, 39, 45, and 47. Long-term management (LTM) continued for SWMUs 11, 13, 27, 41, 48, and 50. RAB meetings informed the community about past, present, and future actions taken under the Installation Restoration Program (IRP) at Sunflower AAP.

In FY03, Sunflower AAP continued RFIs for SWMUs 1, 21, 39, 45, and 47. LTM continued for SWMUs 11, 13, 27, 41, 48, and 50. Sunflower AAP continued the installationwide stream study. Sunflower AAP initiated a RA for SWMU 22. The Army

completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The inventory identified two Military Munitions Response Program (MMRP) sites at Sunflower AAP. The installation conducted a site tour for the RAB and gave a presentation that described the risk assessment process.

In FY04, the installation began RFIs for SWMUs 3, 10, 14, 18, 20, 25, 38, 44, and 53. The installation continued LTM for SWMUs 11, 13, 27, 41, 48, and 50. The Army initiated an installationwide explosive safety assessment and an installationwide treatability study (TS). Additionally, the installation initiated an engineering evaluation and cost analysis (EE/CA) for on-site versus off-site disposal of non-hazardous contaminated soils. The installation continued RA for SWMU 22.

In FY05, the installation completed RFIs for SWMUs 1, 3, 10, 14, 18, 21, 25, 38, 39, 44, 45, 47, and 53. The Army completed the installationwide explosive safety assessment, TS, and EE/CA. Additionally, the installation completed RAs for SWMUs 10 and 22. LTM continued for SWMUs 11, 13, 27, 33, 35, 41, 48, and 50. The installation completed its first 5-year review.

## FY06 IRP Progress

EPA withdrew the proposal to place Sunflower AAP on the NPL.

The Army transferred Sunflower AAP to a private developer and entered into a contract to perform the explosives decontamination and environmental remediation of the contaminated sections of Sunflower AAP. The installation did not conduct cleanup activities due to increased discussions between the Army, developer, and regulatory agencies.

This is the last narrative for this installation.

## FY06 MMRP Progress

The Army conducted no MMRP actions at this installation.

## Plan of Action

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

### IRP

- Ensure private developer performs explosive decontamination and environmental remediation of contaminated sites in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	OK657172439100	<b>Est. CTC (Comp Year):</b>	\$ 96.1 million(FY 2023)
<b>Size:</b>	5,041 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
<b>Mission:</b>	Repair aircraft, weapons, and engines	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	42.24; placed on NPL in July 1987		
<b>IAG Status:</b>	IAG signed in December 1988		
<b>Contaminants:</b>	Organic solvents, heavy metals, petroleum		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		
<b>Funding to Date:</b>	\$ 207.4 million		



Oklahoma City, Oklahoma

## Progress To Date

The mission of Tinker Air Force Base (AFB) is to repair aircrafts, weapons, and engines. EPA placed the installation on the NPL in July 1987 and the Air Force signed an interagency agreement (IAG) in December 1988. 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 include landfills, underground storage tanks (USTs), waste pits, fire training areas, spill sites, and low-level radioactive waste sites. 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 installation formed its Restoration Advisory Board in FY94. In FY99 and FY03, the installation completed 5-year reviews.

To date, Records of Decision (RODs) have been signed for Building 3001 and Soldier Creek. The cleanup progress for Tinker AFB for FY02 through FY05 is detailed below.

In FY02, the installation completed the decision document (DD) necessary to achieve remedy in place (RIP) and response complete (RC) status for Landfill 4. The interim remedial action construction (IRA-C) was completed at Industrial Waste Pit 1, enabling the removal and treatment of 13,000 cubic yards of waste sludge/soil. The installation also completed the IRA-C of city water supply lines in a neighborhood near the Southwest Groundwater Management Unit (CG 38).

In FY03, the Air Force completed the risk assessment necessary to achieve site closeout for Industrial Waste Pit 2. The 5-year reviews were submitted to regulators. The Northwest Groundwater Management Unit (CG 37) feasibility study was completed and recommended monitored natural attenuation as the remedy.

In FY04, the Air Force achieved site closeout status for the Soldier Creek sediment and surface water operable unit (OT 02). A deep permeable reactive barrier was installed to further protect the neighborhood near Site CG 38. In addition, the DD

was completed and RIP was achieved for the Industrial Water Treatment Plant soils site (OT 34).

In FY05, the Air Force completed the DD and achieved RIP/RC status for the four fuel sites (ST 08). The installation also achieved RIP for Site CG 38. The Air Force updated its Military Munitions Response program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

## FY06 IRP Progress

Tinker AFB completed the study phases, DDs and achieved RIP for the East Groundwater Management Unit (CG 39) and the Gator Facility Groundwater Management Unit (CG 40). The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Technical issues delayed the completion of the study phase and DD for the Industrial Waste Pit #1 (Site WP 18). Technical issues also delayed the completion of the ROD, remedial design (RD), and RIP at the Soldier Creek off-base groundwater (SCOBGW) Site (Site OT 05).

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Complete the 5-year review for Building 3001 in FY07.
- Complete the study phase and DD for the Industrial Waste Pit 1 (WP 18) in FY07.
- Complete the ROD and RD, and achieve RIP at SCOBGW Site (Site OT 05) in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	PA321382089200	<b>Funding to Date:</b>	\$ 15.4 million
<b>Size:</b>	1,293 acres	<b>Est. CTC (Comp Year):</b>	\$ 4.0 million(FY 2014)
<b>Mission:</b>	Provide logistics for communications and electronics equipment	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2005/FY 2014
<b>HRS Score:</b>	37.93; placed on NPL in August 1990	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	IAG signed in September 1990		
<b>Contaminants:</b>	Heavy metals, solvents, VOCs, PCBs, POLs, UXO		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Tobyhanna, Pennsylvania

## 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. In 2005, the BRAC Commission recommended Tobyhanna AD for realignment. 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 its first 5-year review in FY02.

Environmental studies identified 65 areas of concern (AOCs) covering 1,296 acres at the installation; EPA partially delisted 62 of the AOCs from the NPL in FY01. The installation completed six Records of Decision, including five in FY00. The cleanup progress at Tobyhanna AD from FY02 through FY05 is detailed below.

In FY02, the Army completed the installation's first 5-year review. Five groundwater monitoring wells were installed at TBAD 067 for quarterly sampling to determine the extent of tetrachloroethylene (PCE) contamination. The Army completed the closed, transferred, and transferring (CTT) ranges and sites inventory, and identified two Military Munitions Response Program (MMRP) sites. Tobyhanna AD constructed a barbed wire fence with warning signs around its UXO area, TBAD 055.

In FY03, the installation continued groundwater monitoring at OUs 1 and 5. The Army initiated an installationwide MMRP site inspection (SI). The installation provided information regarding the UXO area and a former machine gun range (TBAD 029) to

the Army Environmental Center for inclusion in the CTT range inventory.

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 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.

## FY06 IRP Progress

The Army continued groundwater monitoring at OUs 1 and 5.

## FY06 MMRP Progress

The installation maintained the UXO fence and warning signs, and continued to control access at OU 4.

## Plan of Action

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

### IRP

- Complete the 5-year review in FY07.

### MMRP

- Maintain the UXO fence and warning signs at OU 4 in FY07.

<b>FFID:</b>	UT821382089400	<b>Est. CTC (Comp Year):</b>	\$ 111.6 million(FY 2032)
<b>Size:</b>	24,732 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/FY 2018
<b>Mission:</b>	Store and demilitarize munitions	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	53.95; placed on NPL in August 1990		
<b>IAG Status:</b>	FFA signed in September 1991		
<b>Contaminants:</b>	Explosives, petroleum hydrocarbons, PCBs, solvents, metals		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 115.1 million		



Tooele, Utah

## 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 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 three Records of Decision (RODs) that address six 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. Cleanup progress at Tooele AD for FY02 through FY05 is detailed below.

In FY02, the installation completed confirmation sampling and prepared a closure report for the final underground tank site. Tooele AD awarded a contract for the Phase II groundwater and vadose zone investigation of the BRAC industrial area, and initiated corrective measures for 19 RCRA sites. The installation completed a draft final feasibility study for OU 9 and submitted it for regulatory review. The installation completed a RCRA corrective measures study (CMS) for four sites, and completed a 5-year review for all sites at the installation.

In FY03, Tooele AD completed all required corrective measures at 17 RCRA sites. It also initiated corrective measures at two RCRA sites. EPA approved and signed the ROD for OU 4 and the Army implemented all required remedies. The installation completed CMSs for four sites, and initiated decision documents (DDs) for these sites. The Army completed an inventory of operational, closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance (UXO),

discarded military munitions (DMM), or munitions constituents (MC) at Tooele AD. The inventory identified five Military Munitions Response Program (MMRP) sites within the active portion of this installation. The Army also developed cost estimates for addressing the CTT ranges and sites with UXO, DMM, or MC.

In FY04, the installation signed DDs 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 ground water 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.

## FY06 IRP Progress

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-contaminated soil at SWMU 6 and submitted the proposed alternative remedy for regulatory review. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the corrective measures at SWMU 56 and the composting of explosives-contaminated soil at SWMU 10 (TNT Washout Ponds). The installation completed additional characterization of soil contamination at SWMU 56. A notice to proceed was issued for composting explosives-contaminated soil at SWMU 10.

## FY06 MMRP Progress

The installation completed a historical records review and prepared a project work plan for conducting a site inspection (SI) of identified MMRP sites.

## Plan of Action

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

### IRP

- Complete required fieldwork for implementation of corrective measures at SWMU 56 in FY07.
- Complete the evaluation of alternative corrective measures for groundwater at SWMU 2 in FY07.
- Complete RCRA facility investigation and initiate CMS at SWMU 58 in FY07.
- Initiate soil composting treatment at SWMU 10 in FY07.
- Implement alternative remedy at SWMU 6 in FY08.

### MMRP

- Complete the SI of all identified MMRP sites in FY07-FY08.

<b>FFID:</b>	CA957182457500	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Size:</b>	6,383 acres	<b>Funding to Date:</b>	\$ 98.3 million
<b>Mission:</b>	Provide air refueling and strategic airlift services for troops, cargo, and equipment	<b>Est. CTC (Comp Year):</b>	\$ 46.3 million(FY 2036)
<b>HRS Score:</b>	29.49; placed on NPL in November 1989	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/FY 2013
<b>IAG Status:</b>	FFA signed in September 1990; amended May 1993, October 1995, July 1996, November 1997, July 1998, December 2003, February 2005	<b>Five-Year Review Status:</b>	Completed and planned
<b>Contaminants:</b>	VOCs, heavy metals, POLs, PAHs		



Solano County, California

## 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, 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 and amended the document schedule in May 1993, October 1995, July 1996, November 1997, July 1998, December 2003 and February 2005. In FY95, the installation formed a Restoration Advisory Board (RAB) to provide for public involvement in the installation's cleanup decision-making process. The installation received technical assistance for public participation funding in FY99. The installation conducted a 5-year review of interim groundwater action in FY03.

