

APPENDIX A:

Installation Narrative Summaries



Appendix A contains narratives describing environmental restoration progress and funding at 211 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 National Priorities List (NPL); and (2) a majority of the installations that have undergone base realignment and closure (BRAC) as of September 30, 2003. 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

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

The narrative text presents a description of the installation's past restoration activities and future efforts. The Progress to Date section provides background on the installation and summarizes past restoration-related activities and key restoration events. In addition, this section contains detailed descriptions of restoration progress at the installation under both the IRP and MMRP for Fiscal Year 1999 (FY1999) through FY2002. The next two sections, FY03 IRP Progress and FY03 MMRP Progress, address current year restoration progress in detail for both the IRP and MMRP categories, respectively. The final narrative section, entitled Plan of Action, provides information on activities that are planned at the installation in the coming years and is subdivided to distinguish between action items for the IRP and MMRP categories.

Reporting Requirements

Appendix A 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 hazards presented 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 status, federal facility agreement status, and five-year review status are also statutorily required elements of the installation narratives. Reviews of the remedial action no less than every five

years after initiating the remedy may be required for specific sites, not necessarily for all sites at an installation. Information on all three of 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 requirements in the National Defense Authorization Act for Fiscal Year 2002 and the Management Guidance for the Defense Environmental Restoration Program. Past MMRP accomplishments are described in the Progress to Date section of the narrative, while current year progress is discussed under the FY03 MMRP Progress section. Munitions response actions for non-BRAC sites that occurred prior to the creation of the MMRP in FY2001 are covered as part of the IRP. 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 completed or under way 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 \$5 million and have more than 2 sites must include an explanation for environmental cleanup cost estimate differences of greater than 10 percent from year to year. Significant changes in an installation's cost-to-complete estimates are noted in the text for the year in which the change occurred, along with an explanation of why the estimate has changed. There are three explanation categories of cost-to-complete 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, creating new regulations); and estimating criteria (including, but not limited to, addition of cost data that were overlooked or previously unknown, database updates, and corrections).



Table A-1 provides a summary of the status of NPL, proposed NPL, or BRAC installations, organized by Component. Two new Navy narratives were added in FY2003, one for the Former Naval Facilities on Vieques and one for Kaho'olawe Island. The Former Naval Facilities on Vieques is a proposed NPL installation, as requested by the Governor of Puerto Rico in FY2003. Kaho'olawe Island is a Congressionally mandated cleanup that is not part of the DERP and is neither on nor proposed for the NPL. In addition, restoration responsibility for Former Defense Distribution Depot Ogden was transferred from the Defense Logistics Agency (DLA) to the Army in FY2003.

**TABLE A-1
STATUS OF INSTALLATIONS IN APPENDIX A BY COMPONENT**

| Component | NPL | Proposed NPL | BRAC |
|---------------|------------|-----------------|-----------|
| Army | 36 | 1 | 34 |
| Navy | 49 | 1 | 29 |
| Air Force | 40 | 5 | 29 |
| DLA | 4 | 0 | 2 |
| FUDS | 17 | 0 | 0 |
| Total* | 146 | 7 | 94 |

*This report includes 211 installation narratives in Appendix A. The totals in the table above are higher, as some installations are both NPL and BRAC.

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 Required for the property. For installations that do not require narratives after FY2003, these narratives note a "last

narrative” status in the Plan of Action section. Table A-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 DERP Annual Report to Congress in which a full-text narrative for the installation appears.

Table A-3 provides an index to the Appendix A 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 alphabetic order by installation name.

Appendix F of this report defines all acronyms found in the installation narratives and contains a glossary providing descriptions for all major environmental restoration terms. More specific information about site status and program costs for each installation in this appendix can be found in Appendix B, the Installation Restoration Program Status Tables, and Appendix C, the Military Munitions Response Program Status Tables. More detailed information on restoration activities at an installation prior to FY1999 can be found in the narratives from earlier editions of the DERP Annual Report to Congress, which can be accessed through the Web site for the FY2003 DERP Annual Report to Congress.

FY2003 DERP Annual Report to Congress Web site:

http://63.88.245.60/DERPARC_FY03

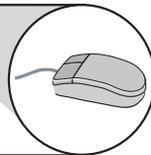


TABLE A-2
APPENDIX A INSTALLATIONS NO LONGER REQUIRING NARRATIVES

| Installation | FFID | State | NPL/BRAC | Reason Narrative Archived | Last ARC Full Narrative Appeared | B-Table Reference |
|--|----------------|-------|-----------|---|----------------------------------|-------------------|
| Army | | | | | | |
| Army Research Laboratory-Woodbridge | VA321382098100 | VA | BRAC 1991 | All remedies are in place at this installation and all property has been transferred. | FY01 | B-3-34 |
| Cameron Station | VA321022013900 | VA | BRAC 1988 | All remedies are in place at this installation and all property has been transferred. | FY00 | B-2-21 |
| Detroit Arsenal and Tank Plant | MI521382026800 | MI | BRAC 1995 | The Army has completed all required actions at the installation. This installation has achieved remedy in place and response complete status and all property has been transferred. | FY02 | B-3-17 |
| Fort Benjamin Harrison | IN521372040200 | IN | BRAC 1991 | The Army has completed all required actions at the installation. This installation has achieved remedy in place and response complete status and all property has been transferred. | FY00 | B-3-11 |
| Fort Greely | AK021452215500 | AK | BRAC 1995 | The installation became part of the Strategic Missile Defense Command and is no longer a BRAC installation. | FY02 | B-2-1 |
| Military Ocean Terminal, Bayonne | NJ221352275200 | NJ | BRAC 1995 | All remedies are in place at this installation and all property has been transferred. | FY02 | B-3-22 |
| 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. | FY99 | B-3-4 |
| Schoefield Barracks | HI921452223900 | HI | NPL | This installation has reached the construction complete milestone and has been delisted from the NPL. | FY00 | B-3-9 |
| Navy | | | | | | |
| 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. | FY99 | B-3-4 |
| Sabana Seca Naval Security Group Activity | PR217002753500 | PR | NPL | This installation was delisted from the NPL and no further action is required for any sites. | FY99 | B-3-30 |

**TABLE A-2
APPENDIX A INSTALLATIONS NO LONGER REQUIRING NARRATIVES**

| Air Force | | | | | | |
|--|----------------|----|-----------|---|------|--------|
| Luke Air Force Base | AZ957152413300 | AZ | NPL | This installation was delisted from the NPL and no further action is required for any sites. | FY02 | B-2-2 |
| Minneapolis-St. Paul Air Reserve Base | MN557122427500 | MN | NPL | This installation was delisted from the NPL and no further action is required for any sites. | FY99 | B-3-18 |
| 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. | FY97 | B-3-23 |
| FUDS | | | | | | |
| Avco Lycoming Superfund Site | PA39799F145100 | PA | NPL | A FUDS closeout report was submitted September 13, 1996, and the project has been closed. Avco Lycoming continued to operate a groundwater treatment system. No further action is required of DoD at this site. | FY96 | B-3-29 |
| Kingsbury (Fisher-Calo) | IN59799F357000 | IN | NPL | No further action is required by DoD; the U.S. Environmental Protection Agency (EPA) and the private potentially responsible parties are managing the site remediation. | FY99 | B-1-47 |
| Malta Rocket Fuel Area | NY29799F128100 | NY | NPL | DoD has no remaining liability at this property. | FY99 | B-3-24 |
| Marathon Battery Corporation | NY29799F114200 | NY | NPL | A settlement agreement was signed among the PRPs in FY96. No further action was required of DoD. This installation was delisted from the NPL in October 1996. | FY96 | B-3-24 |
| Middletown Air Field | PA39799F144500 | PA | NPL | In September 1996, EPA issued a final Record of Decision and began the process to delete the site from the NPL. This installation was delisted from the NPL in July 1997. | FY96 | B-3-29 |
| Air Force Plant #14 San Fernando Valley (Area 1) | CA99799F530400 | CA | NPL | DoD has no remaining liability at this property. | FY01 | B-3-5 |
| Strother Army Airfield | KS79799F031800 | KS | NPL | DoD has no remaining liability at this property. | FY01 | B-3-13 |

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| Installation Name | State | Status | Page | Installation Name | State | Status | Page |
|---|-------|----------|------|--|-------|----------|-------|
| ARMY | | | | ARMY | | | |
| Aberdeen Proving Ground | MD | NPL | A-13 | Fort Richardson | AK | NPL | A-87 |
| Alabama Army Ammunition Plant | AL | NPL/BRAC | A-20 | Fort Riley | KS | NPL | A-88 |
| Anniston Army Depot | AL | NPL | A-26 | Fort Ritchie | MD | BRAC | A-89 |
| Army Research Laboratory – Watertown | MA | NPL/BRAC | A-27 | Fort Sheridan | IL | BRAC | A-90 |
| Army Research, Development, and Engineering Command | NJ | NPL | A-28 | Fort Totten | NY | BRAC | A-91 |
| Camp Bonneville | WA | BRAC | A-38 | Fort Wainwright | AK | NPL | A-92 |
| Cornhusker Army Ammunition Plant | NE | NPL | A-49 | Fort Wingate | NM | BRAC | A-93 |
| Defense Distribution Depot Ogden | UT | NPL/BRAC | A-54 | Hamilton Army Airfield | CA | BRAC | A-101 |
| Fitzsimons Army Medical Center | CO | BRAC | A-72 | Hingham Annex | MA | BRAC | A-105 |
| Fort Chaffee | AR | BRAC | A-75 | Iowa Army Ammunition Plant | IA | NPL | A-110 |
| Fort Devens | MA | NPL/BRAC | A-77 | Jefferson Proving Ground | IN | BRAC | A-112 |
| Fort Dix | NJ | NPL | A-78 | Joliet Army Ammunition Plant | IL | NPL | A-114 |
| Fort Dix BRAC | NJ | BRAC | A-79 | Lake City Army Ammunition Plant | MO | NPL | A-119 |
| Fort Eustis | VA | NPL | A-80 | Letterkenny Army Depot | PA | NPL/BRAC | A-122 |
| Fort George G. Meade | MD | NPL/BRAC | A-81 | Lexington Facility, Lexington – Bluegrass Army Depot | KY | BRAC | A-123 |
| Fort Lewis | WA | NPL | A-82 | Lone Star Army Ammunition Plant | TX | NPL | A-124 |
| Fort McClellan | AL | BRAC | A-83 | Longhorn Army Ammunition Plant | TX | NPL | A-126 |
| Fort Monmouth | NJ | BRAC | A-84 | Louisiana Army Ammunition Plant | LA | NPL | A-128 |
| Fort Ord (Presidio of Monterey) | CA | NPL/BRAC | A-85 | Milan Army Ammunition Plant | TN | NPL | A-140 |
| Fort Pickett | VA | BRAC | A-86 | Oakland Army Base | CA | BRAC | A-161 |

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| Installation Name | State | Status | Page | Installation Name | State | Status | Page |
|-----------------------------------|--------------|---------------|-------------|--|--------------|---------------|-------------|
| ARMY | | | | NAVY | | | |
| Pueblo Chemical Depot | CO | BRAC | A-174 | Adak Naval Air Facility | AK | NPL/BRAC | A-14 |
| Red River Army Depot | TX | BRAC | A-177 | Agana Naval Air Station | GU | BRAC | A-15 |
| Redstone Arsenal | AL | NPL | A-178 | Alameda Naval Air Station | CA | NPL/BRAC | A-21 |
| Riverbank Army Ammunition Plant | CA | NPL | A-182 | Albany Marine Corps Logistics Base | GA | NPL | A-22 |
| Rocky Mountain Arsenal | CO | NPL | A-184 | Allegany Ballistics Laboratory | WV | NPL | A-23 |
| Sacramento Army Depot | CA | NPL/BRAC | A-185 | Bangor Naval Submarine Base | WA | NPL | A-31 |
| Savanna Army Depot | IL | NPL/BRAC | A-189 | Barbers Point Naval Air Station | HI | BRAC | A-32 |
| Seneca Army Depot | NY | NPL/BRAC | A-190 | Barstow Marine Corps Logistics Base | CA | NPL | A-33 |
| Sierra Army Depot | CA | BRAC | A-191 | Bedford Naval Weapons Industrial Reserve Plant | MA | NPL | A-34 |
| Stratford Army Engine Plant | CT | BRAC | A-194 | Brunswick Naval Air Station | ME | NPL | A-37 |
| Sudbury Training Annex | MA | NPL/BRAC | A-195 | Camp Lejeune Marine Corps Base | NC | NPL | A-39 |
| Sunflower Army Ammunition Plant | KS | Proposed NPL | A-196 | Camp Pendleton Marine Corps Base | CA | NPL | A-40 |
| Tobyhanna Army Depot | PA | NPL | A-198 | Cecil Field Naval Air Station | FL | NPL/BRAC | A-43 |
| Tooele Army Depot | UT | NPL/BRAC | A-199 | Charleston Naval Shipyard and Naval Station | SC | BRAC | A-45 |
| Twin Cities Army Ammunition Plant | MN | NPL | A-205 | Cherry Point Marine Corps Air Station | NC | NPL | A-46 |
| U.S. Army Soldiers System Center | MA | NPL | A-207 | Concord Naval Weapons Station | CA | NPL | A-48 |
| Umatilla Chemical Depot | OR | NPL/BRAC | A-208 | Dahlgren Naval Surface Warfare Center | VA | NPL | A-50 |
| Vint Hill Farms Station | VA | BRAC | A-209 | Dallas Naval Air Station | TX | BRAC | A-51 |
| | | | | Davisville Naval Construction Battalion Center | RI | NPL/BRAC | A-52 |
| | | | | Driver Naval Radio Transmitting Facility | VA | BRAC | A-60 |

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|---|-------|----------|-------|--|-------|--------------|-------|
| NAVY | | | | NAVY | | | |
| Earle Naval Weapons Station | NJ | NPL | A-62 | Naval Computer and Telecommunications Area Master Station, Pacific | HI | NPL | A-148 |
| El Toro Marine Corps Air Station | CA | NPL/BRAC | A-65 | Naval Facilities on Vieques | PR | Proposed NPL | A-149 |
| Fridley Naval Industrial Reserve Ordnance Plant | MN | NPL | A-94 | Naval Fuel Depot, Point Molate | CA | BRAC | A-150 |
| Glenview Naval Air Station and Libertyville Training Site | IL | BRAC | A-97 | Naval Magazine Indian Island | WA | NPL | A-151 |
| Guam Apra Harbor | GU | BRAC | A-100 | Naval Station Newport | RI | NPL | A-152 |
| Hunters Point Annex – Treasure Island Naval Station | CA | NPL/BRAC | A-107 | New London Naval Submarine Base | CT | NPL | A-156 |
| Indian Head Naval Surface Warfare Center | MD | NPL | A-108 | Norfolk Naval Base | VA | NPL | A-158 |
| Indianapolis Naval Air Warfare Center | IN | BRAC | A-109 | Norfolk Naval Shipyard | VA | NPL | A-159 |
| Jacksonville Naval Air Station | FL | NPL | A-111 | Orlando Naval Training Center | FL | BRAC | A-164 |
| Kaho'olawe Island | HI | | A-116 | Parris Island Marine Corps Recruit Depot | SC | NPL | A-166 |
| Keyport Naval Undersea Warfare Center | WA | NPL | A-118 | Patuxent River Naval Air Station | MD | NPL | A-167 |
| Lakehurst Naval Air Engineering Station | NJ | NPL | A-120 | Pearl Harbor Naval Complex | HI | NPL | A-168 |
| Long Beach Naval Complex | CA | BRAC | A-125 | Pensacola Naval Air Station | FL | NPL | A-170 |
| Louisville Naval Surface Warfare Center | KY | BRAC | A-129 | Philadelphia Naval Complex | PA | BRAC | A-171 |
| Mare Island Naval Shipyard | CA | BRAC | A-132 | Portsmouth Naval Shipyard | ME | NPL | A-173 |
| Mechanicsburg Naval Inventory Control Point | PA | NPL | A-138 | Puget Sound Naval Shipyard | WA | NPL | A-175 |
| Midway Naval Air Facility | MQ | BRAC | A-139 | Quantico Marine Corps Combat Development Command | VA | NPL | A-176 |
| Moffett Field Naval Air Station | CA | NPL/BRAC | A-141 | San Diego Naval Training Center | CA | BRAC | A-187 |
| Naval Amphibious Base Little Creek | VA | NPL | A-146 | South Weymouth Naval Air Station | MA | NPL/BRAC | A-192 |
| Naval Auxiliary Landing Field Crows Landing | CA | BRAC | A-147 | St. Juliens Creek Annex | VA | NPL | A-193 |

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| NAVY | | | | AIR FORCE | | | |
| Treasure Island Naval Station | CA | BRAC | A-201 | Arnold Engineering Development Center | TN | Proposed NPL | A-29 |
| Trenton Naval Air Warfare Center Aircraft Division | NJ | BRAC | A-202 | Atlantic City Air National Guard Base | NJ | NPL | A-30 |
| Tustin Marine Corps Air Station | CA | BRAC | A-204 | Bergstrom Air Force Base | TX | BRAC | A-35 |
| Warminster Naval Air Warfare Center Aircraft Division | PA | NPL/BRAC | A-210 | Brandywine Defense Reutilization and Marketing Office | MD | NPL | A-36 |
| Washington Navy Yard | DC | NPL | A-211 | Carswell Air Force Base (Fort Worth JRB NAS) | TX | BRAC | A-41 |
| Whidbey Island Naval Air Station | WA | NPL | A-213 | Castle Air Force Base | CA | NPL/BRAC | A-42 |
| White Oak Naval Surface Warfare Center | MD | BRAC | A-214 | Chanute Air Force Base | IL | Proposed NPL/BRAC | A-44 |
| Whiting Field Naval Air Station | FL | NPL | A-215 | Chicago O'Hare IAP Air Reserve Station | IL | BRAC | A-47 |
| Williamsburg FISC – Cheatham Annex | VA | NPL | A-217 | Dover Air Force Base | DE | NPL | A-59 |
| Willow Grove Naval Air Station Joint Reserve Base | PA | NPL | A-219 | Eaker Air Force Base | AR | BRAC | A-61 |
| Yorktown Naval Weapons Station | VA | NPL | A-222 | Edwards Air Force Base | CA | NPL | A-63 |
| Yuma Marine Corps Air Station | AZ | NPL | A-223 | Eielson Air Force Base | AK | NPL | A-64 |
| AIR FORCE | | | | Ellsworth Air Force Base | SD | NPL | A-66 |
| Air Force Plant No. 4 | TX | NPL | A-16 | Elmendorf Air Force Base | AK | NPL | A-67 |
| Air Force Plant No. 44 | AZ | NPL | A-17 | England Air Force Base | LA | BRAC | A-68 |
| Air Force Plant No. 85 | OH | Proposed NPL | A-18 | F.E. Warren Air Force Base | WY | NPL | A-69 |
| Air Force Plant PJKS | CO | NPL | A-19 | Fairchild Air Force Base | WA | NPL | A-70 |
| Andersen Air Force Base | GU | NPL | A-24 | Gentile Air Force Station | OH | BRAC | A-95 |
| Andrews Air Force Base | MD | NPL | A-25 | George Air Force Base | CA | NPL/BRAC | A-96 |
| | | | | Griffiss Air Force Base | NY | NPL/BRAC | A-98 |

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|------------------------------------|-------|----------|-------|--|-------|----------------------|-------|
| AIR FORCE | | | | AIR FORCE | | | |
| Grissom Air Force Base | IN | BRAC | A-99 | Plattsburgh Air Force Base | NY | NPL/BRAC | A-172 |
| Hanscom Air Force Base | MA | NPL | A-102 | Reese Air Force Base | TX | BRAC | A-179 |
| Hill Air Force Base | UT | NPL | A-104 | Richards-Gebaur Air Reserve Station | MO | BRAC | A-180 |
| Homestead Air Force Base | FL | NPL/BRAC | A-106 | Rickenbacker Air National Guard Base | OH | Proposed NPL/BRAC | A-181 |
| K.I. Sawyer Air Force Base | MI | BRAC | A-115 | Robins Air Force Base | GA | NPL | A-183 |
| Kelly Air Force Base | TX | BRAC | A-117 | Tinker Air Force Base | OK | NPL | A-197 |
| Langley Air Force Base | VA | NPL | A-121 | Travis Air Force Base | CA | NPL | A-200 |
| Loring Air Force Base | ME | NPL/BRAC | A-127 | Tucson International Airport | AZ | NPL | A-203 |
| Lowry Air Force Base | CO | BRAC | A-130 | Tyndall Air Force Base | FL | NPL | A-206 |
| March Air Force Base | CA | NPL/BRAC | A-131 | Williams Air Force Base | AZ | NPL/BRAC | A-216 |
| Massachusetts Military Reservation | MA | NPL | A-133 | Willow Grove Air Reserve Station | PA | NPL | A-218 |
| Mather Air Force Base | CA | NPL/BRAC | A-134 | Wright-Patterson Air Force Base | OH | NPL | A-220 |
| McChord Air Force Base | WA | NPL | A-135 | Wurtsmith Air Force Base | MI | Proposed NPL/BRAC | A-221 |
| McClellan Air Force Base | CA | NPL/BRAC | A-136 | DLA | | | |
| McGuire Air Force Base | NJ | NPL | A-137 | Defense Distribution Depot Memphis | TN | NPL/BRAC | A-53 |
| Mountain Home Air Force Base | ID | NPL | A-143 | Defense Distribution Depot San Joaquin, Sharpe Facility | CA | NPL | A-55 |
| Myrtle Beach Air Force Base | SC | BRAC | A-144 | Defense Distribution Depot San Joaquin, Tracy Facility | CA | NPL | A-56 |
| Newark Air Force Base | OH | BRAC | A-157 | Defense Supply Center Philadelphia | PA | BRAC | A-57 |
| Norton Air Force Base | CA | NPL/BRAC | A-160 | Defense Supply Center Richmond | VA | NPL | A-58 |
| Pease Air Force Base | NH | NPL/BRAC | A-169 | | | | |

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| Installation Name | State | Status | Page |
|--|--------------|---------------|-------------|
| FUDS | | | |
| Fike-Artel Chemical | WV | NPL | A-71 |
| Former Nansemond Ordnance Depot | VA | NPL | A-73 |
| Former Weldon Spring Ordnance Works | MO | NPL | A-74 |
| Fort Crowder | MO | NPL | A-76 |
| Hastings Groundwater | NE | NPL | A-103 |
| Jet Propulsion Laboratory | CA | NPL | A-113 |
| Moses Lake Wellfield Contamination Site | WA | NPL | A-142 |
| National Presto Industries | WI | NPL | A-145 |
| Naval Station TODD – Tacoma | WA | NPL | A-153 |
| Nebraska Ordnance Plant | NE | NPL | A-154 |
| New Hanover County Airport | NC | NPL | A-155 |
| Old Navy Dump/Manchester Annex | WA | NPL | A-162 |
| Ordnance Works Disposal Areas | WV | NPL | A-163 |
| Pantex Plant | TX | NPL | A-165 |
| San Bernardino Engineering Depot | CA | NPL | A-186 |
| Sangamo Electric Dump/Crab Orchard National Wildlife Refuge | IL | NPL | A-188 |
| West Virginia Ordnance Works | WV | NPL | A-212 |

| | | | |
|----------------------|---|--|--|
| FFID: | MD321382135500 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 72,516 acres | Funding to Date: | \$488.4 million |
| Mission: | Develop and test equipment and provide troop training | Estimated Cost to Completion (Completion Year): | \$315.9 million (FY2036) |
| HRS Score: | 31.45 (Michaelsville Landfill); placed on NPL in October 1989 53.57 (Edgewood Area); placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2011 |
| IAG Status: | IAG signed in March 1990 | Five-Year Review Status: | Complete FY1999/Underway FY2003 |
| Contaminants: | VOCs, SVOCs, metals, PCBs, explosives, petroleum products, pesticides, radiation, CWM, UXO, and potential biological warfare materiel | | |



Progress to Date

Studies have identified many areas of contamination at Aberdeen Proving Ground, 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. Removal actions have included removal of soil contaminated with polychlorinated biphenyls (PCBs), petroleum hydrocarbons, trichloroethylene (TCE), and dichloro-diphenyl-trichloroethane (DDT); removal of underground storage tanks (USTs); removal of unexploded ordnance (UXO); closure of Nike missile silos, an adamsite vault, and pilot plant sumps; and cleanup of open dump sites. Two areas of Aberdeen have been placed on the NPL—one in October 1989, and one in February 1990. An interagency agreement was signed in March 1990. During FY95, the installation converted its technical review committee to a Restoration Advisory Board. A 5-year review was completed in FY99.

Environmental studies have identified 252 sites at this installation. Seventeen Records of Decision (RODs) have been signed to date. The cleanup progress at Aberdeen Proving Ground for FY99 through FY02 is detailed below.

In FY99, the installation constructed a cap on the Building 103 dump. At the Nike site, the installation constructed a groundwater treatment facility. In the Western Boundary Study Area (WBSA), the Army completed the feasibility study (FS). In the Lauderick Creek Area, the installation completed two RIs and began bench-scale treatability studies. A ROD for the Old Bush River Road dump was signed. At Carroll Island and Graces Quarters, the Army completed site-wide proposed plans (PPs). The Army also completed the New O-Field draft final FS and the O-Field Area 5-year review.

In FY00, the installation began the Lauderick Creek UXO/chemical weapons and munitions (CWM) interim removal action and completed the Canal Creek (CC) Study Area UST removal action. The Army completed interim remedial actions (RAs) for mercury-contaminated soil in the Bush River Area and an abandoned sewage system at Carroll Island. The draft focused FS for the Cluster 5 blast slab dumpsites, RAs at the Carroll Island disposal pits (Operable Unit (OU) A), and a soil cover at the Old Bush River Road landfill were completed. The Army completed removal of CWM-related items at the J-Field Study Area, and

the RI for Cluster 13 and other Lauderick Creek clusters. The Army and regulators signed RODs for CC East Branch Groundwater and WBSA, OU 1.

In FY01, the Army completed the WBSA OU 1 treatment facility design and provided military construction funds for the CC treatment facility. Groundwater contamination sampling was conducted at Graces Quarters. The installation signed decision documents for two removal actions and prepared draft ecological risk assessments for the Westwood Study Area.

In FY02, the Army began construction of the 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 OU B. Construction began on the WBSA OU 1 groundwater treatment facility. The draft technical evaluation and 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).

FY03 IRP Progress

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 for the west branch of CC began on schedule. The installation completed construction and began operations at both the CC and WBSA OU1 groundwater treatment facilities. The installation completed the CWM Lauderick Creek removal action. A perchlorate groundwater plume located in the WBSA was delineated. The installation signed two decision documents—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 (OU 1 and OU 2). The installation revised the Edgewood Area and the Aberdeen Area 5-year review reports based on EPA comments and submitted them. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria and technical issues.

FY03 MMRP Progress

The Army conducted an inventory of closed, transferred, and transferring ranges and site with UXO, discarded military munitions, or munitions constituents. Military Munitions Response Program (MMRP) sites were identified at this installation.

Plan of Action

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

IRP

- Continue operations of WBSA OU 1 and CC groundwater treatment facility in FY04.
- Begin DNAPL recovery at J-Field in FY04.
- Complete seven PPs and five FSs in FY04-FY05.
- Complete ROD RA construction at the J-Field Study Area in FY05.
- Complete Other Edgewood Areas Cluster 19 ROD in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | AK017002432300 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 76,800 acres | Funding to Date: | \$233.0 million |
| Mission: | Provided services and materials to support aviation activities and operating forces of the Navy | Estimated Cost to Completion (Completion Year): | \$62.9 million (FY2021) |
| HRS Score: | 51.37; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2007 |
| IAG Status: | Federal facility agreement signed in November 1993 | Final RIP/RC Date for MMRP Sites: | FY2010 |
| Contaminants: | UXO, heavy metals, PCBs, VOCs, and petroleum products | Five-Year Review Status: | The installation completed a 5-year review and the remedy remains protective. |



Progress to Date

In September 1995, the BRAC Commission recommended closure of Adak Naval Air Facility. Operational naval forces departed the island on April 1, 1997, and command functions were assumed by the engineering Field Activity Northwest. The installation closed in September 1997. A study identified 32 sites at the installation, including landfills, unexploded ordnance (UXO) areas, and polychlorinated biphenyls (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 facilities agreement. The installation was placed on the NPL in May 1994. The installation completed a community relations plan in FY90 and revised the plan in FY95 and FY99. In FY92, it formed a technical review committee, which was converted to a Restoration Advisory Board in FY96. The installation signed a federal facilities agreement in November 1993. In FY01, the installation completed a 5-year review.