Since 1985, assessments, inspections, investigations, and feasibility studies have identified 42 sites. To facilitate remedial investigations, the installation was divided into four operable units (OUs), and 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 OUs (NEWIOU) and for soil and groundwater in the West/Annexes/Basewide OU (WABOU). The cleanup progress at Travis AFB for FY02 through FY05 is detailed below.

In FY02, the installation finalized the WABOU soil ROD and completed construction of the Corrective Action Management Unit (CAMU). The Travis CAMU is located on top of a closed base municipal landfill and uses a designed soil cap to prevent exposure to the contaminated soil.

In FY03, a land access agreement was established with a base neighbor, allowing interim remedial action (RA) construction at the second of three off-base groundwater plumes. The

installation completed RAs at six soil sites in the WABOU and conducted a 5-year review of the basewide interim groundwater actions.

In FY04, the installation developed a pre-draft NEWIOU soil, sediment, and surface water ROD for coordination with HQ 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 RA operation at one site, installing conveyance piping and solar power to two extraction wells, and began the installation of three new extraction wells at Site FT 004 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-base construction projects was stockpiled to use as clean backfill at excavated Environmental Restoration Program (ERP) 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 the revised draft NEWIOU soil, sediment and surface water ROD. The Air Force began preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites. One public tour of on-base ERP sites was held during the summer and the RAB voted to meet semi-annually based on the installation's cleanup progress.

## FY06 IRP Progress

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 Sites FT 004 and SD 045. The Air Force installed a new dual phase extraction well at Site DP 039 source area and three additional monitoring wells downgradient in the plume. Additionally, the installation performed repairs on the CAMU to demonstrate the capability for on-base storage of soil from ERP Sites. The installation completed the engineered tree planting study at ERP Site DP 039, including a site review and a summary report. The cost of

completing environmental restoration has changed significantly due to changes in estimating criteria.

The restoration staff participated in an Ecology Summer Camp, providing an outdoor discussion on land restoration, wetland preservation, and career exploration to students at a local middle school. 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. Over 140 attendees from all over the country participated in Air Staff Environmental Restoration, ROD writing, and Remedial Action Cost Engineering Requirements training hosted by the installation.

## FY06 MMRP Progress

The installation completed PAs at all of its MMRP sites.

## Plan of Action

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

### IRP

- Develop remaining RDs and quality control plans for NEWIOU RAs and complete all seven RAs to support Air Force cleanup goals in FY07.
- Conduct groundwater technical evaluation to address site characterization, vapor intrusion, and technical impracticability issues in FY07-FY09.

### MMRP

- Complete site inspections in FY07-FY10.

<b>FFID:</b>	CA917002333000	<b>Funding to Date:</b>	\$ 118.1 million
<b>Size:</b>	1,075 acres	<b>Est. CTC (Comp Year):</b>	\$ 28.2 million(FY 2011)
<b>Mission:</b>	Provide services and materials to support units of operating forces and shore activities	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	FFA signed in September 1992		
<b>Contaminants:</b>	Petroleum hydrocarbons, VOCs, SVOCs, chlorinated solvents, metals, pesticides, PCBs		
<b>Media Affected:</b>	Groundwater and soil		



Treasure Island, California

## 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. In FY92, the installation established two information repositories and an administrative record, and completed a community relations plan (CRP), which was updated in FY02. The installation signed a federal facility agreement (FFA) in September 1992. 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).

Thirty-three sites, including 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 have been identified to date. The installation has signed one Record of Decision (ROD). The cleanup progress at Treasure Island NS for FY02 through FY05 is detailed below.

In FY02, Treasure Island NS received closure concurrence for Sites 1 and 3. CERCLA Sites 30 and 31 were added to the Installation Restoration Program (IRP). The installation completed a removal action for polychlorinated biphenyl (PCB)- and polycyclic aromatic hydrocarbon (PAH)-contaminated soil at five buildings in the Site 12 housing area. The RI was completed for the offshore Operable Unit Sites 13 and 27. A full-scale in situ soil vapor extraction system operated at Petroleum Sites 14, 22, and 25. Soil removal actions were completed or were underway at other petroleum sites, and a number of former underground storage tank sites received closure letters from the State Water Board. The installation updated the CRP. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation established petroleum remedies for 95 percent of sites. The installation completed the draft documentation for the transfer of all property not impacted by CERCLA or by petroleum sites. The installation submitted an engineering evaluation and cost analysis (EE/CA) for a removal

action in portions of Site 12 for review. The installation completed additional soil sampling for Site 12. The installation installed a pilot study for in situ remediation at Site 24.

In FY04, the installation completed remedies in place for all petroleum sites. The Navy initiated a historical radiological assessment (HRA). Additionally, the installation initiated petroleum remedies for the remaining 5 percent of sites. Naval Sites 32 (Former Training Area) and 33 (Waterline Replacement Area) were added to the 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 offshore sediments. The installation also installed a groundwater pilot study for in situ bioremediation at Site 21 and completed a groundwater investigation at Site 33.

## FY06 IRP Progress

Treasure Island NS obtained regulatory concurrence for closure of Petroleum Sites 6 and 25, pipeline D 1B groundwater, and Installation Restoration Site 7. The Navy completed No Action 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. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

The installation completed the RI report for Site 31; however, regulatory issues delayed RI reports for Sites 6, 8, 11, 12, 21, 24, 28, 29, 32, and 33. Technical issues delayed feasibility studies (FSs) for offshore Site 27, and onshore Sites 30 and 31.

## FY06 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 Sites 6 and 25, and regulatory concurrence of final status surveys for four radiological sites in FY07.
- Complete RI reports for Sites 6, 8, 11, 12, 21, 24, 28, 29, 32, and 33 in FY07.
- Complete FSs for offshore Site 27 and onshore Sites 21, 24, 30, 31, and 32 in FY07.
- Complete No Action PPs for Sites 8, 28, and 29 in FY07.
- Complete PPs for Sites 30, 31, and 32, and screening level ecological risk assessment in FY07.
- Complete groundwater pilot study, EE/CA, action memorandum, and removal action at three solid waste disposal areas for Site 12 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.



<b>FFID:</b>	NJ217002269500	<b>Est. CTC (Comp Year):</b>	\$ 16.1 million(FY 2031)
<b>Size:</b>	529 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2000/None
<b>Mission:</b>	Test engine systems and components	<b>Five-Year Review Status:</b>	Completed
<b>HRS Score:</b>	N/A		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	TCE, freon, mercury, solvents, fuels		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 24.4 million		



Trenton, New Jersey

## 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 groundwater and soil. Site types include underground storage tanks (USTs), 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. The Environmental Baseline Survey (EBS) Phase II report was finalized, and remediation was completed at the remaining EBS areas of concern. In FY04, the installation completed a 5-year review.

Studies at the installation have identified nine CERCLA sites and two UST sites. The cleanup progress at Trenton NAWC Aircraft Division for FY02 through FY05 is detailed below.

In FY02, the installation continued groundwater monitoring and operation and maintenance (O&M) of the groundwater treatment system, and transferred Parcel B. An inventory of all Military Munitions Response Program (MMRP) sites was completed. No MMRP sites were identified at this installation.

In FY03, O&M of the groundwater treatment system continued.

In FY04, 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 biannual review per state regulations. A work plan for a bioaugmentation pilot study for groundwater was completed and fieldwork began.

## FY06 IRP Progress

Trenton NAWC Aircraft Division continued O&M of the groundwater treatment system.

The installation extended the bioaugmentation pilot study, as favorable results delayed its completion.

## FY06 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

- Complete the bioaugmentation pilot study and issue a report in FY07.
- Continue O&M of the groundwater treatment system in FY07-FY08.
- Ensure relocation of the treatment plant and extraction wells meets regulatory and operational requirements in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	AZ957282593400	<b>Funding to Date:</b>	\$ 13.7 million
<b>Size:</b>	84 acres	<b>Est. CTC (Comp Year):</b>	\$ 8.3 million(FY 2017)
<b>Mission:</b>	Provide Air National Guard training	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 1997/None
<b>HRS Score:</b>	57.86; placed on NPL in September 1983	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	FFA signed in October 1994		
<b>Contaminants:</b>	TCE, tetrachloroethylene, chromium, POLs, petroleum hydrocarbons		
<b>Media Affected:</b>	Groundwater and soil		



Tucson, Arizona

## Progress To Date

Tucson International Airport (IAP) provides training for the Air National Guard (ANG). EPA placed the installation on the NPL in September 1983 and the Air Force signed a federal facility agreement (FFA) in October 1994. Sites identified at the 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.

Environmental studies have identified eight sites at Tucson. To date, one Record of Decision was completed for contaminated soil cleanup. The cleanup progress at Tucson IAP for FY02 through FY05 is detailed below.

In FY02, the installation continued a partnership with EPA Region 9 and the Arizona Department of Environmental Quality (ADEQ). Operation of the groundwater extraction and treatment system continued. Participation in the UCAB continued.

In FY03, the installation continued a partnership with EPA Region 9 and ADEQ. Operation of the groundwater extraction and treatment system continued, as well as participation in the UCAB. The Air Force completed a 5-year review.

In FY04, the installation continued to partner with EPA Region 9 and ADEQ, and continued participation in the UCAB. Operation of the groundwater extraction and treatment system continued.

In FY05, Tucson IAP continued operating the groundwater extraction treatment and recharge system. The installation continued partnering with EPA and ADEQ, and participated in the UCAB. The Air Force updated its Military Munitions

Response Program (MMRP) inventory. No MMRP sites were identified at this installation during the inventory development.

## FY06 IRP Progress

Tucson IAP continued operating the groundwater extraction treatment and recharge system and made adjustments to enhance the system's operation. EPA and ADEQ both concurred that the system is effectively containing contamination and preventing its spread beyond the base's property line. The ANG 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 the ANG and the regulators.

The installation continued participation in UCAB, however agreed to reduce UCAB meetings from bi-monthly to quarterly.

## FY06 MMRP Progress

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

## Plan of Action

Plan of action items for Tucson International Airport are grouped below according to program category.