Adak Naval Air Facility has identified 97 sites. The installation has completed interim Records of Decision (RODs) for two landfills and two no further actions (NFAs) for SWMUs 4 and 27. In addition, the installation has completed a finding of suitability to transfer (FOST) for approximately 46,000 acres and is planning to transfer that property for private reuse in FY04. The installation completed the environmental cleanup on an additional 25,000 acres that will be transferred to the Department of Interior as part of the Alaska Maritime Wildlife refuge. The cleanup progress at Adak Naval Air Facility for FY99 through FY02 is detailed below.

In FY99, remedial design (RD) and remedial action (RA) at Sweeper Creek estuary and SWMU 17 and investigations at potential minefields were completed. In addition, clearance of an area that was used as a training minefield and explosive demolition exercise was performed.

In FY00, regulatory agency signatures were received for the Operable Unit (OU) A ROD, and work began on the focused feasibility study (FFS) for petroleum sites in the OU. UXO investigations were initiated for the remaining OU B sites. Several sites originally included in OU B were recommended for NFA. Disposal operations at the Navy-operated landfill were discontinued as the Navy terminated its caretaker

operations on the island. Petroleum cleanups were completed at nine sites.

In FY01, the draft institutional control management plan was completed. Selection of a final remedy for petroleum contamination continued, including an FFS and final RD. The draft 5-year review was completed. This review assessed all existing remedies in place, as well as the status of environmental compliance programs. A comprehensive monitoring plan was completed. The Roberts Landfill was closed; however, a cell from the landfill will be opened to accommodate disposal of the cabin demolition debris in FY02. The final remedial investigation/feasibility study (RI/FS) and the draft ROD for OU B-1 were completed, addressing UXO contamination. The installation also completed RAs at the majority of the UXO sites in OU B-1.

In FY02, fieldwork to support the RI/FS for OU B-2 Sites was completed. The FOST for Parcel 1A was completed, and documents the completion of environmental cleanup necessary to support transfer of approximately 32,000 acres of property. RAs for the remaining OU B-1 sites were completed. The cost of completing environmental restoration at this installation changed significantly due to the extent of ordnance related contamination in remote areas of Parcel 4. Also in FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site has been identified at this installation. RAs for all OU B-1 munitions and explosive of concern (MEC) contaminated sites in OU B-1 to be transferred to private ownership (Parcels 1A and 1B) and Department of Interior (Parcels 2 and 3) were completed.

FY03 IRP Progress

The installation completed the draft RI/FS report for OU B-2. An amendment to the OU A ROD was completed in FY03 to allow decision making for the remaining petroleum contaminated sites to occur under the framework of the State of Alaska regulations. This amendment will simplify the process of arriving at final decisions for the remaining petroleum contaminated sites at the installation. The draft evaluations were completed for 6 of the 14 remaining sites. The installation began the NPL delisting process for OU A for all media other than groundwater. The cost of completing environmental restoration at this installations has changed significantly due to estimating criteria and technical issues.

The finalization of the draft OU B-2 RI/FS, the proposed plan (PP) and the ROD were delayed due to regulatory issues.

FY03 MMRP Progress

A FOST that documents the completion of all MMRP actions for real estate planned to be transferred to private reuse (Parcels 1A and 1B) was finalized in May of 2003. Institutional controls were inspected and access restrictions were enhanced for areas that are off limits due to potential ordnance contamination. MEC scrap that was generated from previous investigation and RAs on Adak was documented as explosive free and transported off island for recycling.

Plan of Action

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

IRP

- Finalize decision documents for all remaining petroleum contaminated sites in FY04.
- Initiate execution of remediation at petroleum sites in FY04.
- Complete partial delisting package for media other than groundwater OUA in FY04.
- Complete delisting in FY05.

MMRP

- Complete OU B-2 RI/FS, PP, and ROD for ordnance contaminated sites in Parcel 4 in FY04.

| | | | |
|----------------------|---|--|--|
| FFID: | GU917002755700 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 1,809 acres | Funding to Date: | \$61.6 million |
| Mission: | Provided services and material support for transition of aircraft and tenant commands | Estimated Cost to Completion (Completion Year): | \$5.9 million (FY2016) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | None | Five-Year Review Status: | The installation conducted a 5-year review. |
| Contaminants: | Asbestos, paint, solvents, POL liquids and sludges, and heavy metals | | |



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 FY03.

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, five 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 FY99 through FY02 is detailed below.

In FY99, the removal site evaluation was completed. A soil remedial investigation (RI) for the remaining six sites was completed. An expanded ecological risk assessment continued for Site 7. A time-critical removal action (TRCA) for Sites 16 and 23 was completed. The regional groundwater RI, feasibility study (FS), and proposed plan began. Site 22 was accepted by the BCT as a no further remedial action site. A TRCA was completed at Site 16, Former Pistol Range. No further action is required.

In FY00, all five parcels of the former NAS, totaling 1,779 acres, were transferred to GovGuam and GIAA. As part of the transfer agreement, an environmental services cooperative agreement was agreed to by the Navy and GovGuam, transferring groundwater remediation and closeout responsibilities to GovGuam. A non-time critical removal action (NTCRA), engineering evaluation and cost analysis, and performance design were implemented.

In FY01, a NTCRA was started for Site 1. Soil contaminated with petroleum and metal debris was consolidated into the landfill. The final round of groundwater sampling was conducted and this responsibility was transferred to the GIAA. The BCT worked collaboratively on the early transfer of Agana NAS and two Guam land use plan properties. An environmental service agreement between the Navy and GovGuam on completing the groundwater investigation and remediation also concluded with early transfer.

In FY02, an investigation found no contaminants at abandoned drum sites. The Navy completed an inventory of all Military Munitions

Response Program (MMRP) sites. One MMRP site was identified at this installation.

FY03 IRP Progress

Agana NAS completed collecting and analyzing fish and sediment samples for polychlorinated biphenyls (PCBs) from a private residence fishpond 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. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Technical and regulatory issues delayed completion of Site 1. The installation planned geophysical and geological surveys at Site 1, but the surveys are no longer required by Guam EPA. Regulatory issues prevented the installation from starting long-term management on Site 1.

Three BCT meetings and one RAB meeting were held.

FY03 MMRP Progress

No work was performed on MMRP sites at this installation in FY03.

Plan of Action

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

IRP

- Conduct dye trace test and complete removal action at Site 1 in FY04.
- Complete relative risk evaluation for all Operable Unit (OU) 2 sites requiring restricted reuse in FY04.
- Conduct long-term monitoring and maintenance at Site 1 in FY05.
- Complete the FS and decision documents for Site 1 and for all OU 2 sites with restricted reuse in FY05.
- Complete Site 37 monitoring well sampling in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|----------------------|--|--|--|---|
| FFID : | TX657172460500 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: | 706 acres | Funding to Date: | \$62.0 million | |
| Mission: | Manufacture aircraft (F-16, partial F-22, and the F-35 Joint Strike Fighter), and associated equipment; testing of electronics | Estimated Cost to Completion (Completion Year): | \$12.1 million (FY2013) | |
| HRS Score: | 39.92; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2006 | |
| IAG Status: | IAG signed in 1990 | Five-Year Review Status: | Completed FY2003/Planned FY2008 | |
| Contaminants: | Solvents, paint residues, spent process chemicals, PCBs, waste oils and fuels, heavy metals, VOCs, cyanide, DNAPL and TCE | | | |

Progress to Date

Air Force Plant No. 4 (AFP 4) has been a primary manufacturer of military aircraft and related equipment since 1942. The installation was placed on the NPL in August 1990 and signed an interagency agreement during the same year. 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). In FY03, the installation submitted a 5-year review to EPA.

Thirty sites have been identified at the installation. To date, Records of Decision (RODs) were completed for all sites. The cleanup progress at AFP 4 for FY99 through FY02 is detailed below.

In FY99, a remedial action (RA) plan was completed. The installation investigated use of radio frequency heating and six-phase heating to remove dense nonaqueous phase liquid (DNAPL) in the East Parking Lot/Building 181 area.

In FY00, fish tissue sampling in nearby Lake Worth indicated a potential health hazard due to polychlorinated biphenyls (PCBs), and the Texas Department of Health issued a consumption advisory. The Carswell Air Force Base (AFB) groundwater treatment system near Landfill 4/5 (LF4/5) was reactivated because the plume had migrated near the federal property line. Additional drums were discovered in the Carswell Waste Pile 7 area. Phase II of the west side DNAPL investigation was completed. The installation worked with Carswell AFB and the Air Force Center for Environmental Excellence (AFCEE) on a focused feasibility study for the potential transfer of the Carswell golf course because of issues related to commingled plumes.

In FY01, the installation completed Lake Worth sediment sampling, finding elevated PCB levels in areas adjacent to the plant. The installation obtained additional funding, completed construction, and began operating the East Parking Lot groundwater system. Characterization of the west side fractured bedrock DNAPL was completed, resulting in removal of 1,500 pounds of DNAPL. The six-phase heating pilot test was deemed successful and full-scale RA implementation was approved by the peer review team. A remedial process optimization study at the LF3 treatment system was conducted. An off-site well adjacent to Carswell AFB was monitored, and contaminant levels were just above the maximum acceptable limits.

Air Force

In FY02, the construction of a three-phase heating array for the soil and groundwater below Building 181 was completed, and the heating continued for over 20 weeks. The 5-year review ROD report was drafted and reviewed by the Air Force. A radioisotope study of TCE along the groundwater flow path to Carswell AFB was conducted. AFP 4 and Carswell AFB maintained a close partnership with the regulators, AFCEE, and BRAC, to include partial funding for the permeable reactive barrier wall, which shut down LF4/5 treatment system. The RAB met quarterly. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites have been identified at this installation.

FY03 IRP Progress

The 5-year ROD was submitted and is awaiting comments from EPA. Characterization of the Northeast Parking Lot plume was completed and no source areas were found. The installation addressed monitoring well abandonment and long-term monitoring on Carswell AFB. AFCEE conducted "Veg Oil Injection" on the north lobe of the plume.

Transfer of the Carswell golf course was delayed due to regulatory issues (NPL/RCRA) and determination of cleanup goals.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site.

Plan of Action

Plan of action items for AFP 4 are grouped below according to program category.

IRP

- Continue operations and maintenance and long-term monitoring, including monitoring wells on Carswell AFB that are not abandoned, in FY04.
- Complete negotiations with regulators on cleanup goals for the Carswell golf course in FY04.
- Review and address action plan issues, if any, for Phase II Lake Worth sediment sampling results in FY04.

- Continue to partner with AFCEE and Air Force Real Property Agency on the proposed Carswell golf course transfer and plume management in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|-------------------------|
| FFID: | AZ957172462900 | Media Affected: | Soil and groundwater |
| Size: | 1,374 acres | Funding to Date: | \$70.9 million |
| Mission: | Research, design, and manufacture missiles | Estimated Cost to Completion (Completion Year): | \$46.2 million (FY2035) |
| HRS Score: | 57.86 placed on NPL in 1983 | Final RIP/RC Date for IRP Sites: | 2006 |
| IAG Status: | Negotiations underway | Five-Year Review Status: | Underway |
| Contaminants: | Solvents, machine coolants and lubricants, paint sludges and thinners, and heavy metals | | |



Progress to Date

Air Force Plant 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). In FY02, the installation completed a 5-year review.

AFP 44 occupies approximately 27.5 acres of the Tucson International Airport Area, 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 (NFA) ROD was signed for four sites. The cleanup progress at AFP 44 for FY00 through FY02 is detailed below.

In FY00, all 12 Installation Restoration Program (IRP) sites had remediation systems in place or required NFA. EPA approved an explanation of significant differences for the Site 1, 2, and 3 ROD. Additional volatile organic compounds (VOCs) were detected at Site 1, and the SVE system was restarted for three months. Confirmation samples verified that Site 1 met ROD standards, and the Site 1 closeout report received EPA concurrence. Six of 12 sites received EPA concurrence for site closeout.

In FY01, site closeout for Site 6, historic drainage channels and trenches, was completed. The dual-phase extraction (DPE) system at Site 5 was expanded to include three additional extraction wells. A portable treatment system was added to the DPE to remove high levels of chromium from the extracted groundwater.

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 DPE systems continued. The installation analyzed groundwater samples for the presence of 1,4-dioxane. The cost of completing environmental restoration at this installation changed significantly due to technical issues. A draft of the 5-year review ROD

was completed and the installation awaited stakeholder comments on the document before finalizing. 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, and updated a workshop and notebook that summarizes information about TIAASS. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation conducted an expanded in situ pilot project at Site 2. EPA Region IV submitted a limited draft risk assessment for 1,4-dioxane. The installation is currently reviewing the risk assessment. 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 ROD review. The 5-year ROD review is under revision.

Regulatory issues delayed the federal facility agreement.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for AFP 44 are grouped below according to program category.

IRP

- Conduct an expanded in situ pilot project at Site 3 in FY04.
- Complete the SVE at Sites 3 and 5 and monitor soil gas for one year in FY04.
- Complete the 1,4-dioxane risk assessment and determine future actions in FY04.