### IRP

- Continue operating groundwater extraction treatment and recharge system in FY07.
- Continue partnering with EPA and ADEQ in FY07.
- Continue participating in UCAB and Tech Exchange meetings in FY07.
- Continue to partner with AFCEE REO in pursuit of a West Plume B source in FY07.
- Conduct remedial process optimization scoping visit in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	CA917302478300	<b>Funding to Date:</b>	\$ 62.4 million
<b>Size:</b>	1,603 acres	<b>Est. CTC (Comp Year):</b>	\$ 27.0 million(FY 2036)
<b>Mission:</b>	Supported operations of the Third Marine Aircraft Wing	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	FFA signed in August 1999		
<b>Contaminants:</b>	VOCs, dichloroethane, dichloroethene, TCE, TCP, BTEX, naphthalene, petroleum hydrocarbons, pentachlorophenol, MTBE		
<b>Media Affected:</b>	Groundwater and soil		



Tustin, California

## 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 updated two administrative records and two information repositories. The installation signed a federal facility agreement (FFA) in August 1999 and issued a draft CERFA basewide Environmental Baseline Survey in FY99.

Since FY85, studies have identified 16 CERCLA sites, 288 areas of concern (AOCs), 129 underground storage tank (UST) sites, and 25 aboveground storage tank sites. The installation has signed 5 Records of Decision (RODs) and transferred over 1,300 acres of property. The cleanup progress at Tustin MCAS for FY02 through FY05 is detailed below.

In FY02, the installation coordinated interim actions at UST Site 222 and Operable Unit (OU) 1A. The installation issued the OU 1B proposed plan (PP). The installation finalized the OU 3 ROD, and drafted the long-term operation and management (O&M) plan and land use control implementation and certification plan (LUCICP) for agency review. Additional data gathering was also conducted at low-risk sites to support the OU 4 feasibility study (FS). The installation used over a decade of environmental actions and data to support the economic development conveyance (EDC) transfer of 1,152 acres to the City of Tustin and the EDC transfer of 24 acres. Other support was provided for the public sale of 235 acres. The Navy completed an inventory for Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation issued the OU 1A FS supported by data from the FY02 interim action and evaluated the permanent remedy and the draft ROD, which included enhancement of the interim groundwater removal action treatment system along with a soil and groundwater hotspot removal. The installation continued operations and explored opportunities for enhancement of the UST Site 222 MTBE groundwater treatment system. The installation issued the draft final version

of the OU 1B ROD, which included a groundwater treatment and soil removal remedy at two sites, after modifications to incorporate the recent Navy/EPA Land Use Controls Principles and Procedures Agreement. The installation implemented the OU 3 O&M plan/LUCICP and completed the operating properly and successfully (OP&S) certification. The installation completed revising the remedy strategy at Site ST 16A/B to a petroleum corrective action for polyaromatic hydrocarbons (PAHs). It also completed developing the removal strategy at the arsenic AOC site in partnership with redevelopment activities by the City of Tustin. The installation also completed sampling at several OU 4 sites to support a dual exit strategy for these low-risk sites.

In FY04, Tustin MCAS obtained OP&S concurrence for the Moffet Trenches landfill and OU 3. The installation also completed additional soil removal and treatment system enhancements at the UST Site 222 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 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 issued a final ROD/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/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/RAP for OU 4A. The installation issued an 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 groundwater site. The installation closed the last AOC in the compliance program.

## FY06 IRP Progress

Tustin MCAS conducted a 5-year review at OU 3 for the continued LTM phase of a landfill cap. In addition, the installation completed soil removal activities at OUs 1A and 1B. The Navy developed a tiered closure criteria for the MTBE groundwater site.

The installation began a revised draft FS; however, regulatory issues delayed the final FS and PP for OU 4B. In addition, regulatory issues delayed the RD/RA work plan for groundwater OUs 1A and 1B.

## FY06 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

- Complete the RD/RA work plan and field activities for groundwater at OUs 1A and 1B in FY07.
- Finalize 5-year review and continue LTM at OU 3 in FY07.
- Revise draft FS, complete PP, and conduct a public meeting for OU 4B in FY07.
- Continue MTBE groundwater site remediation in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	MN521382090800	<b>Funding to Date:</b>	\$ 156.4 million
<b>Size:</b>	2,370 acres	<b>Est. CTC (Comp Year):</b>	\$ 31.0 million(FY 2040)
<b>Mission:</b>	Provide support to DoD tenants; formerly manufactured small-arms ammunition and projectile casings	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2010/None
<b>HRS Score:</b>	59.60; placed on NPL in September 1983	<b>Five-Year Review Status:</b>	Completed and planned
<b>IAG Status:</b>	FFA signed in August 1987		
<b>Contaminants:</b>	VOCs, PCBs, heavy metals		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Arden Hills, Minnesota

## 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. 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 a technical assistance for public participation contract to support the RAB in FY99. The Army completed 5-year reviews of Operable Units (OUs) 1, 2, and 3 in FY99 and FY04.

The installation grouped 25 sites, including former landfills, burning and burial grounds, ammunition testing and disposal sites, industrial operations buildings, and sewer system discharge areas, into 3 OUs. To date, the Army has signed three Records of Decision (RODs). The cleanup progress at Twin Cities AAP for FY02 through FY05 is detailed below.

In FY02, the Army completed remedial action construction (RA-C) fieldwork at Sites 129-3 and 129-15, and began the RA-C reconfiguration of the Twin Cities AAP groundwater recovery system (TGRS) for OU 2. The installation completed the remedial design and RA workplan for Site D metals. Staged completion of the OU 3 requirements continued. The regulators approved a revised cleanup goal at Site G, resulting in no further action for VOC-contaminated soil at the site. The installation initiated design work for a cover over the dump at Site G. The regulators approved the 135 and 535 Primer/Tracer

Area preliminary assessments and the 135 workplan site inspection (SI). The SI work commenced at the Building 135 Primer/Tracer Area. The Army abandoned 31 unused monitoring wells, both on and off the installation. The regulators approved closeout reports for the Grenade Range and the Outdoor Firing Range.

In FY03, the Army completed RA-C fieldwork at Site A (VOC soils), Site D (metal soils), and the removal of the corrective action management unit (CAMU), and submitted the respective closeout reports. The regulators approved the closeout reports for Site 129-3 and Site 129-15, with the exception of land use control (LUC) requirements. The regulators approved the reconfiguration plan for the TGRS. The installation completed the SI fieldwork for both the 135 and 535 Primer/Tracer Areas. RA-C fieldwork began to upgrade the cover for the Site G dump and to place a cover at the 1900 Yard Range. At Site C, the Army obtained approval for a work plan and performed additional characterization work. The Army commissioned a Phase I/Phase II environmental site assessment to support future property transfers. The Army conducted an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents that identified no Military Munitions Response Program (MMRP) sites at the installation.

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 LUCs, the closeout report for the CAMU (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 SI reports for the 135 and 535 Primer/Tracer Areas, and an evaluation report for the vapor intrusion pathway off the installation.

## FY06 IRP Progress

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.

Regulatory issues delayed the LUC issue resolution and ROD amendments for various soil sites. Regulatory issues also delayed approval and trustee concurrence for the aquatic sites FS.

## FY06 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

- Resolve LUC issues and sign ROD amendments for various soil sites in FY07.
- Initiate engineering evaluation and cost analysis for 135 and 535 Primer/Tracer Areas and Building 102 in FY07.
- Complete the soil and sediment remedies at Site C in FY08.
- Obtain regulatory approval and trustee concurrence for the aquatic sites FS in FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	FL457152412400	<b>Funding to Date:</b>	\$ 24.4 million
<b>Size:</b>	28,824 acres	<b>Est. CTC (Comp Year):</b>	\$ 18.4 million(FY 2037)
<b>Mission:</b>	Provide advanced F-15 and F/A-22 fighter training	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2019
<b>HRS Score:</b>	50.00; placed on NPL in April 1997	<b>Five-Year Review Status:</b>	Planned
<b>IAG Status:</b>	IAG under negotiation		
<b>Contaminants:</b>	POLs, chlorinated solvents, pesticides, metals, PCBs, and general refuse		
<b>Media Affected:</b>	Groundwater, sediment, soil		



Panama City, Florida

## 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 325 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 base's inclusion on the NPL, OT 029 Shoal Point Bayou, has DDT contamination in the bayou sediments. Tyndall AFB is involved in a Florida partnering initiative with EPA, the State, 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. The TRC includes community members providing public input into the restoration process.

Environmental studies, beginning in FY81, have identified 38 Environmental Restoration account sites under the Installation Restoration Program (IRP). The cleanup progress at Tyndall AFB for FY02 through FY05 is detailed below.

In FY02, the installation finalized remedial investigations (RIs) and feasibility studies (FSs) for Sites Landfill (LF) 006, LF 007, and FT 017. An RI was also finalized for SS 026. Sites LF 002, OT 004, LF 009, LF 010, LF 012, OT 024, and OT 025 received no further remedial action planned (NFRAP) regulatory concurrence. The RI/baseline risk assessment (BRA) was completed for Site SS 026 and a draft RI/BRA was completed for Site OT 029. Several additional members were added to the TRC to increase public input.

In FY03, the installation began source removal pilot projects at Petroleum Sites SS 015 and FT 023. Remedial action (RA) began at Site FT 016. The installation developed a final proposed plan and a draft Record of Decision (ROD) for Sites LF 006, LF 007, FT 017, and SS 026. The Air Force conducted an innovative environmental assessment at an off-site location (OT 018) using the Triad approach.

In FY04, the Air Force began developing and implementing performance-based changes to the IRP program. Tyndall AFB awarded three contracts covering seven sites resulting in cost

avoidances over \$6.16 million. Performance-based contractors initiated 5-year contracts to address RA design and implementation for seven sites (Sites LF 006, LF 007, SS 015, FT 017, SS 019, FT 023, and SS 026). The RI/BRA was finalized and post-RI and FS work began at Site OT 029.

In FY05, Tyndall AFB received NFRAP concurrence for three sites (Sites LF 001, LF 003, and SS 014) and completed draft RI studies recommending NFRAP for two additional sites (Sites LF 005 and OT 037). The installation also submitted three sites (Sites LF 001, LF 003, and SS 014) for NFRAP regulatory concurrence. The Air Force began the preliminary assessments (PAs) for all identified Military Munitions Response Program (MMRP) sites.

## FY06 IRP Progress

Tyndall AFB implemented the proposed remedies in place (RIPs) at Sites LF 006, LF 007, FT 017, and SS 026 to reduce exposure risks with concurrence from EPA and the State. Tyndall AFB performed RIPs at Sites SS 015, SS 019, and FT 023, and investigated and closed one area of concern (AOC 006). The installation converted a second AOC to a site (FR 038) and awarded the RI/FS to complete the investigation and identify remedial options. The Air Force awarded a performance-based contract to complete remedy selection and implementation or site closure for all remaining active sites, except FR 038. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

Regulatory issues delayed submittal of a performance-based interagency agreement (IAG).

## FY06 MMRP Progress

The Air Force continued the PAs at all identified sites. Cost estimates were updated and the initial Munitions Response Site Prioritization Protocol rating for each MMRP site was developed. The Air Force also began site inspections (SIs).