- Continue O&M of groundwater reclamation system, SVE systems, and DPE systems in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|--|--|---|
| FFID: OH557172887000 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 420 acres | Funding to Date: | \$3.8 million | |
| Mission: Produced aircraft and aircraft missile components | Estimated Cost to Completion (Completion Year): | \$0 (FY2000) | |
| HRS Score: 50.00; proposed for NPL in January 1994 | Final RIP/RC Date for IRP Sites: | FY2000 | |
| IAG Status: None | Five-Year Review Status: | Planned FY2005 | |
| Contaminants: PCBs, petroleum hydrocarbons, VOCs, and metals | | | |

Progress to Date

Air Force Plant No. 85 (AFP 85) produced aircraft and aircraft missile components and was proposed for the NPL in January 1994. Historical operations at the installation involved the use of solvents and petroleum products. Contaminants include polychlorinated biphenyls (PCBs), metals, petroleum hydrocarbons, and volatile organic compounds (VOCs), which have affected groundwater, surface water, sediment, and soil. Decision documents have been prepared for 9 of the 11 sites, and in FY96, the area of concern (AOC) was closed. In FY98, AFP 85 property was sold. The installation formed a Restoration Advisory Board in FY95.

Environmental studies since FY86 have identified 11 sites and 1 AOC at Air Force Plant No. 85. The cleanup progress at AFP 85 for FY99 through FY02 is detailed below.

In FY99, the installation used the proceeds from the FY98 sale of installation property to investigate eight sites. Investigations resulted in closure of a coal pile site and an acid spill site. Ohio EPA provided preliminary concurrence on these designations.

In FY00, the installation completed feasibility study (FS) and remedial action (RA) activities at the fire training area. It also received concurrence from Ohio EPA on closure of the coal pile site and the acid spill site. Sales proceeds are expected to fund future cleanup.

In FY01, the installation obtained Ohio EPA concurrence on the RA for the fire training area. Site investigations were completed at five remaining open sites. No further action (NFA) was necessary at three of these sites; RA was initiated at the two remaining sites. EPA concurrence was obtained on all NFA and RA determinations. The installation continued to use the Defense and State Memorandum of Agreement/cooperative agreement (DSMOA/CA) process to maintain Ohio EPA coordination of and concurrence with its cleanup program.

In FY02, the installation completed RAs at the two remaining open sites. Sediments that were contaminated above site-specific risk-based standards were removed from the stream beds. Ohio EPA concurrence was obtained for the RAs. The installation detected surface water contamination at one site. The contamination, which was believed to be associated with a nearby Environmental Compliance Program (ECP) site, was investigated under the ECP. The installation continued to use the DSMOA/CA process to maintain Ohio EPA coordination of and

concurrence with its cleanup program. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

Long-term monitoring remained ongoing under the Installation Restoration Program (IRP) in FY03.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for AFP 85 are grouped below according to program category.

IRP

No further actions under the IRP are anticipated in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|----------------------|---|--|-------------------------|---|
| FFID: | CO857172553700 | Media Affected: | Groundwater and soil |  |
| Size: | 464 acres | Funding to Date: | \$30.5 million | |
| Mission: | Research, develop, and assemble missiles and missile components; test engines | Estimated Cost to Completion (Completion Year): | \$35.5 million (FY2020) | |
| HRS Score: | 42.93; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: | 2007 | |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | N/A | |
| Contaminants: | Chlorinated organic solvents, VOCs, nitrate, fuel, and hydrazine | Five-Year Review Status: | N/A | |

Progress to Date

Air Force Plant (AFP) PJKS supports the military by researching, developing, and assembling missiles, missile components, and engines. The installation was placed on the NPL in November 1989. Past operations have contaminated groundwater beneath the installation with trichloroethylene, hydrazine, vinyl chloride, benzene, other volatile organic compounds (VOCs), and nitrate. The installation formed a Restoration Advisory Board (RAB) in FY96, and in FY97, signed a RAB charter.

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. The cleanup progress at AFP PJKS from FY99 through FY02 is detailed below.

In FY99, a supplemental remedial investigation (RI) report, including all six OUs, was submitted to regulators for review. Groundwater monitoring was conducted. A compliance order on consent (COC) between the Air Force and the Colorado Department of Public Health and Environment (CDPHE) was signed and closure plans were developed for regulatory review pursuant to the COC.

In FY00, closures were completed at two sites. A work plan for the groundwater monitoring program was developed and implemented. The installation obtained regulatory concurrence on an engineering evaluation and cost analysis for soil contamination at two sites.

In FY01, the installation received regulatory comments for one site in the supplemental RI report. Additional investigation is necessary for regulatory concurrence. A work plan was developed, and regulatory approval was obtained for this additional investigation. A closure plan received regulatory approval and the closure was completed. A removal action to address contaminated soil at two sites was completed. AFP PJKS was sold to Lockheed Martin Corporation, the operator of the facility.

In FY02, the installation obtained regulatory approval of the supplemental RI for six sites and no further action was required. 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 cost of completing environmental restoration at this installation changed

significantly due to regulatory issues requiring installation to further investigate and potentially treat groundwater. The installation continued to use the Defense and State Memorandum of Agreement/cooperative agreement process to maintain CDPHE coordination and concurrence with its cleanup program. Quarterly RAB meetings were held. Also in FY02, the Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. MMRP sites were identified at this installation.

FY03 IRP Progress

Regulators granted no further action determinations for 12 sites. Rather than conducting an additional investigation, the installation was able to address regulators' concerns about one of the groundwater OUs by consolidating several years of investigation data into one database, re-evaluating the existing data, and presenting a more comprehensive, concise summary of existing groundwater conditions. By accepting the OU 5 addendum and granting approval for the OU 4 additional investigation, the 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 that will be conducted as part of the corrective measure study process. The installation conducted two investigations, one in OU 1 and one at a major OU 3 site, as well as two rounds of groundwater monitoring.

RAB meetings were held quarterly. Throughout the year, the installation coordinated with the regulators to ensure concurrence with the remedial activities occurring at the site.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site.

Plan of Action

Plan of action items for AFP PJKS are grouped below according to program category.

IRP

- Conduct bedrock pilot studies in FY04.
- Prepare a work plan and negotiate an approach for an alluvial pilot study in FY04.
- Conduct groundwater monitoring in FY04–FY05.
- Negotiate approach and prepare work plan for landfill remediation in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|--|
| FFID: | AL421382000800 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 2,235 acres | Funding to Date: | \$61.7 million |
| Mission: | Manufactured explosives | Estimated Cost to Completion (Completion Year): | \$4.1 million (FY2004) |
| HRS Score: | 36.83; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | Federal facility agreement signed in December 1989 | Five-Year Review Status: | Planned |
| Contaminants: | Nitroaromatic compounds, heavy metals, and munitions-related wastes | | |



Progress to Date

Studies conducted at Alabama Army Ammunition Plant (AAP) since FY83 have 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 was divided into five operable units (OUs) in Area A and Area B; an additional OU for Area B (OU 4) was identified in FY96. Nitroaromatic compounds, heavy metals, and explosives waste contaminate the groundwater, surface water, sediment, and soil. In FY94, the installation 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 two final Records of Decision (RODs) to date. The installation has completed a major soil cleanup for Area B OUs 3 and 4 using incineration in accordance with the ROD. The cleanup progress at Alabama AAP for FY99 through FY02 is detailed below.

In FY99, the installation completed quarterly groundwater monitoring, surface water and sediment sampling, a dye trace study, and a pump test in Area B. The installation closed 35 groundwater monitoring wells and installed an engineered cap for Area 22. EPA and the State of Alabama approved the closeout report for Area B OUs 3 and 4. The installation removed and disposed of PCB-contaminated soil at the transformer area, lead-contaminated soil at the lead hot spot area, and tar and contaminated sediment from the aniline sludge pond.

In FY00, a land use control plan and an implementation plan were completed as required to support property transfer. The installation prepared a technical memorandum to document satisfactory soil remediation in Area B and the property's availability for transfer for industrial reuse. The technical review committee held quarterly meetings to address regulatory issues.

In FY01, the installation completed soil investigations in Area B. No additional sources of explosives contamination were found. Lead contamination was found in the soil at the Old South Georgia Road dump. The groundwater investigation of Area B continued, and sampling

of off-site wells indicated that contamination has migrated off post to the south and southeast of Area B.

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.

FY03 IRP Progress

The installation completed the early transfer of property to the City of Childersburg. The installation completed the potable well survey and groundwater RI fieldwork along with the soils FS.

The soils ROD and groundwater RI/FS were both delayed, primarily due to regulatory issues and additional testing.

FY03 MMRP Progress

The Army completed the CTT ranges and sites inventory. No Military Munitions Response Program (MMRP) sites were identified at this installation.

Plan of Action

Plan of action items for Alabama AAP are grouped below according to program category.

IRP

- Complete the soils ROD in FY04.
- Complete the groundwater RI/FS in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | CA917002323600 | Contaminants cont'd: | pesticides, petroleum hydrocarbons, PAHs, PCBs, VOCs, and SVOCs |
| Size: | 2,675 acres, including about 1,000 offshore acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: | Maintained and operated facilities and provided services and material support for naval aviation activities and operating forces | Funding to Date: | \$199.6 million |
| HRS Score: | 50.0; placed on NPL July 22, 1999 | Estimated Cost to Completion (Completion Year): | \$183.7 million (FY2016) |
| IAG Status: | Federal facility agreement signed | Final RIP/RC Date for IRP Sites: | FY2012 |
| Contaminants: | BTEX, chlorinated solvents, radium, heavy metals, herbicides, | Five-Year Review Status: | The installation has not completed a 5-year review. |



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 was formed in FY93. A BRAC cleanup plan was completed in FY94. The installation formed a technical review committee in FY90 and converted it to a Restoration Advisory Board (RAB) in FY93. In addition, a community land reuse plan was approved in FY96. The installation closed in April 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 1 (OU 1) remedial investigation (RI) review. The installation was placed on the NPL on July 22, 1999. The installation signed a federal facilities agreement (FFA) in 2001. The installation also completed the initial community relations plan (CRP). The CRP was revised in FY03 to reflect community interests and concerns.

Alameda NAS has identified 35 sites. The installation prepared a Record of Decision (ROD) for Marsh Crust in FY00. The cleanup progress at Alameda NAS for FY99 through FY02 is detailed below.

In FY99, all but one of the remaining underground storage tanks were removed. Abatement of asbestos in all industrial facilities was completed, and lead-based paint and asbestos were abated in all pre-1960 housing units. The removal of most of the 13 miles of active and inactive fuel lines was completed. The installation was placed on the NPL on July 22, 1999. The final RIs for OU 1 and OU 3 and the draft feasibility study (FS) for OU 3 were completed.

In FY00, the installation completed the removal action and transferred East Housing (73 acres) to the City of Alameda. Treatability studies were completed at Sites 4, 5, and 13. Cleanup and the fuel line removal were completed at the RCRA-permitted facility at Area 37. Negotiations with EPA and the State of California on the FFA neared completion. A ROD was prepared for Marsh Crust. The installation nearly completed the basewide environmental baseline survey and reached a preliminary agreement with the regulatory agencies on Environmental Condition of Property re-categorization of parcels. The majority of radium paint contamination at Sites 5 and 10 was removed.

In FY01, the installation completed the majority of the basewide sampling. The petroleum corrective action plans were completed and cleanup began. The first Site 25 removal action was completed, and documentation began for removals at the other sites. Closure of three RCRA-permitted sites was completed. Regulatory concurrence was received on one site and was pending on the other two sites. The RI and the FS for OU 3 were separated so that data gap sampling, cumulative risk assessment, and geotechnical/ordnance and explosives waste investigation could be incorporated into the RI. The Navy and EPA signed the FFA. The draft RI for OU 4A was completed.

In FY02, the installation completed removals at Sites 5, 14, and 25. Polycyclic aromatic hydrocarbons (PAH) fieldwork was completed in the non-CERCLA sites and the site investigation was underway. Forty percent of the petroleum cleanup was completed. The RI for OU 5 was completed. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed removal actions at Sites 4, 5 (GW), 9, 11, 16, and 21. In addition, the RI/FSs were completed for Sites 14 and 15. The Navy completed a time critical removal action for PAHs in the West Housing area. A non-time critical removal action was completed for lead in soil and for the water and antennae towers. The Navy completed petroleum removal actions at CAA 6 and Building 397. Six Phase Heating is being used to treat the dense non-aqueous phase liquid and dissolved phase chlorinated solvents. Chemical Oxidation is being used to treat dissolved phase chlorinated solvents. Dual Vacuum Extraction and Bio-Sparging are being used to treat petroleum contaminants.

The ROD and the proposed plan (PP) for Sites 14 and 15 were not completed due to regulatory issues.

The CRP for the installation was revised to reflect community interests and concerns. The Navy awarded a TAPP grant for the RI and FS for OU 5. The Navy produced a comprehensive newsletter updating all site activities for the local community and other interested parties. The target audience for this newsletter is the local community and other interested parties.

FY03 MMRP Progress

The Navy identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Alameda NAS are grouped below according to program category.

IRP

- Complete the PP and ROD for Sites 14 and 15 in FY04.
- Complete full scale removal actions at Sites 4, 5 (GW), 9, 11, 16, and 21 in FY04–FY05.
- Complete FS, PP, and ROD for OU 3 and 5 in FY04–FY05.
- Complete RI and FS for OUs 1, 4B, 4C, and 6, and PP for OU 1, and 6 in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|--------------------|---|--|--|---|
| FFID: | GA417302369400 | Contaminants: | VOCs, PCBs, heavy metals, pesticides, and PAHs |  |
| Size: | 3,579 acres | Media Affected: | Groundwater, soil, and sediment | |
| Mission: | Acquire, supply, and dispose of materials needed to sustain combat readiness of Marine Corps forces worldwide; acquire, maintain, repair, rebuild, distribute, and store supplies and equipment; conduct training | Funding to Date: | \$32.2 million | |
| HRS Score: | 44.65; placed on NPL in December 1989 | Estimated Cost to Completion (Completion Year): | \$21.7 million (FY2013) | |
| IAG Status: | Federal facility agreement signed in July 1991 | Final RIP/RC Date for IRP Sites: | FY2008 | |
| | | Five-Year Review Status: | The installation completed a 5-year review. | |

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. The installation was placed on the NPL in December 1989. A technical review committee was formed in FY89. In July 1991, the installation signed a federal facility agreement. In FY92, a community relations plan was completed. In FY01, the installation completed a 5-year review.