## Plan of Action

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

### IRP

- Submit performance-based IAG in FY07.
- Finalize RODs and complete RIPs for Sites LF 006, LF 007, FT 017, and SS 026 in FY07.
- Complete RODs and implement RIP at Site OT 029 in FY07.
- Complete no action RODs for Sites LF 001, LF 003, and LF 005 in FY07.

### MMRP

- Complete PAs in FY07.
- Complete SIs in FY07-FY10.

**FFID:** NJ221382070400  
**Size:** 6,500 acres  
**Mission:** Serve as host to the Army Armaments Research, Development, and Engineering Center  
**HRS Score:** 42.92; placed on NPL in February 1990  
**IAG Status:** IAG signed in July 1991  
**Contaminants:** VOCs, explosives, PCBs, heavy metals  
**Media Affected:** Groundwater, surface water, sediment, soil

**Funding to Date:** \$ 103.9 million  
**Est. CTC (Comp Year):** \$ 111.1 million(FY 2038)  
**IRP/MMRP Sites Final RIP/RC:** FY 2009/FY 2018  
**Five-Year Review Status:** Underway



Rockaway Township, New Jersey

**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 Armament Research, Development and Engineering Center (ARDEC). EPA placed ARDEC on the NPL in February 1990. The Army and EPA signed an interagency agreement (IAG) in July 1991. In FY91, the installation identified 156 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 and feasibility study (RI/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 and FY05, the installation procured technical assistance for public participation (TAPP) contracts to provide technical support for the RAB. A community relations plan (CRP) was developed in FY00. Five-year reviews were completed in FY01 and FY06.

Environmental studies initially identified 175 sites at the installation, 113 of which are response complete (RC), mostly through consolidation and identification of ineligible sites from the original list. The Army and EPA have signed four Records of Decision (RODs). The cleanup progress at ARDEC for FY02 through FY05 is detailed below.

In FY02, The installation submitted the report on the effects of contaminated or potentially contaminated fish in ponds and lakes. Treatment of tetryl-contaminated soil using bioslurry continued.

In FY03, the installation completed FSs for Sites 180 and 25/26. Regulators determined that an FS for Site 22 was not needed. Eight sumps, drywells, and other structures were investigated and eliminated. The installation signed a decision document addressing six lead-contaminated areas around the arsenal. The installation completed the cap for Site 20/24. The Army investigated midvalley groundwater and submitted RI reports on over 60 sites to the regulators. The installation combined RI concept sites based on geography and plan of

action, resulting in RC for 84 sites. The Army completed the Phase III inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance (UXO), discarded military munitions, or munitions constituents. Military Munitions Response Program (MMRP) sites were identified.

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 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. Under the MMRP, 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. Additionally, sump and dry well removals were completed. The installation completed five pilot studies of contaminated groundwater, including magnus techniques for biomediation and a nano-iron groundwater study. The Army approved a TAPP contract for the installation.

**FY06 IRP Progress**

The Army awarded a performance-based contract (PBC) for most of the Installation Restoration Program (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. ARDEC completed a 5-year review and EPA agreed with the determinations.

Legal issues delayed RODs for Areas B and E Groundwater and delayed submittal of the PPs for Group 1, Group 3, Site 31, and Area C Groundwater. Technical issues delayed the ROD

for 13 sites with institutional controls (ICs), which now require an FS. Technical issues also delayed the PP for Site 180. Regulatory and legal issues delayed the Site 25/26 ROD and PPs for Site 25 and Building 31/33.

**FY06 MMRP Progress**

The installation conducted a historical records review (HRR) to determine installation MMRP sites and develop a site inspection (SI) work plan. The Army approved the HRR and submitted it to the regulators. The Army also signed a time-critical removal action for off-site UXO contamination from a 1926 explosion. The neighboring mining operation had discovered up to seven UXO on the property during mining operations. A contract was awarded to initiate the action.

Funding issues delayed the SI for all installation MMRP sites. The installation did not update the CRP to ensure that off-site issues and the results of the HRR could be incorporated into the document.

**Plan of Action**

Plan of action items for U.S. Army Armament Research, Development and Engineering Center are grouped below according to program category.

**IRP**

- Implement RODs for Area D Groundwater, Green Pond Brook, and Post Farm in FY07-FY08.
- Complete RODs for Areas B and E Groundwater, and 13 sites with ICs in FY07-FY08.
- Achieve remedy in place at 12 PBC sites in FY07-FY08.
- Submit PPs for Groups 1 and 3 Sites, the former DRMO Yard, Area C Groundwater, and 25 sites with ICs in FY07-FY08.
- Complete FSs for Midvalley groundwater and 25 sites in FY07-FY08.

**MMRP**

- Conduct removal action of off-site UXO contamination in FY07-FY08.
- Receive regulatory approval and implement the SI work plan in FY07-FY08.

<b>FFID:</b>	MA121382063100	<b>Funding to Date:</b>	\$ 39.3 million
<b>Size:</b>	78 acres	<b>Est. CTC (Comp Year):</b>	\$ 15.4 million(FY 2029)
<b>Mission:</b>	Research and develop food, clothing, equipment, and materials for military operations	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/None
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	Underway
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Pesticides, herbicides, pentachlorophenol, solvents, PCBs, VOCs		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Natick, Massachusetts

## 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 1994. In 2005, the BRAC Commission recommended Soldiers Systems Center for realignment. The installation established a Restoration Advisory Board (RAB) in FY95.

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. The cleanup progress at the Soldiers Systems Center for FY02 through FY05 is detailed below.

In FY02, the Army completed the interim remedial action (IRA) at the former proposed gymnasium site. The installation completed revegetation of the grounds behind the Boiler Plant site. Fieldwork associated with the remedial investigation and feasibility study (RI/FS) for the Buildings 22 and 36 site continued. The installation initiated the RI/FS for the Buildings 13 and 14 site.

In FY03, the Army installed three groundwater extraction wells and placed them in service. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The Army identified no Military Munitions Response Program (MMRP) sites at this installation.

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 IRA soil removals at NRDEC 03/13 (Buildings T 62 and T 68 site) and NRDEC 09/12 (Building 14 and former Building 13 site), and replaced monitoring well MW 35B. The installation initiated an updated site inspection (SI) for NRDEC 11 (former PDWW site) and the 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.

## FY06 IRP Progress

Soldier Systems Center completed IRA soil removals at NRDEC 03/13. The installation completed the RI for NRDEC 11 and 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 (NRDEC 01, 10, and 17). The Army submitted a draft proposed plan for NRDEC 03, 06, and 13, and draft 5-year review to EPA for review.

Contractual issues delayed IRA soil removals at NRDEC 09/12. Regulatory issues delayed the remedial design (RD) for three sediment sites.

## FY06 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 IRA soil removal at NRDEC 09/12 in FY07-FY08.
- Complete initial 5-year review for T 25 Area groundwater in FY07-FY08.
- Complete RD for three sediment sites (NRDEC 07, 10, and 17) in FY07-FY08.

## MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	OR021382091700	<b>Est. CTC (Comp Year):</b>	\$ 8.8 million(FY 2023)
<b>Size:</b>	19,729 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2003/FY 2015
<b>Mission:</b>	Store ammunition	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	31.31; placed on NPL in July 1987		
<b>IAG Status:</b>	FFA signed in October 1989		
<b>Contaminants:</b>	Explosives, UXO, heavy metals, pesticides, nitrates		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 54.7 million		



Hermiston, Oregon

## 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. EPA and the Army signed a federal facility agreement (FFA) in October 1989. In December 1988, the BRAC Commission recommended realignment of the installation. The 2005 BRAC Commission recommended closure of Umatilla Chemical Depot. 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.

Environmental studies identified 119 sites at this installation, grouped into 9 operable units (OUs). The Army has signed eight Records of Decision (RODs) to date. The cleanup progress at Umatilla CD for FY02 through FY05 is detailed below.

In FY02, the Army completed soil remediation at Site 19, the Ammunition Demolition Activity Area (ADA).

In FY03, the installation completed the function range intrusive investigation and the remedial action (RA) report for ADA OU. The Army completed the closed, transferred, and transferring ranges and sites inventory. It identified one Military Munitions Response Program (MMRP) site, the Quality Assurance Function Range (QAFR) (Site 39). The installation completed an engineering evaluation and cost analysis for the range.

In FY04, the installation completed the addendum 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 UMCD Landfill for selenium cleanup. The installation installed additional monitoring wells. The Army completed a draft revised monitoring plan for the UMCD Landfill. The installation completed the proposed plan and draft ROD for the QAFR under the MMRP.

In FY05, the installation completed an MMRP ROD for the QAFR.

## FY06 IRP Progress

The installation delayed the RA report for groundwater treatment in order to incorporate results of an optimization study. Scheduling issues have delayed completion of the UMCD Landfill ROD for selenium. Regulatory issues delayed the revised monitoring plan for the UMCD Landfill.

## FY06 MMRP Progress

Umatilla CD completed the munitions and explosives of concern work plan at the QAFR. However, funding issues delayed initiation of the RA until FY08.

## Plan of Action

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

### IRP

- Complete RA report for groundwater treatment in FY07.
- Complete ROD and revised monitoring plan for the UMCD Landfill in FY07.
- Complete groundwater pump-and-treatment plant maintenance in FY07.
- Complete the environmental condition of property report in FY07.

### MMRP

- Begin RA at the QAFR in FY08.



<b>FFID:</b>	VA321382093100	<b>Contaminants:</b>	Metals, VOCs, petroleum hydrocarbons, pesticides, PAHs, PCBs, asbestos, cyanide, photographic wastes
<b>Size:</b>	696 acres	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Mission:</b>	Provided logistical support for assigned signal intelligence and electronics warfare weapon systems and equipment; provide communication jamming and intelligence fusion material capability	<b>Funding to Date:</b>	\$ 11.8 million
<b>HRS Score:</b>	N/A	<b>Est. CTC (Comp Year):</b>	\$ 2.1 million(FY 2010)
<b>IAG Status:</b>	None	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/None
		<b>Five-Year Review Status:</b>	Completed and planned



Vint Hill Farms, Virginia

## 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). Also 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. The installation formed a Restoration Advisory Board (RAB) in FY95, which adjourned in FY06. Vint Hills Farm Station officially closed on October 1, 1997. The Army completed a 5-year review of Sites 1 and 39 in FY05.

Environmental studies following the PA identified a total of 39 sites at Vint Hills Farms Station requiring additional investigation or cleanup. With the exception of Area Requiring Environmental Evaluation (AREE) 34, 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. The cleanup progress at Vint Hill Farms Station for FY02 through FY05 is detailed below.

In FY02, the Army completed remedial actions (RAs) at three of the remaining four sites, concluding cleanup of the remaining nontransferred acres.

In FY03, the Army completed a finding of suitability to transfer and transferred the remaining 5 acres by deed, completing the transfer of the entire 696 acres. Investigation of AREE 34 defined a shallow localized area of groundwater contamination, as well as some contamination in the deep aquifer. Contamination is upgradient of Production Well #1, which provides water to the new residents living on the property. Due to this potential exposure pathway, additional characterization was required to determine the need for an RA. The Army completed its Military Munitions Response Program (MMRP) inventory for this installation. Vint Hill Farms Station had one

site, a pistol range, remediated under the Installation Restoration Program (IRP).

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) 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 with results consistent with past sampling events.

## FY06 IRP Progress

Vint Hill Farms Station and the Virginia Department of Environmental Quality signed a decision document and began the remedy process for AREE 34 requiring hot spot removal and long-term management. The installation awarded a performance-based contract for in situ treatment and began fieldwork. The Army conducted annual sampling at Site 1. The cost of completing environmental restoration has changed significantly due to technical issues.

The Vint Hill Farms Station RAB officially adjourned.

## FY06 MMRP Progress

The Army conducted no MMRP actions 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 for Site 1 in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	PA317002454500	<b>Media Affected:</b>	Groundwater and soil
<b>Size:</b>	817 acres	<b>Funding to Date:</b>	\$ 25.2 million
<b>Mission:</b>	Perform research, development, testing, and evaluation for naval aircraft systems and antisubmarine warfare systems; perform associated software development	<b>Est. CTC (Comp Year):</b>	\$ 21.7 million(FY 2030)
<b>HRS Score:</b>	57.93; placed on NPL in October 1989	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2001/None
<b>IAG Status:</b>	FFA signed in September 1990	<b>Five-Year Review Status:</b>	Completed
<b>Contaminants:</b>	Heavy metals, firing range wastes, fuels, land sewage sludges, non-industrial solid wastes, paints, PCBs, VOCs		



Warminster Township, Pennsylvania

## 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 installation 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 installation prepared an Environmental Baseline Survey for transfer for the public benefit conveyance and the economic development conveyance parcels for Phase I, which were completed in FY00. A 5-year review was completed in FY02.

The installation has identified 10 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. The cleanup progress at Warminster NAWC for FY02 through FY05 is detailed below.

In FY02, the installation maintained groundwater treatment systems, a soil cap, erosion, excavation, and institutional controls. The installation completed the 5-year review. The installation conducted perimeter and off-base monitoring, as well as sampling of the groundwater treatment system. The installation continued to optimize the treatment system through the evaluation of data. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the Navy continued its quarterly perimeter and off-base monitoring program, as well as the monthly sampling of the groundwater treatment system. The installation initiated technical discussions on the merits of monitored natural attenuation as an optimization of the groundwater treatment system. The Area C groundwater transfer line was relocated by the developer with Navy oversight.

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 installation continued work on the groundwater treatment system, and maintained and operated LUCs.

## FY06 IRP Progress

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 by reviewing and discussing the monitoring and/or extraction wells that could be sampled less frequently or shutdown.

The installation developed a draft optimization study work plan to improve the groundwater capture; however, contractual issues delayed the groundwater work plan implementation. Technical issues delayed improved alternatives for source removal at Area C.

## FY06 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

- Complete the work plan for the optimization study of the groundwater extraction system in FY07.
- Discuss improved alternatives for source removal at Area C in FY07.
- Continue to streamline the monitoring program in FY07.

- Conduct RAB meetings as needed in FY07.
- Coordinate with EPA and the Pennsylvania Department of Environmental Protection to track and identify potentially responsible parties located west of the former facility in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	DC317002431000	<b>Funding to Date:</b>	\$ 26.5 million
<b>Size:</b>	63 acres	<b>Est. CTC (Comp Year):</b>	\$ 13.3 million(FY 2017)
<b>Mission:</b>	Provide resources, including administrative space, housing, training facilities, logistical support, and supplies, for Washington Navy Yard tenants and other assigned units	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2012/FY 2008
<b>HRS Score:</b>	48.57; placed on NPL in July 1998	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	FFA signed in June 1999		
<b>Contaminants:</b>	PCBs, pesticides, solvents, metals		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Washington, DC

## Progress To Date

Investigations at the Washington Navy Yard (WNY) had previously identified 18 sites and 3 leaking underground storage tank sites. Contaminants released from past storage and disposal operations at the installation 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 WNY's federal facility agreement (FFA), which was signed in June 1999. In 2005, the BRAC Commission recommended WNY for realignment. A community relations plan was developed in FY99.

The installation has identified 27 sites. To date, the installation has completed Records of Decision (RODs) for Sites 5 and 6 and two No Further Action (NFA) RODs. The cleanup progress at WNY for FY02 through FY05 is detailed below.

In FY02, the installation completed the final draft remedial investigation (RI) for Sites 4, 6, and 14 and submitted it to regulators. Regulators approved the work plan for new site screening areas (SSAs) and fieldwork began. The installation completed final RI for Site 16. The RI work plan was submitted. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, the installation completed the draft work plan for investigation of fill as an SSA and completed the RI for two sites and a draft RI for nine sites. In addition, the installation began fieldwork for the Site 10 removal action and a facilitywide groundwater data gaps investigation.

In FY04, the installation initiated a work plan for fill as an 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 action for Site 10. The installation conducted fieldwork for facilitywide groundwater data gaps and completed a facilitywide groundwater draft RI report. The installation also conducted fieldwork for Site 5. The installation completed the preliminary assessment (PA) process for the listed MMRP site (the Experimental Battery), as well as the draft final report and a recommendations report.

In FY05, WNY continued removal actions for Site 10 and completed SSA fill field investigation. It finalized the final proposed remedial action plan and NFA ROD for Site 14. It also finalized the RI and developed the NFA proposed plan (PP) for Site 16. The installation completed a final feasibility study and draft PP for Site 5. WNY provided a draft final PA to regulators and developed a Navy response to comments for regulators.

## FY06 IRP Progress

WNY 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.

## FY06 MMRP Progress

The installation provided Navy with a response to comments for regulators. Additionally, the Navy finalized a PA for the one MMRP site.

## Plan of Action

Plan of action items for Washington Navy Yard are grouped below according to program category.

### IRP

- Continue removal actions for Site 10 in FY07.
- Complete fieldwork for OU 2 near shore sediment investigation in FY07.
- Finalize work plan and complete field investigations for removal action at Site 6 in FY07.
- Finalize RI work plan for SSAs 3, 8, and 10 in FY07.

### MMRP

- Conduct MMRP site inspection in FY08.

<b>FFID:</b>	WV39799F346100	<b>Est. CTC (Comp Year):</b>	\$ 27.9 million(FY 2020)
<b>Size:</b>	2,704 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2020/FY 2003
<b>Mission:</b>	Manufactured TNT	<b>Five-Year Review Status:</b>	Planned
<b>HRS Score:</b>	35.72; placed on NPL in September 1983		
<b>IAG Status:</b>	IAGs signed in September 1987 and July 1989		
<b>Contaminants:</b>	TNT, DNT, organic compounds		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		
<b>Funding to Date:</b>	\$ 71.4 million		



Point Pleasant, West Virginia

## 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. 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. EPA partially delisted a 509-acre parcel from the NPL in FY03 and an additional 1,004 acres in FY04.

The property is now divided 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 and is complete. OU 7 is a potentially responsible party project with EPA Lead and OU 13 is under EPA Lead with NFA planned for the Army. The cleanup progress at West Virginia Ordnance Works for FY02 through FY05 is detailed below.

In FY02, USACE completed the corrective action at the OU 1 burning grounds. It also completed an interim feasibility study (FS) for OU 8 (soils) and OU 9 (groundwater) in the TNT manufacturing area. EPA and USACE signed a NFA ROD for OU 12. USACE continued long-term management (LTM) and completed LTM on the OU 11 property. The supplemental sampling at Ecological Site Inventory (ESI) 6 was completed. EPA, West Virginia Department of Environmental Protection, the EPA Biological and Technical Assistance Group, and USACE personnel and contractors implemented a consensus agreement approach. This formal facilitated partnering process enhanced the decision-making ability of the team and resulted in both time and cost savings.

In FY03, USACE signed NFA decision documents for ESIs 1, 4, and 6. USACE completed the removal action at Area of

Concern (AOC) 18 and initiated the removal action at OU 5. During the removal action at AOC 18, the team used an innovative method of stabilization prior to disposal that allowed a cost savings. Another cost savings resulted from the disposal of wastewater from the composting operation by using the OU 4 treatment system. USACE signed a NFA ROD for OU 10. The team completed a comprehensive review of the property and continued operation of the groundwater extraction and treatment systems. EPA partially delisted a 509-acre parcel and USACE prepared a draft notice of intent for partial delisting of an additional 1,004 acres. 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, and identified no Military Munitions Response Program (MMRP) sites.

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, bringing the size of the NPL boundary down 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 an innovative hydrogen release compound injection to clean up the groundwater.

In FY05, the Army completed the third 5-year review report on schedule. USACE also completed the TS for OU 9.

## FY06 IRP Progress

USACE completed the draft FS and proposed plans (PPs) for OUs 8 and 9. USACE also received regulatory concurrence on the OU 4 revised evaluation report.

The property transfer for OU 11 was delayed due to a change in transfer responsibility. Regulatory and technical issues delayed the final FSs and PPs for OUs 8 and 9.

## FY06 MMRP Progress

USACE has identified no MMRP sites at this property.

## Plan of Action

Plan of action items for West Virginia Ordnance Works are grouped below according to program category.

### IRP

- Complete FS and prepare the PP and ROD for South East Area (OUs 8 and 9) in FY07.
- Continue LTM program in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	WA017002336100	<b>Contaminants:</b>	PCBs, PAHs, chlorinated solvents
<b>Size:</b>	7,000 acres	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Mission:</b>	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	<b>Funding to Date:</b>	\$ 93.6 million
<b>HRS Score:</b>	39.64 (Seaplane Base), placed on NPL in February 1990, delisted in 1995; 48.48 (Ault Field), placed on NPL in February 1990	<b>Est. CTC (Comp Year):</b>	\$ 41.5 million(FY 2037)
<b>IAG Status:</b>	FFA signed in September 1990	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/FY 2013
		<b>Five-Year Review Status:</b>	Completed and planned



Oak Harbor, Washington

## Progress To Date

Whidbey Island Naval Station (NS) 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. In 2005, the BRAC Commission recommended Whidbey Island NS 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 Seaplane Base was delisted from the NPL in 1995. The community relations plan was updated in FY96. The installation completed 5-year reviews in FY98 and FY04.

Whidbey Island NS has identified 91 sites. Investigations initially identified 52 sites at the installation, which were grouped into five operable units (OUs). The installation has completed five Records of Decision. The cleanup progress at Whidbey Island NS for FY02 through FY05 is detailed below.