The installation has identified 32 sites. A no further action Record of Decision (ROD) at OU 2 and final RODs for four sites at OU 1, two sites at OU 3, two sites at OU 5, OU 4, and OU 6 were completed. In addition, the installation has signed an interim ROD at solid waste management unit (SWMU) 3. The cleanup progress at Albany MCLB for FY99 through FY02 is detailed below.

In FY99, a final ROD was signed for OU 4, specifying institutional controls for one site and no further remedial action planned (NFRAP) for four sites. A land use controls assurance plan agreement was finalized between the base and EPA Region 4, and an alternate water supply was provided to 55 residents north of the base. The RCRA facility investigation report and a draft feasibility study were submitted to the regulators.

In FY00, the installation received clean closure notification for the carpenter shop wood-preservation area that was contaminated with pentachlorophenol. Remediation was completed at SWMU 30, the former PCBs transformer site. The Georgia Environmental Protection Division (EPD) began receiving Defense and State Memorandum of Agreement funding in FY00.

In FY01, the installation completed the final ROD for OU 6, which specified enhanced bioremediation for groundwater and capping for source control. The certificate of closure for SWMU 30 was received, and an NFRAP letter was received from the Georgia EPD. The 5-year review was completed.

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 remedial design (RD) for source control began. A zero-valent iron 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, favor the ET cap. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

Albany completed the zero-valent ion and potassium permanganate pilot studies. The water tower over one of the SWMUs is being repainted and both SWMUs are part of one contract action. The ET cap pilot study was completed. In addition, the RD for groundwater was initiated. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Albany was unable to complete the RD and begin construction for source areas because the groundwater RD and construction must precede source area construction to avoid damaging the caps. The installation did not complete the investigation and remediation of two newly identified SWMUs.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Albany MCLB are grouped below according to program category.

IRP

- Complete RD for groundwater and begin construction in FY04.
- Investigate and remediate two SWMUs in FY04.
- Complete RD for source areas in FY04 and construct caps in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | WV317002369100 | Media Affected: | Groundwater and soil |
| Size: | 1,628 acres (1,572 acres owned by the Navy) | Funding to Date: | \$24.6 million |
| Mission: | Research, develop, and produce solid propellant rocket motors for DoD and NASA | Estimated Cost to Completion (Completion Year): | \$44.8 million (FY2043) |
| HRS Score: | 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2008 |
| IAG Status: | Federal facility agreement signed January 1998 | Five-Year Review Status: | The installation completed a 5-year reiew and the remedy remains protective. |
| Contaminants: | VOCs, RDX, HMX, perchlorate, and silver | | |



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 include volatile organic chemicals (VOCs), cyclotrimethylenetrinitramine (RDX), cyclotetramethylenetetranitramine (HMX), perchlorate, and silver. The installation was placed on the NPL in May 1994. A technical review committee was established in FY89 and converted to a Restoration Advisory Board in FY95. In FY94, an administrative record and two information repositories were established. The installation also signed a federal facility agreement in FY98. In FY03, the installation completed a 5-year review.

The installation has identified 37 sites. Environmental studies in FY83 identified 11 sites at this government-owned, contractor-operated installation. A confirmation study recommended further study 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 for FY99 through FY02 is detailed below.

In FY99, closeout packages were submitted for 12 SWMUs. An institutional control plan was issued for Sites 1, 5, and 10; the Site 11 remedial investigation (RI) was completed; and a draft community relations plan was issued.

In FY00, the installation completed a RI for groundwater and soil at Site 10, and plume boundaries were identified. A draft long-term management (LTM) plan and a draft sewer line hydrologic investigation were completed for Site 10. In addition, a draft final work plan addendum for Sites 4B and 10 was completed. A natural attenuation (NA) study was completed for groundwater at Site 5, and a draft NA assessment project plan was completed. In addition, an LTM report was completed for Site 5. The SWMU/AOC preliminary investigation was completed, resulting in a need for further RI/feasibility study (FS) at three SWMUs' AOCs. In addition, a final decision document for NFA was signed for 14 SWMUs. A draft environmental engineering/cost analysis (EE/CA) for soil was completed at Site 1.

In FY01, the final NFA ROD for Site 7 was signed. Final closeout reports for SWMUs 21, 37S, 37G, 37C (groundwater), and AOC O were completed. Aquifer testing utilizing groundwater flow modeling was conducted at Sites 1 and 10 in order to optimize well locations and pumping rates. A groundwater treatment plant optimization study was conducted, and the recommendations were implemented reducing plant outages and operating costs. Remedial actions (RAs) at SWMUs 37A, 37B, 37BB, 37N, 37V, 37X, 24R, and 26, and the condensate collection tank were completed. The SWMU/AOC investigations were completed. A 5-year ROD review for Site 5 soil was underway.

In FY02, the installation received regulatory concurrence to conduct a Site 4B x-ray fluorescence (XRF) pilot study in lieu of an EE/CA and RA to expedite closure. RI continued on AOC N and SWMUs 27A and 37V. Significant solvent contamination of groundwater was discovered at AOC N. The RIs for Sites 5 and 11 continue. Two human health risk assessments were issued for comment to regulators. A final remedy for Site 10 was selected and a proposed remedial action plan (PRAP) was issued. A 5-year review was performed for the Site 5 ROD. For Installation Restoration Site 6 SWMUs 24E, 24R, 37A, 37X, CCT, 58, 37 F, 37S, 37G, 37C (groundwater), 26, 37J, 37T, 37BB, and 40 AOC H, closure was performed and final closeout documents were 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 were issued. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

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

The RI was not finalized because more contamination was found at these sites than previously thought to exist. The PRAPs and RODs for Site 5 and 11 were delayed due to technical and regulatory issues. The pilot study, PRAP, and the NFA ROD for Site 4B was delayed due to technical issues.

FY03 MMRP Progress

The Navy identified no MMRP sites at this installation.

Plan of Action

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

IRP

- Complete RI/FS for Sites 2, 3, 5, 10, and 12 in FY04.
- Complete RIs for AOC N, SWMUs 27A, and 37V in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------|
| FFID: | GU957309951900 | Media Affected: | Groundwater and soil |
| Size: | 15,000 acres | Funding to Date: | \$75.8 million |
| Mission: | Provide troops, equipment, and facilities in the Pacific | Estimated Cost to Completion (Completion Year): | \$51.0 million (FY2012) |
| HRS Score: | 50.00; placed on NPL in October 1992 | Final RIP/RC Date for IRP Sites: | FY2012 |
| IAG Status: | Federal facility agreement signed in March 1993 | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | VOCs, metals, asphalt, dioxins, and PCBs | Five-Year Review Status: | Underway |



Progress to Date

The mission of Andersen Air Force Base (AFB) is to provide troops, equipment, and facilities in the Pacific. The installation was placed on the NPL in October 1992 and a federal facility agreement was signed in March 1993. 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. The base community relations plan was updated in FY98. A 5-year review was initiated in FY03. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The 50 sites identified at Andersen AFB were consolidated into 39 sites and grouped into six operable units (OUs). To date, Records of Decision (RODs) have been signed for the MARBO OU and the Harmon OU. The cleanup progress at Andersen AFB for FY99 through FY02 is detailed below.

In FY99, remediation was initiated for four sites and seven areas of concern (AOCs) on excess property. Investigations were completed at eight sites, four of which required remediation. No further remedial action planned (NFRAP) documents were prepared for the remaining four sites. Engineering evaluations and cost analyses (EE/CAs) for six sites and investigations for eight sites were completed. The installation and regulators agreed to halt groundwater monitoring at the Harmon and Northwest Field OUs because concentrations of target analytes did not exceed action levels. Two monitoring wells were sampled at Northwest Field until the interim remedial action (IRA) for the last two sites were completed.

In FY00, EE/CAs for four sites and NFRAP documents for ten sites were completed. Groundwater investigation at the Main Base OU, partnerships with Guam EPA and EPA Region 9 remedial project managers, and long-term monitoring of MARBO OU groundwater continued.

In FY01, the MARBO ROD amendment was signed. Remediation was completed at LF-29. EE/CAs for LF-10, LF-13, LFs 17-19, and the Ritidian Dump were under regulatory review. NFRAP documents for LF-22, WP-4, CSA-1, FTA-1, and LF-6 were awaiting signature by Guam EPA. The remedial investigation and feasibility study and the proposed plan for the Harmon OU were finalized, and the ROD was in

regulatory review. The Urunao Dump was added as a new OU and installation Restoration Program (IRP) site, and was in the feasibility study phase. IRA projects for LF-29 and LF-7 were completed. During the remediation of WP-6, additional soil requiring remediation was identified, requiring a follow-on project. IRAs for CSA-4, LF-14, LF-21, and the polychlorinated biphenyls (PCBs) storage area were initiated.

In FY02, the installation completed EE/CA reports for FTA-2 and LF-8 and submitted them for regulatory review. Groundwater monitoring continued at the installation. The Harmon OU ROD was approved and signed by EPA Region 9, and was awaiting signature by the Guam EPA. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. MMRP sites were identified at this installation.

FY03 IRP Progress

The installation continued long-term operations for LF-2 and FTA-2, as well as groundwater monitoring for MARBO and the main base OUs. Negotiations with regulators resulted in reducing the required number of wells, frequency of sampling, and number of analytes. The installation initiated the 5-year review process. The base finalized three EE/CA reports for LF-17, LF-8, and FTA-2, the NFRAP for CSA-1, remediation verification reports for PCB Storage Area and LF-2, and converted three AOCs to IRP sites. Additionally, 23 AOCs were added to the IRP.

The IRA for LF-10, a fencing project for land use control, was delayed to accomplish higher risk cleanups.

RAB activities continued and the installation maintained good communication with regulators.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site. The Air Force will prioritize the MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

Plan of action items for Andersen AFB are grouped below according to program category.

IRP

- Initiate the dual-phased design of the Urunao dump site remediation and complete the Urunao ROD signatures in FY04.
- Perform PA and site investigation on 23 AOCs in FY04.
- Complete RA for WP-6 in FY04.
- Complete IRA for Ritidian dump site in FY04.
- Continue groundwater monitoring for MARBO and Main Base OUs in FY04–FY05.

MMRP

- Begin PAs in FY05.

| | | | |
|----------------------|---|--|-------------------------|
| FFID: | MD357182400000 | Media Affected: | Surface water |
| Size: | 4,300 acres | Funding to Date: | \$47.9 million |
| Mission: | Provide Presidential airlift support | Estimated Cost to Completion (Completion Year): | \$60.5 million (FY2024) |
| HRS Score: | 50.0; placed on NPL in June 1999 | Final RIP/RC Date for IRP Sites: | FY2019 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY2009 |
| Contaminants: | Metals, SVOCs, VOCs, PAHs, PCBs, and pesticides | Five-Year Review Status: | Planned FY2012 |



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. In June 1999, the base was placed on the NPL.

Twenty-two Installation Restoration Program (IRP) sites have been identified, with 11 additional areas of concern (AOCs). Four sites have been closed under the RCRA petroleum program. EPA identified five source areas at Andrews AFB. Source 1 (FT02) and Source 2 (FT03) are former fire training areas where fuel and waste oil were burned. Source 3 (SD23) involved waste treatment plant sludge placement on the airfield. Source 4 Landfill 05 (LF05) is a former landfill used for disposal of general refuse, construction rubble, and fly ash. Source 5 consists of two landfills (LF06 and LF07) used primarily for disposal of construction wastes. Small quantities of household waste and shop wastes (oils, paint thinner, and cleaning solvents) were also disposed of in Source 5. The cleanup progress at Andrews AFB for FY99 through FY02 is detailed below.

In FY99, the installation began partnering with EPA Region 3, the Maryland Department of the Environment (MDE), and the Prince George's County Health Department. The regulators have indicated that all CERCLA sites require new remedial investigations (RIs) and feasibility studies (FSs) because of the NPL listing. Seventy-seven solid waste management units identified in FY88 during a RCRA inspection were also under review by the CERCLA partnering group. An 8-acre, former skeet range was closed.

In FY00, final basewide master plans were submitted to regulators to streamline future document review. An administrative record and an information repository were created on CD-ROM. The former skeet range was demolished.

In FY01, the installation completed the RI work plans for Source 4. Over-excavation was implemented as an interim remedial action at SS22 (Hangar 13). A building demolition project at SS21 was re-scoped to include removal of contaminated soil in the source area.

In FY02, the installation began RI fieldwork at LF05 and signed a memorandum of agreement with MDE to conduct RI work on adjacent private property affected by LF05. A basewide background study was initiated, and work plans for a basewide ecological risk assessment were developed. The RI at ST14 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 SS12 and SS13. The cost of completing environmental restoration at this installation has changed significantly due to technical and regulatory issues. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges listed on the NPL in FY02. An MMRP site was identified at this installation.

FY03 IRP Progress

The installation submitted the draft basewide background study and awaits regulatory comments. Fieldwork commenced for the basewide ecological risk assessment and RIs at FT04, LF06/07, and ST10. Andrews AFB was awarded a performance-based contract for closure of ST17 Army and Air Force Exchange Service gas station plume. The installation also received regulatory closure for ST18 and ST20 petroleum sites.

Funding issues delayed fieldwork at LF05 and the FS at ST14 was delayed until the completion of its RI.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site. The Air Force will prioritize the MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

Plan of action items for Andrews AFB are grouped below according to program category.

IRP

- Complete RIs at LF05 and ST14 and initiate FSs in FY04.
- Submit draft RIs for ST10, FT04 and LF06/07 in FY04.
- Complete RI work plans for Source 1, Source 2, Source 3, and SS-22 sites in FY04.
- Conduct interim action at SS11 fuel spill site and removal action at AOC 24 former gas station in FY04.

MMRP

- Initiate MMRP site investigation in FY05.

| | |
|---|--|
| FFID: AL421382002700 | Media Affected: Groundwater and soil |
| Size: 600 acres | Funding to Date: \$54.9 million |
| Mission: Maintain combat vehicles | Estimated Cost to Completion (Completion Year): \$28.2 million (FY2032) |
| HRS Score: 51.91; placed on NPL in March 1989 | Final RIP/RC Date for IRP Sites: FY2008 |
| IAG Status: IAG signed in June 1990 | Final RIP/RC Date for MMRP Sites: FY2017 |
| Contaminants: VOCs, heavy metals, phenols, petroleum products, acids, and caustics | Five-Year Review Status: Completed FY1999/Underway FY2003 |



Progress to Date

Since 1948, the Army has repaired, rebuilt, and modified combat vehicles and artillery equipment at the Anniston Army Depot Southeast Industrial Area (SIA). Painting, degreasing, and plating operations at the installation generate wastes containing volatile organic compounds (VOCs), phenols, heavy metals, and petroleum distillates. EPA placed the installation on the NPL in 1989, and the Army and EPA signed an interagency agreement in 1990. The installation completed a 5-year review in FY99. During FY98, the installation formed a Restoration Advisory Board (RAB) and updated the community relations plan.

Studies at the installation revealed soil and groundwater contamination at 47 sites. Prior to FY99, 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, and installing groundwater interception and treatment systems to remove VOCs and phenols. The Army also addressed community concerns by sampling residential groundwater wells. To date, one interim Record of Decision (ROD) has been completed by the installation. The cleanup progress at Anniston for FY99 through FY02 is detailed below.

In FY99, the Army completed the SIA Groundwater and Soil Operable Unit (OU) feasibility studies (FSs), the 5-year review of the interim ROD for the SIA Groundwater OU, and the proposed plan (PP) for the SIA Groundwater OU. The draft Ammunition Storage Area (ASA) remedial investigation (RI)/FS and the SIA Groundwater OU ROD were also completed. The installation designed and implemented an environmental geographic information system.

In FY00, the Army converted the chromium treatment plant to a SIA-centralized groundwater treatment system. The Army also completed hydrogen peroxide injection for groundwater treatment at Solid Waste Management Unit (SWMU) 12, inventory and sampling of off-post private wells and springs surrounding the installation, and the fieldwork for the Phase I off-post RI. The SIA Soil OU PP was completed.

In FY01, the Army completed the Phase I RI and began the Phase II off-post RI. Remedial design for sediment and surface water at SWMU 44 continued. The installation completed the SWMU 12 emergency removal and groundwater treatment reports. Operation of the new centralized groundwater treatment facility began. The installation sampled 66 off-post private drinking water wells; all were below the detection limits for VOCs.

Army

In FY02, the Alabama risk-based corrective action for SWMU 46 was completed. The Army completed the ASA RI/FS, PP, and draft final 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).

FY03 IRP Progress

The installation drafted Alabama risk-based corrective actions for SWMU 45 and SWMU 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 RI and submitted it to regulatory agencies for review. The 5-year review proceeded as scheduled. The installation used a preliminary groundwater flow-and-transport model to generate a prioritized list of sample locations for monitoring points and wells. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Regulatory issues delayed the signing of the On-Post Groundwater OU interim ROD, ASA ROD, and SIA OU ROD.

Anniston continued to provide public education through the RAB on the health effects of trichloroethylene (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.

FY03 MMRP Progress

Anniston identified two sites through the MMRP inventory.

Plan of Action

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

IRP

- Sign SIA Soil OU ROD in FY04.
- Sign the ASA ROD in FY04.
- Complete 5-year review in FY04.
- Complete remedial design outlined in the ASA and SIA Soil RODs in FY04.

MMRP

- Complete the site inspection for the two sites identified in the MMRP inventory in FY04.

| | | | |
|----------------------|---|--|-------------------------|
| FFID: | MA121382093900 | Media Affected: | Soil and surface water |
| Size: | 48 acres | Funding to Date: | \$100.7 million |
| Mission: | Conduct materials research and development | Estimated Cost to Completion (Completion Year): | \$0.6 million (FY2004) |
| HRS Score: | 48.60; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | Signed July 25, 1995 | Five-Year Review Status: | Complete FY2002/Planned |
| Contaminants: | Radionuclides, heavy metals, petroleum products, solvents, pesticides, and PCBs | | |



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. The installation closed, as scheduled, on September 30, 1995. 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 divided its remedial investigation (RI) and feasibility study (FS) activities into three areas (Indoor, Outdoor, and Charles River). Interim actions have included asbestos abatement, removal of all known aboveground and underground storage tanks, remediation of petroleum-contaminated soil, decommissioning of the central heavy-oil-fired power plant, retrofitting and disposal of PCB-containing transformers, closing of cooling water discharge systems and decommissioning the inactive reactor. The installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB) in FY94. The Army completed a 5-year review in FY02.

The installation has completed one Record of Decision (ROD) to date. The Army transferred a 37-acre parcel to Watertown. The cleanup progress at ARL Watertown for FY99 through FY02 is detailed below.

In FY99, EPA published in the Federal Register a notice of partial deletion from the NPL of the 37 acres transferred to Watertown. The installation began the Charles River RI/FS.

In FY00, EPA deleted the 37-acre parcel from the NPL. The Watertown Yacht Club completed the initial subsurface injection of an oxygen release compound to oxidize petroleum residue below two feet. The Charles River draft FS was completed and distributed. With regulator participation, the installation began to scope the Charles River FS alternatives.

In FY01, work continued on developing an environmental assessment for the Charles River Operable Unit (OU). The installation completed the draft screening-level risk assessment. The Army completed remedial work at the River Park to include the riverbank areas. The 11-acre River Park parcel transfer documents were drafted.

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 OU continued. 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.

FY03 IRP Progress

The installation collected sediment samples from the Charles River. All institutional controls are in place for the River Park. The environmental baseline survey, finding of suitability to transfer, and additional transfer documents were completed. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Technical issues delayed the transfer of 11 acres to the Commonwealth of Massachusetts. Document development and concurrences delayed the baseline environmental risk assessment.

The RAB continued to review documents and make site visits.

FY03 MMRP Progress

The Army performed no work on MMRP sites at this installation in FY03.

Plan of Action

Plan of action items for ARL Watertown are grouped below according to program category.

IRP

- Complete the baseline environmental risk assessment in FY04.
- Transfer 11 acres to the Commonwealth of Massachusetts in FY04.
- Complete the FS and ROD in FY05.
- Initiate delisting of the installation from NPL in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--|--|--|---|
| FFID: NJ221382070400 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 6,500 acres | Funding to Date: | \$85.9 million | |
| Mission: House the Army Armaments Research, Development, and Engineering Center | Estimated Cost to Completion (Completion Year): | \$38.9 million (FY2035) | |
| HRS Score: 42.92; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2010 | |
| IAG Status: IAG signed in July 1991 | Five-Year Review Status: | Completed FY2002 | |
| Contaminants: VOCs, explosives, PCBs, and heavy metals | | | |

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). 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. A remedial investigation and feasibility study (RI/FS), beginning in FY91, divided the installation into 16 areas. In FY96, the installation’s technical review committee was converted to a Restoration Advisory Board (RAB). In FY98, the installation procured a technical assistance for public participation contract to provide technical support for the RAB. EPA conducted a 5-year review in FY02.

Environmental studies have identified 175 sites at the installation. To date, the installation has designated 113 sites response complete (RC). The cleanup progress at ARDEC for FY99 through FY02 is detailed below.

In FY99, the regulators approved site inspection work plans for Sites 3, 31, 192, and 199. The Phase II ecological risk assessment (ERA) report data gap studies for Area D groundwater, Green Pond Brook, and Bear Swamp Brook were completed. The Army completed fieldwork for the RI report for Area F and G groundwater. The installation submitted the Phase II RI report to EPA. The Army and the State of New Jersey agreed that the Army would implement institutional controls or low-cost engineering controls for soil at sites, on a case-by-case basis, where contaminant levels were above state standards but where risk was acceptable per National Contingency Plan criteria.

In FY00, the installation submitted FSs for the Post Farm landfill, Area D groundwater, and the Burning Grounds to the regulators. An additional Phase I RI work plan featuring eight sites was completed. The installation conducted an investigation of the gun cotton line (Site 16) that resulted in removal of contaminated pipe and surrounding contaminated soil. The Army submitted an ERA for Lake Denmark to regulators. The regulators approved the Phase I and III investigative work plans for Sites 2A and 3A. The installation completed an engineering evaluation and

cost analysis (EE/CA) for polychlorinated biphenyl (PCB) contamination at Site 122, and removed PCB-contaminated soil near Building 60. The Phase II ecological risk report was submitted to the regulators.

In FY01, the installation completed, and the regulators approved, groundwater FSs for Areas B, D, and E. The plan to use iron filings to treat Area B groundwater was initiated. EPA and the New Jersey Department of Environmental Protection approved remedial design and treatment for Site 20 and Site 24. A study began on the effects of contamination on fish in the ponds and lakes at the installation.

In FY02, the installation submitted the proposed plans (PPs) for the Burning Grounds, Green Pond Brook, Bear Swamp Brook, and the Post Farm landfill to the regulators for review. The Indiana bat (an endangered species) report was submitted to the regulators and the U.S. Fish and Wildlife Service. 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. EPA conducted a 5-year review of the Army’s interim action for the pump and treat system for Area D groundwater.

FY03 IRP Progress

The installation completed FSs for Sites 180 and 25/26, and 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. MidValley groundwater was investigated and RI reports on over 60 sites were submitted to the regulators. The installation combined RI concept sites based on geography and plan of action, resulting in RC for 84 sites. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria and technical issues.

Regulatory issues delayed the Records of Decision (RODs) for Area D groundwater, Green Pond Brook, Post Farm, and the Burning Grounds. Technical issues delayed the treatability study (TS) with hydrogen release compound in groundwater for Area B and D. Weather delayed the removal of sediment for the retention basin of Bear Swamp Brook.

Quarterly RAB meetings were held and site tours were conducted. The installation continued facilitated partnering with regulators.

FY03 MMRP Progress

The installation completed the Phase III inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. Military Munitions Response Program (MMRP) sites were identified.

Plan of Action

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

IRP

- Complete RODs for Area D groundwater, Green Pond Brook, Post Farm, and the Burning Grounds in FY04.
- Complete PPs for Sites 180, 25/26 and Area E in FY04.
- Complete TS with hydrogen release compound in groundwater for Area B and D in FY04.
- Complete removal of sediment for the retention basin of Bear Swamp Brook in FY04.
- Sign ROD for 13 sites with institutional controls in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | TN457172404400 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 40,000 acres | Funding to Date: | \$78.0 million |
| Mission: | Maintained and repaired ships and provided logistical support for assigned ship and service craft | Estimated Cost to Completion (Completion Year): | \$46.2 million (FY2032) |
| HRS Score: | Simulate flight conditions | Final RIP/RC Date for IRP Sites: | FY2009 |
| IAG Status: | 50.00; proposed for NPL in August 1994 | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | VOCs, solvents, PCBs, heavy metals, acids, petroleum hydrocarbons and asbestos containing material | Five-Year Review Status: | N/A |



Progress to Date

Arnold Engineering Development Center (AEDC) is an advanced aerospace ground test, evaluation, and simulation facility. The installation was proposed 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. In FY95, several interim remedial actions were completed, including low-temperature thermal treatment of soil contaminated with volatile organic compounds (VOCs) and the installation of a groundwater extraction and treatment system. The installation converted its technical review committee to a Restoration Advisory Board (RAB) in FY95. In FY99, the RAB was converted to a Community Advisory Board (CAB). The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The cleanup progress at AEDC for FY99 through FY02 is detailed below.

In FY99, delineation of the Site SS-22 plume migration pathway was conducted. At Site Landfill 3 (LF-3), a landfill boundary soil gas collection system was constructed to mitigate an emergency situation involving methane gas migration to a local high school and residences. Twenty-two solid waste management units in Site SS-22 were designated for no further action.

In FY00, the Estill Springs water line was extended, and residents of 20 homes downgradient of the Site WP-6 plume were connected. The Site WP-6 RCRA facility investigation (RFI) was approved, and a corrective measure study (CMS) work plan was submitted. The draft RFI report for Site SS-22 was completed. The installation began constructing a series of interior methane gas extraction trenches at Site LF-3. The installation used color-enhanced aerial thermography to identify springs to which groundwater from the base may be discharging.

In FY01, the draft RFI Number 3 report was completed, and preparation of the CMS work plan began. The CMS report for Site WP-6 was initiated. Construction of the interior methane gas collection trenches at Site LF-3 was completed. The draft RFI report for Site LF-3 was

completed and the CMS work plan was being prepared. Fieldwork was underway at Sites WP-2, WP-8, WP-11, and SS-19. Preparation of the RFI work plan for Site LF-1 began. Regulatory approval was received for RFIs for Sites SS-22, FT-10, and WP-12. Also in FY01, a comprehensive range inventory was initiated. This inventory was designed to be an annual, iterative effort. To supply data for the inventory, a detailed questionnaire was completed that collected data on the types of munitions used, the range's environmental status, and the type and level of external stakeholder interest.

In FY02, the installation completed fieldwork and data analysis for the RFIs for Sites WP-2, WP-8, and WP-11. Fieldwork was initiated for the Site LF-1 RFI. The cost of completing environmental restoration at this installation changed significantly due to technical issues. The installation conducted a site tour for the CAB. CAB 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. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. MMRP sites were identified.

FY03 IRP Progress

The installation completed the CMS for Site LF-3. LF-3 also achieved remedy in place (RIP) during the fourth quarter. The interim measure (IM) upgrade for Sites WP-6 and WP-8 was completed and an IM for installing access controls at SS-19 was initiated. Site WP-20 achieved RIP and response complete (RC). Risk at WP-8 was reduced from high to medium. Risk at Sites WP-6, SD-4, and SD-9 was reduced from medium to low. RFIs for SS-25 and SS-26 began. The IM for SS-22 was deleted with regulatory acceptance.