In FY02, the installation continued treatment operations. The installation completed a remedial investigation and feasibility study at Site 55. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation continued treatment operations at OUs 1 and 5.

In FY04, the installation completed a 5-year review, and continued treatment operations at OUs 1 and 5. It also supported EPA in delisting Ault Fields OUs 2, 3, and 5.

In FY05, Whidbey Island NS 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.

## FY06 IRP Progress

Whidbey NS 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 installation also completed re-sampling of Site 16 Runway Ditches. The cost of completing environmental restoration has changed significantly due to technical issues.

Regulatory issues delayed the final OS at Sites 6 and 52.

## FY06 MMRP Progress

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).

## Plan of Action

Plan of action items for Whidbey Island Naval Station Ault Field and Seaplane Base are grouped below according to program category.

### IRP

- Continue treatment operations at OUs 1 and 5 in FY07-FY08.
- Expand 1, 4 dioxane sampling to define plume in FY07-FY08.
- Initiate a 5-year review in FY07-FY08.
- Complete an explanation of significant differences for land use controls in FY07-FY08.
- Complete OS at Sites 6 and 52 in FY07-FY08.

### MMRP

- Obtain regulatory concurrence of PA reports and conduct site inspections for the four MMRP sites in FY07-FY08.

<b>FFID:</b>	MD317002344400	<b>Funding to Date:</b>	\$ 35.6 million
<b>Size:</b>	710 acres	<b>Est. CTC (Comp Year):</b>	\$ 2.3 million(FY 2014)
<b>Mission:</b>	Research, develop, test, and evaluate ordnance technology	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2006/None
<b>HRS Score:</b>	N/A	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Explosive compounds, waste oils, PCBs, heavy metals, VOCs, SVOCs		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Silver Spring, Maryland

## 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 installation established an administrative record, an information repository, and a community relations plan (CRP) in FY94. The BRAC cleanup plan (BCP) and the CRP were updated in FY02. White Oak NSWC completed a 5-year review in FY06.

White Oak NSWC has identified 37 sites. The installation has completed 12 Records of Decision (RODs) to date, including 4 in FY05. The cleanup progress at White Oak NSWC for FY02 through FY05 is detailed below.

In FY02, the installation finalized the site screening report and declared no further action (NFA) for 24 sites. The installation completed NFA RODs for Site 8 and Site 11 soils, and completed remedy implementation at Sites 1 and 2. The installation also submitted draft remedial investigation (RI) reports for Sites 5 and 13 to regulators. It completed the removal actions at Site 28 and Building 90 ditch. The installation submitted the final RI for Operable Unit 1. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed a removal action at Site 7 and completed the final investigation report for Area of Concern (AOC) 2. The installation completed and signed NFA RODs for Site 28 and the Building 90 ditch. The installation submitted RODs for Site 7 and Site 11, which were under regulatory review. The installation held RAB and BRAC cleanup team meetings. The BCP was updated.

In FY04, White Oak NSWC completed two RODs for Sites 7 and 11 and prepared draft RODs for four sites (Sites 4, 5, 9, and 13). The installation also completed all certifications and demilitarizations of ordnance shapes. The RAB decreased meetings from bimonthly to quarterly. The installation continued partnering with EPA and the Maryland Department of the Environment.

In FY05, White Oak NSWC completed and signed all remaining RODs (Sites 4, 5/13, 9, and AOC 2) and remedial actions (RAs) were initiated at Sites 5/13, 7, 9, and 11.

## FY06 IRP Progress

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 was utilized to optimize the remedy at Site 11. Additionally, 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 bi-annually.

## FY06 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

- Dissolve the RAB in FY07.
- Initiate RA at SWMU 87 in FY07-FY08.
- Continue RA-O at Sites 5/13, 7, 9, 11, 46, and 49 in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	FL417002324400	<b>Funding to Date:</b>	\$ 33.9 million
<b>Size:</b>	3,842 acres	<b>Est. CTC (Comp Year):</b>	\$ 20.9 million(FY 2037)
<b>Mission:</b>	Train student naval aviators	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2013/FY 2012
<b>HRS Score:</b>	50.00; placed on NPL in May 1994	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA under negotiation		
<b>Contaminants:</b>	Pesticides, PCBs, VOCs, heavy metals, chlorinated hydrocarbons		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Milton, Florida

## Progress To Date

Beginning in FY85, studies at this installation have 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) and fuel pits, fire training areas, and drainage ditches. 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. The installation was placed on the NPL in May 1994. In FY95, both TRCs were converted to Restoration Advisory Boards. The Navy completed draft 5-year reviews for Sites 1 and 2 in FY06. The installation is currently negotiating a federal facility agreement (FFA).

Whiting Field NAS has identified 46 sites. The installation has closed 17 sites: Site 5 was closed by a consent order; Sites 8, 36, and 37 were closed with no further action (NFA) necessary; and ten sites have been closed at the OLF Barin. To date, the installation has signed 14 Records of Decision (RODs). The cleanup progress at Whiting Field NAS for FY02 through FY05 is detailed below.

In FY02, the installation initiated interim remedial actions (RAs) at four sites. Monitoring continued for Sites 1, 2, 3, 4, 6, 30, 32, and 33, and UST 000005. The installation initiated the 5-year review for Sites 1 and 2. One ROD was signed. The NAS initiated an investigation of aviation gasoline (AVGAS) pipeline. The installation completed the RA plan for UST 000002. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, the installation completed an investigation of the AVGAS pipeline for Section E. The installation developed the RA plan for UST 000002 and is ready for the next phase of development and design. In addition, the installation continued the monitoring for Sites 1, 2, 3, 4, 6, 30, 32, and 33, and UST 000005. The installation also continued 5-year reviews for Sites 1 and 2.

In FY04, the installation initiated the RA for Site 7 and continued monitoring land use controls (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 No Action or NFA RODs; and completed three remedial designs and RAs. The installation also continued operations at UST 000002 and monitoring at UST 000005.

## FY06 IRP Progress

Whiting Field NAS continued RA at Site 7 and UST 000002. The installation completed six RODs; one No Action ROD, two LUC RODs, and three engineering control/LUC RODs. The 5-year reviews for Sites 1 and 2 were completed. The installation also continued monitoring Sites 1, 2, 30, 32, 33, and UST 000005, as well as conducted RA operations at UST 000002. The cost of completing environmental restoration has changed significantly due to technical issues.

Administrative issues delayed the explanation of significant differences (ESD) for the NFA ROD at Site 2. Technical issues delayed the FFA.

## FY06 MMRP Progress

Whiting Field NAS submitted the preliminary assessment for the MMRP site.

## Plan of Action

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

### IRP

- Complete FFA in FY07.
- Continue monitoring at Sites 1, 2, 30, 32, and 33 in FY07.
- Prepare the ESD for the NFA ROD at Site 2 in FY07.

## MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	AZ957002858200	<b>Est. CTC (Comp Year):</b>	\$ 32.6 million(FY 2061)
<b>Size:</b>	4,043 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/FY 2007
<b>Mission:</b>	Supported pilot training and ground equipment maintenance	<b>Five-Year Review Status:</b>	Completed, underway, and planned
<b>HRS Score:</b>	37.93; placed on NPL in November 1989		
<b>IAG Status:</b>	FFA signed in FY 1990		
<b>Contaminants:</b>	VOCs, POLs, heavy metals, pesticides, UXO		
<b>Media Affected:</b>	Groundwater and soil		
<b>Funding to Date:</b>	\$ 55.5 million		



Mesa, Arizona

## 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.

Before base closure, environmental studies identified 15 sites. These sites were consolidated into three operable units (OUs). In FY93, an environmental assessment of 30 additional areas resulted in the creation of two more OUs, including 17 new Installation Restoration Program (IRP) sites. A sixth OU was created by consensus statement. To date, Records of Decision (RODs) have been signed for OUs 1 through 5. Approximately 3,856 acres have been transferred to date. The cleanup progress at Williams AFB for FY02 through FY05 is detailed below.

In FY02, groundwater monitoring continued at OU 1 Landfill (LF) 004, OU 2 Site ST 012, and compliance site Building 760. The installation agreed to take more aggressive remedial actions at ST 012 and drafted an explanation of significant differences for the OU 2 ROD accordingly. The installation continued the removal action (landfarming of contaminated soils) at Spill Site 17 (SS 017).

In FY03, the Air Force continued groundwater monitoring at OU 1 LF 004, OU 2 Site ST 012, and compliance site Building 760, and initiated groundwater monitoring at OU 6 SS 017. In preparation for innovative thermal enhanced extraction (TEE) treatment at OU 2 Site ST 012, the installation obtained regulatory concurrence on a detailed conceptual site model of the complex site geology and facilitated a peer review of thermal technology through Arizona State University. The installation initiated an evaluation of the landfarming removal action at SS 017.

In FY04, the installation transferred 39 acres and planned for the construction and operation of the initial phase of TEE 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 Military Munitions Response Program (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.

## FY06 IRP Progress

Williams AFB initiated a thermal treatability study (TS) pilot at OU 2 (Site ST 012) and initiated construction. The Air Force installed additional groundwater monitoring wells and awarded a supplemental investigation at OU 1 (LF 004). The cost of completing environmental restoration has changed significantly due to technical issues, regulatory issues, and changes in estimating criteria.

Technical issues delayed amending the OU 2 ROD. Administrative issues delayed property transfer and the OU 6 ROD. The installation submitted the draft 5-year review to regulators; however, scheduling issues delayed completion.

## FY06 MMRP Progress

Williams AFB continued to evaluate requirements for MMRP sites.

## Plan of Action

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

### IRP

- Complete construction and implementation of pilot TS at OU 2 (Site ST 012) in FY07-FY08.
- Complete a ROD amendment for OU 3 (Site FT 002) and a ROD for OU 6 (SS 017) in FY07-FY08.
- Conduct fieldwork for the supplemental investigation at OU 1 (LF 004) in FY07-FY08.
- Conduct long-term management at OU 1 (LF 004)

and remedial action operations OU 2 (Site ST 012) in FY07-FY08.

### MMRP

- Implement guidance on the inventory of MMRP sites and evaluate the potential for other sites in FY07-FY08.



<b>FFID:</b>	VA317002460500	<b>Funding to Date:</b>	\$ 9.4 million
<b>Size:</b>	1,578 acres	<b>Est. CTC (Comp Year):</b>	\$ 19.9 million(FY 2014)
<b>Mission:</b>	Supply Atlantic Fleet ships and provide recreational opportunities to military and civilian personnel	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2014/FY 2010
<b>HRS Score:</b>	48.72; placed on NPL in December 2000	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>IAG Status:</b>	FFA signed in March 2005		
<b>Contaminants:</b>	SVOCs, PAHs, metals, PCBs		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		



Yorktown, Virginia

## 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. Contaminants at the installation include semivolatiles organic compounds (SVOCs), polyaromatic hydrocarbons (PAHs), metals, and polychlorinated biphenyls (PCBs). These primarily affect groundwater, surface water, and sediment. The Navy signed a federal facility agreement (FFA) in March 2005. The Naval Weapons Station Yorktown Restoration Advisory Board meets quarterly and addresses IRP issues for Williamsburg FISC.