The completion of RFIs for LF-1 and SS-19 were delayed to allow for additional data collection. Technical challenges delayed completion of the CMS phase for WP-6 and LF-1 as well as extended the completion of the RFI for SS-25 through FY05.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site. The Air Force will prioritize the MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

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

IRP

- Complete RFIs for Sites LF-1, SS-19, and SS-26 in FY04.
- Complete CMSs for Sites LF-1, WP-2, WP-6, WP-11, and WP-12 in FY04.
- Achieve RIP and RC for Sites SD-4 and SD-9 in FY04.
- Construct IM for hydraulic containment of a chlorinated solvent plume associated with SS-22 in FY04-FY05.

MMRP

- Begin preliminary assessments in FY05.

| | | | |
|----------------------|--|--|------------------------|
| FFID: | NJ257282844900 | Media Affected: | Groundwater and soil |
| Size: | 280 acres | Funding to Date: | \$1.7 million |
| Mission: | Provide Air National Guard training | Estimated Cost to Completion (Completion Year): | \$1.2 million (FY2009) |
| HRS Score: | 39.65; placed on NPL in August 1991 | Final RIP/RC Date for IRP Sites: | FY2007 |
| IAG Status: | Federal facility agreement signed in July 1993 signed in July 2002 | Five-Year Review Status: | N/A |
| Contaminants: | VOCs, SVOCs, lead, copper, and pesticides | | |



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 in July 1993. 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 Dougherty'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. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Four sites have been identified at the installation. The cleanup progress at the ANG Base for FY99 through FY02 is detailed below.

In FY99, a site inspection (SI) addendum was completed and submitted to the EPA for review. The future scope of work at the 177th Fighter Wing was reevaluated based on the results of the SI.

In FY01, ANG, FAA, and EPA met to discuss the next course of action. The FAA initiated responses to EPA comments on the SI addendum and conducted additional field investigations to fill data gaps.

In FY02, the FAA initiated additional field investigations in response to EPA comments on SI addendum. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

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

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for the ANG Base are grouped below according to program category

IRP

- Initiate remedial investigation in FY04.
- Initiate feasibility study in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | WA017002729100 | Media Affected: | Groundwater and soil |
| Size: | 7,201 acres | Funding to Date: | \$80.2 million |
| Mission: | Provide support base for Trident submarines | Estimated Cost to Completion (Completion Year): | \$46.5 million (FY2031) |
| HRS Score: | 30.42 (Bangor Ordnance Disposal); placed on NPL in July 1987, 55.91 (Bangor Naval Submarine Base); placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | Federal facility agreement signed in January 1990 | Final RIP/RC Date for MMRP Sites: | FY2011 |
| Contaminants: | Residual TNT, RDX, Otto fuel, and VOCs | Five-Year Review Status: | The installation completed a 5-year review and the remedy remains protective. |



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 Bangor Ordnance Disposal area was placed on the NPL in July 1987 and the Bangor Naval Submarine Base was added in August 1990. The Navy conducted an initial assessment study in FY83 to identify sites requiring further investigation because of suspected soil and groundwater contamination. In FY90, the Navy, EPA, and the State of Washington signed a federal facility agreement for the installation. In FY00, the installation completed the first basewide 5-year review.

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 (RODs) and five expedited response actions were performed. Construction completion documents for OUs 1, 2, and 7 were submitted to EPA and the Washington Department of Ecology. The cleanup progress at Bangor Naval Submarine Base for FY99 through FY02 is detailed below.

In FY99, compliance and performance monitoring, and operations and maintenance continued at OUs 1, 2, 7, and 8 and underground storage tank (UST) 4. The remedial action (RA) for UST 1 was completed. Monitored natural attenuation (MNA), free-product recovery, and institutional controls (ICs) were selected as the remedies at OU 8.

In FY00, the installation finalized the remedial investigation and feasibility study and signed the ROD for OU 8. This ROD includes IC language for OU 8 and all other OUs requiring ICs as part of the remedy. Amendment of the OU 1 ROD was completed via explanation of significant difference 3. The first basewide 5-year review was completed. An RA was completed at UST 4. Sampling was conducted at OU 7 (Site 26) and at Floral Point.

In FY01, long-term management and land use controls (LUCs) were instituted at Site A. Ordnance natural attenuation continued to be evaluated. Remedial design and construction for the OU 8 MNA and free-product recovery were completed; the remedy was effective and operated as predicted. The installation developed and implemented a basewide IC/LUC management plan.

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

FY03 IRP Progress

The installation collected additional data to demonstrate that the site treatment system could be shut down. Long-term operations and management at OUs 1, 2, and 8 continued. Land use restrictions and IC controls were implemented and maintained. MNA was demonstrated as a viable alternative remedy at OU 1. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

Regulatory issues delayed the partial deletion for OU 1 and OU 2.

FY03 MMRP Progress

No work was performed on the MMRP site at this installation.

Plan of Action

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

IRP

- Continue pursuing an alternative remedy and system shutdown at OU 1 in FY04–FY05.
- Continue long-term operations and management at five sites in FY04–FY05.
- Complete the second basewide 5-year review in FY04–FY05.
- Complete the partial delisting for all media at OU 1 and OU 2 with the exception of groundwater in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | HI917002432600 | Media Affected: | Groundwater and soil |
| Size: | 3,816 acres | Funding to Date: | \$57.5 million |
| Mission: | Maintain and operate facilities and provide services and material support to aviation activities and units of the operating forces | Estimated Cost to Completion (Completion Year): | \$13.9 million (FY2014) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2014 |
| IAG Status: | None | Five-Year Review Status: | The installation has not conducted a 5-year review. |
| Contaminants: | PCBs, heavy metals, petroleum hydrocarbons, pesticides, solvents, and asbestos | | |



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 (EBS) and formed a Restoration Advisory Board and a BRAC cleanup team (BCT). A preliminary assessment identified nine sites at the installations; however, after an expanded site inspection, it was determined that only one site required further investigation. In FY97, the latest version of the BRAC cleanup plan was completed, along with a land reuse plan.

The installation signed Records of Decisions (RODs) for Sites 1, 8, 13, 15, 19, and 20. The cleanup progress for Barbers Point NAS for FY99 through FY02 is detailed below.

In FY99, removal site evaluation was conducted at Site 18 as part of the remedial investigation/feasibility studies (RI/FS). Engineering evaluation/cost analysis (EE/CAs) were prepared for Sites 1 and 18, and remedial designs (RDs) were completed for Sites 15 and 18. Interim remedial actions (IRAs) were conducted at Sites 1, 15, 18, 20, and 22; Underground Storage Tank (UST) 3; and Aboveground Storage Tank (AST) 4. Sites 5, 8 through 13, and 19 were closed. Records of Decision were signed for all of these sites and for Sites 15 and 20. Findings of suitability to transfer were prepared for nine parcels of land. Bullet removal began at three of the five ranges (Site 18 IRA).

In FY00, an IRA was completed at Site 18, an EE/CA was prepared for Site 22, and AST 4 was closed out. The RD for Site 1 was completed, and IRAs started at Sites 1 and 18. Remedy implementation at UST 3 conducted.

In FY01, a RI was completed for Site 14. IRAs were completed for Sites 15, 22, and 23, and the sites closed out. Annual long-term management (LTM) continued at Site 19. The installation completed a site investigation of Navy retained property, recommending further action at Sites 6, 7, 17, 27, 29, and 31. The site investigation also recommended no further action at Sites 26, 28, and 30. IRAs at Sites 6, 7, 17, 27, 29, and 31 were initiated, and the draft EE/CA was completed.

In FY02, the installation completed a RI at Site 2. LTM continued for Site 19 groundwater. An 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 investigation for IRA at Site 20. The Navy completed an inventory of all Military Munitions Response Program (MMRP) site. No MMRP sites were identified at this installation.

FY03 IRP Progress

Barbers Point NAS continued the ecological risk assessment for non-BRAC Sites 6, 7, 17, and 26 through 31. Technical issues have delayed the removal action for non-BRAC Site 29. The removal actions on Site 18 firing ranges continue. Technical issues delayed the removal action at Site 20. The installation performed a human health risk assessment for Site 2 in FY03. In addition, the IRA and conservation plan at Northern Trap and Skeet Range (Site 18) was negotiated with the U.S. Fish and Wildlife Service to ensure the protection of the endangered Ewa Plains akoko plant. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

FY03 MMRP Progress

Barbers Point NAS performed no MMRP action in FY03.

Plan of Action

Plan of action items for Barbers Point NAS are grouped below according to program category.

IRP

- Complete the ecological risk assessment for non-BRAC Sites 6, 7, 17, and 26-31 in FY04.
- Begin the removal action for non-BRAC Sites 6, 7, and 29 in FY04.
- Perform further removal actions required on Site 18 firing ranges and Site 20 transformers in FY04.
- Complete discussions with regulators regarding human health and ecological risk evaluations for Site 2 Ordy Pond in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | CA917302426100 | Media Affected: | Groundwater and soil |
| Size: | 5,688 acres | Funding to Date: | \$99.8 million |
| Mission: | Maintain, repair, rebuild, store, and distribute supplies and equipment; formerly conducted industrial operations | Estimated Cost to Completion (Completion Year): | \$40.5 million (FY2029) |
| HRS Score: | 37.93; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: | FY2007 |
| IAG Status: | Federal facility agreement signed in October 1990 | Five-Year Review Status: | The installation completed a 5-year review and the remedy remains protective. |
| Contaminants: | Heavy metals, PCBs, petroleum hydrocarbons, pesticides, herbicides, MTBE, and VOCs | | |



Progress to Date

Barstow Marine Corps Logistics Base (MCLB) consists of Yermo Annex, Nebo Main Base, and the rifle range. Operations that contributed to contamination are vehicle maintenance, repair and maintenance of weapons and missile systems, and storage of petroleum and chemical products. Investigation conducted identified 38 CERCLA sites and 2 underground storage tank (UST) sites. The site types include sludge disposal areas, plating waste disposal areas, low-level radioactive waste storage areas, spill sites, and evaporation ponds. The installation was placed on the NPL in 1989 after high concentrations of trichloroethylene (TCE) were detected in groundwater monitoring wells. The installation also signed a federal facility agreement in October 1990. In FY91, the installation formed a technical review committee, prepared a community relations plan (CRP), which was updated in FY02, and established an information repository and an administrative record. Public meetings are held annually, however, there is no interest in forming a Restoration Advisory Board. In FY03, the installation completed a 5-year review.

To date, 42 sites have been identified at this installation. The installation has completed Record of Decisions (RODs) for Operable Units (OUs) 1, 2, 3, 4, 5, and 6. The cleanup progress at Barstow MCLB for FY99 through FY02 is detailed below.

In FY99, remedial actions (RAs) at CERCLA Areas of Concern (CAOCs) 20 and 23 were completed. The remedial design was finalized and development of the RA work plan was started for the OU 1 and OU 2 off-base groundwater extraction systems. Thirty UST sites were submitted for closure.

In FY00, the installation closed OUs 3 and 4. The CAOC 7 RA was completed, and the CAOC 35 RA began. An extended RCRA facility assessment (RFA) field investigation for 15 solid waste management units was completed, and the draft report was under negotiation. An air-sparging and soil vapor extraction (AS/SVE) system at CAOC 26 was shut off.

In FY01, the installation replaced dry monitoring wells at OU 1 and closed out six tanks. RA was completed at CAOC 35, OU 5. The remedial investigation/feasibility study (RI/FS) for CAOC 39, OU 7, and the treatability study (TS) for CAOC 38, OU 2 Nebo North were awarded. The construction of an AS/SVE system for the Phase II pilot study at CAOC 38, Nebo South, was completed.

Navy

In FY02, the installation completed the RA report and closeout of OUs 5 and 6. The extended RFA report for CAOC 39 was finalized. Preparation of the RI/FS work plan for remaining areas of concern at CAOC 39 and OU 7, and the TS work plan for OU2 Nebo North began. The phase II pilot study at OU 2 Nebo South was completed. The CRP was revised. A 5-year review and an explanation of significant differences (ESDs) to not install the OU 1 and 2 off-base groundwater extraction system began. The installation began development of closure action plans for five USTs. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed a 5-year review. The OU 7 RI and OU 2 Nebo North AS/SVE TS 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. The closeout of 26 tanks is pending response from the California Regional Water Quality Control Board (RWQCB).

Technical issues delayed the ESD; instead, the installation compiled a technical memorandum.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Barstow MCLB are grouped below according to program category.

IRP

- Complete OU 2 Nebo North AS/SVE report in FY04.
- Continue CAOCs 37 and 38 remedial action operations and long-term maintenance at landfill caps in FY04.
- Work with RWQCB and private entity to manage MTBE plume and request compensation from private entity in FY04.
- Finalize OU 7 RI report and complete FS and ROD in FY04–FY05.
- Prepare an ESD in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | MA117002357000 | Media Affected: | Groundwater |
| Size: | 46 acres | Funding to Date: | \$17.9 million |
| Mission: | Design, fabricate, and test prototype weapons and equipment | Estimated Cost to Completion (Completion Year): | \$31.4 million (FY2028) |
| HRS Score: | 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2011 |
| IAG Status: | Federal facility agreement signed in September 1999 | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Acids, BTEX, incinerator ash, industrial wastes, paints, POLs, photographic wastes, solvents and VOCs | | |



Progress to Date

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

Four sites have been identified at the installation: Site 1, incinerator ash disposal areas (potential soil contamination with ash and heavy metals); Site 2, components-laboratory fuel oil tank (potential soil contamination with low levels of POLs); Site 3, northwest groundwater plume (groundwater plume contaminated with VOCs); and Site 4, former fuel pump/tank BTEX area (soil and groundwater contaminated with BTEX). The installation has completed a no further action (NFA) Record of Decision (ROD) for Site 1 and Site 2. In addition, the installation has initiated an interim ROD for Site 3. The cleanup progress at Bedford Naval Weapons Industrial Reserve Plant for FY99 through FY02 is detailed below.

In FY99, an FFA was signed and a site management plan (SMP) was finalized. The installation also completed feasibility studies (FSs) for all four Installation Restoration Program (IRP) sites.