The installation has identified 18 sites. To date, Sites 1, 4, 7, 9, 10, and 11, and Areas of Concern (AOCs) 1 and 2 have been investigated. A potential AOC was discovered in FY03, north of Cheatham Annex (CAX) Depot Building 14. The cleanup progress at Williamsburg FISC for FY02 through FY05 is detailed below.

In FY02, the installation completed a supplemental investigation at Site 1. Based on this investigation, the partnering team decided that the interim removal action for Site 1 was no longer required and would be incorporated in the remedial action. The final Record of Decision for Site 1 progressed. A field investigation of Site 11 and a limited field investigation of Site 12 were conducted. The installation initiated a draft No Further Response Action Plan (NFRAP) Decision Document (DD) for Sites 2, 3, 5, 8, 9, 10, and 12. Drafts for the site screening-level ecological risk assessment (SERA) were completed. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, the installation completed an NFRAP DD for Sites 2, 3, 5, 6, 8, and 10. The CAX background study was completed. The installation also began an engineering evaluation and cost analysis and the soil removal action for Site 1. The installation initiated a preliminary assessment (PA) for Unexploded Ordnance 00001 (Marine Pistol and Rifle Range).

In FY04, the installation initiated a Round 2 remedial investigation (RI) for sediments at Site 1, and issued a draft RI with SERA Steps 1 and 2 for Site 11. The installation finalized

an environmental geographic information system for CAX and completed an NFRAP DD for Site 12. Williamsburg FISC initiated an initial 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 Cheatham Annex Public Health Assessment. The installation initiated the Site 1 soil removal action, which included debris uncovered during Hurricane Isabel.

In FY05, the Navy 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. Williamsburg FISC completed sediment work plans for a Round 2 RI at Site 1 and initiated sampling. The installation completed the RI with SERA Steps 1 and 2 for Sites 4 and 9. The installation submitted the draft final MMRP PA for the Marine Pistol and Rifle Range to regulators.

## FY06 IRP Progress

Williamsburg FISC completed the TCRA shoreline stabilization project at Site 7.

Funding issues delayed the RI with SERA Steps 1, 2, and 3a refinement at Site 11. Ecological issues delayed completion of the removal action for sediments at Site 1.

## FY06 MMRP Progress

The installation completed a PA and initiated a site inspection (SI) for the Marine Pistol and Rifle Range.

## Plan of Action

Plan of action items for Williamsburg FISC, Cheatham Annex are grouped below according to program category.

### IRP

- Initiate refinement for the RI with SERA Steps 1, 2, and 3a at Site 11 in FY07.
- Complete the removal action for sediments at Site 1 in FY07.
- Initiate the RI with baseline ERA at Site 11 in FY07.

## MMRP

- Complete a field investigation and SI of the Marine Pistol and Rifle Range in FY07.

<b>FFID:</b>	PA357122534900	<b>Est. CTC (Comp Year):</b>	\$ 0.7 million(FY 2013)
<b>Size:</b>	210 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/None
<b>Mission:</b>	Train personnel for air transport and air evacuation activities	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>HRS Score:</b>	50.00; placed on NPL in October 1995		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	VOCs, chlorinated solvents, jet fuel		
<b>Media Affected:</b>	Groundwater, sediment, soil		
<b>Funding to Date:</b>	\$ 5.6 million		



Willow Grove, Pennsylvania

## 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 placed the installation on the NPL in October 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 currently include the bulk storage of jet propulsion (JP) fuel 8. The installation formed a Restoration Advisory Board (RAB).

Since FY84, seven Installation Restoration Program (IRP) sites have been identified. The cleanup progress at Willow Grove ARS for FY02 through FY05 is detailed below.

In FY02, the installation completed a bench-scale treatability test to determine the success of Fenton's reagent to treat various compounds present in the JP 4 at Site ST 01. It also completed baseline sampling and non-use aquifer determination at Site ST 01. The final site inspection report for multiple sites was submitted to the regulators for their review and concurrence. The installation held three RAB meetings.

In FY03, the installation completed a pilot field test needed to design the in situ chemical oxidation portion of the remedy, and installed injection wells for interim implementation of the chemical oxidation process for Site ST 01. Willow Grove ARS installed and sampled two monitoring wells as directed by the State; completed baseline groundwater sampling and mass-in-place calculations; and completed 70 percent of the remedial system design. The installation held two RAB meetings.

In FY04, the installation implemented the chemical oxidation process at two out of eight area zones of the petroleum/oil/lubricant (POL) Site (ST 01). The installation also completed groundwater sampling (compliance and

performance) and completed the 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 Area Zones B, D, and H. The installation completed quarterly groundwater sampling from the monitoring wells and three events of performance sampling at Area Zones B, D, and H. Willow Grove ARS performed a remedial process optimization study for the POL Area Site (ST 01) and completed a preliminary biosparge design reconnaissance of the POL site 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.

## FY06 IRP Progress

Willow Grove ARS completed two quarterly compliance samplings. The installation 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.

## FY06 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

- Construct biosparge system in FY07.
- Perform biosparge system operations and maintenance, and performance sampling at Zone H in FY07.
- Complete three compliance samplings in FY07.
- Complete right-of-way field investigation (soil boring, temporary monitoring wells,

trenches, soil and groundwater sampling) in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	PA317002231200	<b>Est. CTC (Comp Year):</b>	\$ 7.1 million(FY 2024)
<b>Size:</b>	1,090 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2009/None
<b>Mission:</b>	Serve as Reserve naval air station for aviation training activities	<b>Five-Year Review Status:</b>	5-year review not required for this installation
<b>HRS Score:</b>	50.00; placed on NPL in September 1995		
<b>IAG Status:</b>	FFA signed in 2005		
<b>Contaminants:</b>	Heavy metals, PCBs, POLs, solvents		
<b>Media Affected:</b>	Groundwater, surface water, sediment, soil		
<b>Funding to Date:</b>	\$ 8.6 million		



Willow Grove, Pennsylvania

## 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, 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 2005. In FY95, the installation established a Restoration Advisory Board (RAB), which meets regularly. A community relations plan was developed in FY97.

Studies at this installation have identified 11 CERCLA sites and 2 RCRA sites. The installation signed a No Further Action (NFA) Record of Decision (ROD) for Site 1 soil in FY06. The cleanup progress at Willow Grove NAS for FY02 through FY05 is detailed below.

In FY02, the installation finalized the feasibility study report for Site 5 and the remedial investigation (RI) for Site 1, and submitted them to regulators and the RAB. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

In FY03, the installation completed fieldwork at Installation Restoration (IR) Site 10, the Navy Fuel Farm. In addition, the installation completed the removal of drums discovered adjacent to IR Site 2 and the soil analysis of the drum area and EPA environmental photographic interpretation center anomalies.

In FY05, the BRAC Commission recommended closure of Willow Grove NAS. The installation submitted an NFA ROD for Site 1 soil. The installation also completed the FFA.

## FY06 IRP Progress

The Navy and EPA, with concurrence from the Pennsylvania Department of Environmental Protection, signed an NFA ROD for Site 1 soil. In addition, the Navy completed a work plan and

fieldwork for Site 3 RI. Technical developments eliminated the need for Site 1 groundwater monitoring.

Technical issues delayed the RI report for Site 2. A final soil removal closeout report delayed the Site 5 RI.

## FY06 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 the CERFA identification of uncontaminated parcels at this installation in FY07-FY08.
- Complete Site 5 soil proposed remedial action plan (PRAP)/ROD in FY07-FY08.
- Complete Site 2 RI in FY07-FY08.
- Complete Site 1 Groundwater PRAP/ROD in FY07-FY08.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	OH557172431200	<b>Funding to Date:</b>	\$ 189.7 million
<b>Size:</b>	8,511 acres	<b>Est. CTC (Comp Year):</b>	\$ 33.8 million(FY 2028)
<b>Mission:</b>	Serve as host to many organizations, including headquarters Air Force Materiel Command	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2007/FY 2003
<b>HRS Score:</b>	57.85; placed on NPL in October 1989	<b>Five-Year Review Status:</b>	Underway
<b>IAG Status:</b>	IAG signed in March 1991		
<b>Contaminants:</b>	Waste oils and fuels, acids, plating wastes, VOCs, SVOCs, solvents, TCE		
<b>Media Affected:</b>	Groundwater and soil		



Dayton, Ohio

## Progress To Date

Past activities at Wright-Patterson Air Force Base (AFB) created spill sites and unlined waste disposal areas, including landfills, 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); semi-volatile organic compounds (SVOCs); trichloroethylene (TCE); and 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 an interagency agreement (IAG) in March 1991. In 2005, the BRAC Commission recommended Wright-Patterson AFB for realignment. 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.

Investigations have identified 68 sites and 5 areas of concern (AOCs). To date, two AOCs have been remediated. Records of Decision (RODs) have been signed for Landfills (LFs) 8 and 10, groundwater remediation, and another 40 Installation Restoration Program (IRP) sites. A no further action ROD was signed for 21 sites. The cleanup progress at Wright-Patterson AFB for FY02 through FY05 is detailed below.

In FY02, the installation continued system operations and maintenance (O&M) and long-term management (LTM) activities. State and federal agencies accepted a final report detailing restoration activities at Facility 20059. The installation completed site fieldwork at Facility 20079 and submitted a draft report to the State confirming shallow TCE contamination in groundwater.

In FY03, the installation completed the preliminary assessment (PA) at AOC Building 20055. The removal action of contaminated soils at AOC Building 20025 was also completed. Supplemental floating-product recovery through the use of a bioslurper was initiated. O&M and LTM continued throughout the year.

In FY04, Wright-Patterson AFB began conducting 5-year reviews and continued system O&M and LTM activities.

In FY05, Wright-Patterson AFB continued O&M and LTM activities. The installation initiated the 5-year review and the 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.

## FY06 IRP Progress

Wright-Patterson AFB completed the 5-year review and the O&M and LTM optimization. Wright-Patterson AFB also conducted a TCRA of contaminated soils at Facility 20055. The installation completed the quality assurance project plan, which was approved by regulatory agencies. The cost of completing environmental restoration has changed significantly due to changes in estimating criteria.

## FY06 MMRP Progress

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

## Plan of Action

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

### IRP

- Abandon select groundwater monitoring wells in FY07.
- Complete documentation for closeout of AOC 79/95 and Site DP 068 in FY07.
- Prepare documentation for partial soils delisting from NPL in FY07.

### MMRP

There are no MMRP actions scheduled for FY07 or FY08.

<b>FFID:</b>	MI557002427800	<b>Est. CTC (Comp Year):</b>	\$ 18.6 million(FY 2045)
<b>Size:</b>	4,627 acres	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2008/FY 2007
<b>Mission:</b>	Conducted tactical fighter and bomber training	<b>Five-Year Review Status:</b>	Completed and planned
<b>HRS Score:</b>	50.00; proposed for NPL in January 1994		
<b>IAG Status:</b>	None		
<b>Contaminants:</b>	Jet fuel, waste oil, spent solvents, UXO, VOCs		
<b>Media Affected:</b>	Groundwater and surface water		
<b>Funding to Date:</b>	\$ 56.2 million		



Oscoda, Michigan

## 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. The installation closed in June 1993, and EPA proposed it 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 areas, landfills, 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. In FY04, the installation completed a 5-year review.

The cleanup progress at Wurtsmith AFB for FY02 through FY05 is detailed below.

In FY02, the installation completed a basewide remedial action (RA) plan (RAP) and submitted it for regulatory review. Fieldwork for the supplemental remedial investigation (SRI) was completed and the draft SRI report was planned. Initial results from the field indicated no changes to the RAPs for Site WP 004 and Landfill (LF) 023 were necessary. The results for Point of Interest 20 led to the characterization of a small, chlorinated groundwater plume and the designation of Installation Restoration Program (IRP) Spill Site (SS) 071. The remedial design (RD) was completed for SS 057 and the RA construction contract was awarded. Sampling and analysis costs for the operation and maintenance of the benzene treatment system were reduced by 75 percent due to the reduced frequency of National Pollutant Discharge Elimination System monitoring from weekly to monthly. Additional savings were captured through the sale and recycling of free product (JP 4), which was removed from the groundwater at SS 006.

In FY03, the installation completed SRIs at several sites to verify the adequacy of implemented remedies. The investigations concluded that plume contaminants were being successfully captured, and indicated the need for additional monitoring wells to monitor a surface water body. The Air Force completed an addendum to the basewide RAP for five sites.

The Air Force also completed construction of the RA system at SS 057. A draft operating properly and successfully document for SS 005 received concurrence contingent upon incorporating EPA comments.

In FY04, the installation completed the first 5-year review and carried out a screening for residual mercury vapors and radioactive materials. The installation conducted a remedial process optimization (RPO) study for three pump-and-treat systems and implemented a short-term RPO recommendation for a rebound study at the soil vapor extraction system at Site FT 002. The installation removed a previously unknown 300-gallon UST. The installation created a project to fill data gaps at Sites LFs 030 and 031 and issued a request for proposal. Site ST 069 attained the State's cleanup action levels. The RAB met and was presented with the findings of the 5-year review and a description of the cleanup status at various sites. The Air Force conducted an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

In FY05, the installation completed fieldwork for the remedial investigation (RI) at SS 072 and issued a draft report. The Air Force began evaluating requirements at MMRP sites at this installation.

## FY06 IRP Progress

Wurtsmith AFB completed a site assessment for the UST at Building 5002. The installation completed fieldwork at LFs 030 and 031 to provide information to help resolve a disagreement between the Air Force and 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. The cost of completing environmental restoration has changed significantly due to technical issues and changes in estimating criteria.

Regulatory issues delayed the feasibility study (FS) for SS 072. Regulatory issues delayed the RI, decision document (DD), and RD/RA at SS 072. Scheduling issues delayed the RCRA cap resolution.

## FY06 MMRP Progress

The installation completed an archive search report to identify and evaluate all MMRP sites and determine necessary follow-on actions. The installation identified five MMRP sites. These sites include the Fire-In Butt, Skeet Range (south), Skeet Range (west), Grenade Range, and explosive ordnance disposal (north).

## Plan of Action

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

### IRP

- Resolve RCRA cap issue with regulators in FY07.
- Complete FS and RD/RA at SS 072 in FY07.
- Complete Water Effect Ratio and Use Attainability Studies at LF 027 in FY07.
- Complete DD for Sites FT 002, LF 027, ST 068, and SS 071 in FY07.
- Complete the remedy at LFs 030 and 031 in FY07.
- Complete the FS for allowable PCE discharge in FY07.

### MMRP

- Complete site inspections at five MMRP sites in FY07.
- Complete munitions and explosives of concern clearance for one MMRP site in FY07.

<b>FFID:</b>	VA317002417000	<b>Contaminants:</b>	Acids, asbestos, explosives, cadmium, zinc, lead, mercury, PAHs, VOCs, paint thinners, solvents, PCBs, waste oils, nickel, varnishes
<b>Size:</b>	10,624 acres	<b>Media Affected:</b>	Groundwater, surface water, sediment, soil
<b>Mission:</b>	Provide ordnance technical support and related services; provide maintenance, modifications, production, loading, off-loading, and storage for the Atlantic Fleet	<b>Funding to Date:</b>	\$ 45.6 million
<b>HRS Score:</b>	50.00; placed on NPL in October 1992	<b>Est. CTC (Comp Year):</b>	\$ 22.5 million(FY 2014)
<b>IAG Status:</b>	FFA signed in September 1994	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2011/FY 2010
		<b>Five-Year Review Status:</b>	Completed and planned



Yorktown, Virginia

## 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 of six sites that are hydrologically connected to the Chesapeake Bay. A federal facility agreement (FFA) was signed in October 1992. 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 and completed a 5-year review.

To date, 49 sites have been identified at this installation. Yorktown NWS has completed 16 Records of Decision (RODs). The cleanup progress at Yorktown NWS for FY02 through FY05 is detailed below.

In FY02, the installation continued remedial action (RA) efforts at Site 6 with Phase IV. The installation completed the first 5-year review. The RA for groundwater Operable Unit (OU) 1 began. Groundwater monitoring at all applicable sites continued. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

In FY03, the installation continued RA efforts at Site 6 with Phase V. The installation completed an RA at Site 4 and a removal action at Site 23. Groundwater monitoring at all applicable sites continued. The remedial investigation (RI) for groundwater OU 1 continued. The installation signed the final RODs for two sites. A preliminary assessment (PA) was initiated for Unexploded Ordnance 000001 (NWS Small Arms Range).

In FY04, the installation continued the Site 6 RA and finalized a site screening area (SSA) report for 10 SSAs. In addition, the installation completed a draft RI for Sites 27, 28, 29, and 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 ROD for soil at Site 4 and a No Action ROD for Site 18. Site 18 is complete for all media. The installation finalized work plans for 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.

## FY06 IRP Progress

Yorktown NWS completed a No Action 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.

Contractual issues delayed the Round I RI for groundwater OU 1.

## FY06 MMRP Progress

The installation completed the PA and initiated the site inspection (SI) for the Morale, Welfare, and Recreation (MWR) Skeet Range.

## Plan of Action

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

### IRP

- Complete Round I RI for groundwater OU 1 in FY07.
- Initiate Round II RI for groundwater OU 1 in FY07.
- Complete No Action ROD for groundwater at Sites 11 and 17 in FY07.
- Complete RI and BERA for wetlands downgradient of Site 12 in FY08.

### MMRP

- Complete field investigation and SI for MWR Skeet Range in FY07.

<b>FFID:</b>	AZ917302449300	<b>Funding to Date:</b>	\$ 50.4 million
<b>Size:</b>	4,741 acres	<b>Est. CTC (Comp Year):</b>	\$ 13.9 million(FY 2021)
<b>Mission:</b>	Support tactical aircrew combat training for Pacific and Atlantic Fleet Marine Corps Forces	<b>IRP/MMRP Sites Final RIP/RC:</b>	FY 2001/FY 2016
<b>HRS Score:</b>	32.24; placed on NPL in February 1990	<b>Five-Year Review Status:</b>	Completed
<b>IAG Status:</b>	FFA signed in January 1992		
<b>Contaminants:</b>	JP-5, petroleum hydrocarbons, SVOCs, trihalomethanes, VOCs		
<b>Media Affected:</b>	Groundwater and soil		



Yuma, Arizona

## 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.

To date, 25 Installation Restoration Program (IRP) sites and 6 Military Munitions Response Program (MMRP) sites have been identified at this installation. The installation signed Records of Decision (RODs) for all 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. 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 Plumes 4, 5, 5a, and 6 have been clean closed. The cleanup progress at Yuma MCAS for FY02 through FY05 is detailed below.

In FY02, the installation finalized the land use control implementation plan (LUCIP) and a long-term management (LTM) plan. It also finalized Yuma Station Order 5090, which formally directs tenants and contractors to incorporate the land use controls (LUCs) provided in the LUCIP into the existing land use planning and management systems. The installation master plan was updated. Yuma MCAS implemented the institutional controls (ICs) and LUCs to meet the intent of the OU 2 ROD. The installation initiated the first 5-year review for OU 2. Remedial action operations (RA-O) and operation and monitoring (O&M) of the groundwater remedial systems for OU 1 continued. Monitoring Areas 2, 3, and 6 of OU 1 continued under monitoring and natural attenuation and the applicable LUCs and ICs. The Navy completed an inventory of all MMRP sites. Six MMRP sites were identified at this installation.

In FY03, Yuma MCAS completed and finalized the first 5-year review for OU 2. The installation completed optimization of one of the existing RA-O systems at Plume Area 1. The installation met remediation goals for the other RA-O system at the leading edge of Plume Area (LEPA) 1. In addition, the installation continued O&M at one groundwater remedial system at OU 1. The installation also continued LTM at Areas 2, 3, and 6 of OU 1 under monitored natural attenuation and the applicable LUCs and ICs.

In FY04, Yuma MCAS completed and finalized the first 5-year review for OU 1 and updated the OU 2 5-year review. The installation received Plume Areas 5a and 6 site closure. The installation completed and finalized the groundwater flow and transport model. In addition, the installation continued O&M at one groundwater remedial system at OU 1. The installation also continued LTM of Areas 1, 2, and 3 at OU 1. One RA-O system located in the 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 RA-O system located at the LEPA and site closure at 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.

## FY06 IRP Progress

Yuma MCAS requested and received site closures at Plume Areas 2 and 3. The Navy requested permanent shutdown of RA-O system located at the LEPA, and shutdown was approved by EPA. The installation reduced LTM from quarterly to semi-annually, 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.

## FY06 MMRP Progress

The installation began work plans for MMRP site inspections (SIs).

## Plan of Action

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

### IRP

- Continue LTM at Area 1 in FY07.
- Abandon monitoring wells at Areas 2 and 3 in FY07.

### MMRP

- Begin fieldwork for SIs at MMRP sites in FY07.