In FY00, the installation completed the remedial investigation (RI) Phase II supplemental reports for Sites 3 and 4. Remedial action (RA) planning was implemented for Site 4. The RI report, including the human health and ecological risk assessments, for Sites 1, 2, 3, and 4 was completed. Monthly monitoring of the Site 3 groundwater treatment facility and quarterly monitoring of the extraction and monitoring wells continued. NFA RODs were completed for Sites 1 and 2.

In FY01, the installation completed the annual SMP update. The Site 4 accelerated RA was successfully implemented. Monthly monitoring of

the Site 3 groundwater treatment facility and semiannual monitoring of the extraction and monitoring wells continued.

In FY02, the installation updated the SMP with revised schedules and summary milestones that have been met. The Site 4 RA (in-situ chemical oxidation process) was completed, which included three injection periods each followed by confirmatory sampling. The FSs for Sites 3 and 4 were completed. Monitoring of the Site 3 groundwater treatment facility and semiannual monitoring of the extraction and monitoring wells continued. The proposed plans for Sites 3 and 4 were initiated. Two pilot studies for Site 3 groundwater contamination were considered. Thermal treatment was determined to hold a great potential for success and work plans began. The cost of completing environmental restoration at this installation changed significantly due to technical issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation continued monitoring the Site 3 groundwater treatment facility and semiannual monitoring of the extraction and monitoring wells. The Site 4 removal action continued and the Site 3 pilot study field implementation began. An innovative technology 'thermal treatment' was evaluated for groundwater remediation at Sites 3 and 4. The Site 3 pilot study commenced with technology at Site 4 being applied as a continuation of the CERCLA removal action.

FY03 MMRP Progress

Bedford Naval Weapons Industrial Reserve Plant performed no MMRP action in FY03.

Plan of Action

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

IRP

- Complete the innovative technology 'thermal treatment' at Site 4 as a CERCLA removal action during FY04–FY05.
- Complete the innovative technology pilot study at Site 3 in FY04–FY05.

- Initiate the RODs for Sites 3 and 4 in FY04–FY05.
- Continue monthly monitoring of the Site 3 groundwater treatment facility and semiannual monitoring of the extraction and monitoring wells in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-----------------------------|
| FFID: | TX657002418800 | Contaminants, cont'd.: | low-level radioactive waste |
| Size: | 3,216 acres | Media Affected: | Groundwater and soil |
| Mission: | Housed the 67th Reconnaissance Wing, 12th Air Force Headquarters, 12th Tactical Intelligence Squadron, 712th Air Support Operations Center, 10th Air Force Reserve | Funding to Date: | \$46.8 million |
| HRS Score: | N/A | Estimated Cost to Completion (Completion Year): | \$11.4 million (FY2005) |
| IAG Status: | None | Final RIP/RC Date for IRP Sites: | FY1999 |
| Contaminants: | VOCs, pesticides, petroleum hydrocarbons, metals, TCE, | Five-Year Review Status: | Planned FY2004 |



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 reuse authority 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), a fire training area, and a radioactive waste disposal area. Interim remedial actions 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.

Environmental studies since FY83 previously identified 30 CERCLA sites and 454 RCRA areas of concern (AOCs). The cleanup progress at Bergstrom for FY99 through FY02 is detailed below.

In FY99, the installation completed closure reports and received regulatory approval for the closure of the combined southeast landfill area and several other Installation Restoration Program sites. A remedial design document was completed, and treatment system components were installed for remediation of the trichloroethylene (TCE) plume. Four hundred thirty-nine AOCs were designated for no further action (NFA).

In FY00, the installation completed the remaining remedial actions (RAs). The remediation system for a TCE plume that had migrated off base began operation. Long-term management (LTM) of TCE plumes and landfills continued. The installation obtained concurrence from regulators on the closure of 32 sites, raising the number of sites and AOCs designated for NFA to 471.

In FY01, the installation obtained concurrence from the regulators on the closure of 7 AOCs, raising the number designated for NFA to 478 out of a total of 484 sites and AOCs. The installation continued coordination with the City of Austin, the Texas Natural Resource Conservation Commission, and EPA on closure of the remaining sites. An additional 1,500 acres was transferred to the local reuse authority through the finding of suitability to transfer (FOST) process.

In FY02, the installation submitted a deed certification for solid waste management unit 216 to regulatory agencies for approval. The installation also submitted a FOST and supplemental EBS (SEBS) for five sites and incorporated comments. The pump and treat, air sparging, and soil vapor extraction (SVE) systems for the 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 five combined landfills 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 held a meeting in April 2002 to determine a cleanup strategy based upon the TCE plume remediation systems results. The installation conducted an explosive ordnance disposal (EOD) RA project 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 comments.

FY03 IRP Progress

The installation began processing the FOST/SEBS for Area 2. Operation of the existing pump and treat, air sparging, and SVE remediation systems continued for Area 1 of the TCE plume. Operating properly and successfully (OP&S) was achieved for this area. The installation continued LTM for the combined landfills 3 through 7 and developed documentation to achieve OP&S for the five sites.

Regulatory issues delayed the closure and transfer of Area 2.

FY03 MMRP Progress

The installation submitted the EOD area (56 Acres) Residential Clearance Certification to the Air Force Safety Center for processing and the DoD Explosive Safety Board (DDESB) for their review and approval. The DDESB safety clearance was approved, allowing transfer of the EOD area.

Plan of Action

Plan of action items for Bergstrom AFB are grouped below according to program category.

IRP

- Process the EOD area of 56 acres for transfer via the FOST/SEBS in FY04.
- Process the TCE plume area of 59 acres for transfer via the FOST/SEBS in FY04.
- Continue operating the TCE plume Area 1 (217 Acres) SVE/air sparging systems and conduct a 5-year CERCLA review to determine OP&S in FY04.
- Continue LTM on combined landfills 3 through 7 and conduct a 5-year CERCLA review to determine OP&S in FY04.

MMRP

There are no Military Munitions Response Program (MMRP) actions scheduled for FY04 or FY05.

| | | |
|--|--|---|
| FFID: MD35718240001 | Media Affected: Sediment and groundwater |  |
| Size: 8 acres | Funding to Date: \$3.3 million | |
| Mission: None (inactive) | Estimated Cost to Completion (Completion Year): \$8.5 million(FY2018) | |
| HRS Score: 50.15; placed on NPL in June 1999 | Final RIP/RC Date for IRP Sites: FY2017 | |
| IAG Status: None | Five-Year Review Status: N/A | |
| Contaminants: PCBs and solvents (including TCE) | | |

Progress to Date

The Brandywine facility is an inactive 8-acre former Defense Reutilization and Marketing Office (DRMO) site located approximately 8 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 three PCBs 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.

The cleanup progress at Brandywine DRMO for FY99 through FY02 is detailed below.

In FY99, the interim remedial action (IRA) pump and treat system for capturing and remediating the TCE groundwater plume began operation. The installation monitored groundwater near the DRMO.

In FY00, the installation submitted a draft remedial investigation and feasibility study (RI/FS) work plan, which was jointly scoped with regulators.

In FY01, the installation continued operation of the IRA pump and treat system, and began RI fieldwork.

In FY02, Andrews AFB completed Phase I of the RI and continued to operate the IRA pump and treat system. Approximately 2.7 million gallons of TCE contaminated water has been remediated to date. A well survey and sampling has shown that no immediate risks are posed to private drinking water. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

The treatment system continued to operate as permissible during lulls in RI field efforts.

Regulatory issues and a complex site delayed completion of the RI field investigation, which subsequently postponed initiation of the FS.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for Brandywine DRMO are grouped below according to program category.

IRP

- Complete RI/FS in FY04.
- Submit a proposed plan and draft Record of Decision in FY04.
- Initiate interim actions, if needed, to mitigate risk in FY04.
- Initiate remedial design and remedial action work in FY05.

MMRP

There are no MMRp actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | ME117002201800 | Media Affected: | Groundwater and soil |
| Size: | 7,259 acres | Funding to Date: | \$58.2 million |
| Mission: | Provide facilities, services, materials, and aircraft for submarine warfare | Estimated Cost to Completion (Completion Year): | \$14.3 million (FY2031) |
| HRS Score: | 43.38; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2005 |
| IAG Status: | Federal facility agreement signed in 1989; revised in 1990 to include the State of Maine | Final RIP/RC Date for MMRP Sites: | FY2014 |
| Contaminants: | DDT, PCBs, PAHs, VOCs, and metals | Five-Year Review Status: | The installation completed a 5-year review and the remedy is being modified to compensate for data gaps. |



Progress to Date

The Brunswick Naval Air Station (NAS) 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. The installation was placed on the NPL in July 1987 because some sites were used to store or dispose of hazardous waste. The installation established an administrative record and an 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 in FY95. The installation signed a federal facility agreement in 1989, which was revised in 1990 to include the State of Maine. In FY01, the installation completed a 5-year review.

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, 11, and 13; a ROD for Site 9; and a ROD for the eastern groundwater plume treatment plant. The cleanup progress at Brunswick NAS for FY99 through FY02 is detailed below.

In FY99, a ROD specifying long-term management (LTM) with natural attenuation (NA) was signed for Site 9. Optimization of remedial actions (RAs) began for Sites 4, 7, 11, and 13, and an RA was completed at Site 2. LTM began at Site 2. A 5-year review was initiated.

In FY00, the installation began its 5-year review. No further action (NFA) documentation was initiated for Site 12, and fieldwork began for Site 7. RA continued for Sites 1 through 4, 9, 11, and 13. The process of deleting the installation from the NPL was initiated. Final remediation began at the fuel farm.

In FY01, the installation completed an RA for UST 1 and began an RA for UST 2. Modifications of the eastern plume treatment plant, surface water discharge, and extraction well installation were completed. NFA

documentation was completed for Sites 14, 15, 16, and 18. The decommissioning and closeout of monitoring wells, recommended by the EPA and the Maine Department of Environmental Protection, was completed. The 5-year review was completed.

In FY02, the installation worked with regulators to develop and implement an exit strategy for Building 95. For Site 12, the Navy and the regulators agreed that a consensus statement would be used to document the exit strategy. Initial diffusion sampling results were evaluated. The results were similar to traditional techniques. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

FY03 IRP Progress

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. Additional investigation into possible perchlorate contamination at Site 12 resulted in the Navy preparing a sampling plan for this effort. Diffusion sampling was accepted as an alternative to low flow sampling, resulting in a cost and time savings. The installation initiated the LTMP for Site 7. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

Funding and technical issues delayed the completion of the Navy's groundwater and geological investigation and EPA's resistivity study of the Southern Boundary and Site 11. Technical issues delayed the completion of the consensus statement for Site 12.

FY03 MMRP Progress

No work was performed on the MMRP site at this installation.

Plan of Action

Plan of action items for Brunswick NAS are grouped below according to program category.

IRP

- Continue to monitor sampling results for Building 95 as the exit strategy in FY04.
- Complete LTMP for Site 7 and initiate sampling in FY04.
- Initiate monitored NA for Sites 1, 3, eastern plume in FY04.
- Conduct 5-year review in FY04.
- Initiate Optimization of Eastern Plume remedy and extraction well effectiveness in FY04.
- Expand investigation of Site 2 in FY04.
- Begin Site 9 removal action following barracks demolition in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|------------------------|
| FFID: | WA021402011200 | Media Affected: | Soil |
| Size: | 3,020 acres | Funding to Date: | \$15.1 million |
| Mission: | Conducted training of active and reserve DoD personnel | Estimated Cost to Completion (Completion Year): | \$1.4 million (FY2010) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2010 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY2006 |
| Contaminants: | POLs, solvents, and UXO | Five-Year Review Status: | N/A |



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, three landfills, a burn site, a drum burial site, a paint and solvent burial site, two 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.

To date, the installation has completed unexploded ordnance (UXO) clearance of 23 acres. The cleanup progress at Camp Bonneville for FY99 through FY02 is detailed below.

In FY99, the installation completed surface water sampling for all water entering and leaving the property. The Army conducted an independent technical review focusing on UXO issues and submitted responses to recommendations in the draft report. The installation also worked with regulators and the community to develop a UXO management plan. The installation completed UXO clearance of 23 acres.

In FY00, the installation completed a cultural resources survey and fieldwork on 11 of 13 hazardous and toxic waste sites. The Army initiated investigations to identify explosives contamination in soil and groundwater. It also updated the BRAC cleanup plan. The installation and regulators jointly developed a site-specific UXO characterization system and continued to develop an engineering evaluation and cost analysis (EE/CA) for UXO. The installation began using geographic information systems to evaluate and categorize the UXO hazard for areas within the installation. Characterization of Demo Area 1 (an open burning and open detonation area) was ongoing. Field sampling to characterize UXO hazards in this area was also underway.

In FY01, the installation continued a groundwater investigation to determine whether training activities have impacted groundwater. The Army began characterization of lead contamination from small-arms ranges. Removal actions at the suspected drum burial area were initiated and removal actions at the Pesticide Building (#4126) and Ammunition Bunkers (#2953, #2951, and #2950) were completed. The installation continued to monitor the landfill at Demo Area 1 and retained this site as an active range.

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

FY03 IRP Progress

The installation installed and sampled 17 additional wells as part of the sitewide groundwater investigations. The Army awarded a guaranteed fixed price contract for the removal action at Landfill 4, which is intended to remove any possible source of groundwater contamination. The Army completed characterizing the soil at all of the small arms ranges and two additional OB/OD sites. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The RAB met regularly. The installation continued to work with Washington Department of Ecology and the EPA.

FY03 MMRP Progress

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.

Plan of Action

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

IRP

- Excavate Landfill 4 in FY04-FY05.

MMRP

- Complete remedial investigation and feasibility study (RI/FS) documents for small arms ranges in FY04-FY05.
- Complete RI/FS documents for OB/OD Sites 2 and 3 in FY04-FY05.
- Complete soil sampling at the central impact target areas and artillery firing points in FY04-FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | NC417302258000 | Contaminants cont'd: | solvents, and metals |
| Size: | 151,000 acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: | 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 | Funding to Date: | \$116.1 million |
| HRS Score: | 36.84; placed on NPL in October 1989 | Estimated Cost to Completion (Completion Year): | \$197.8 million (FY2059) |
| IAG Status: | Federal facility agreement signed in February 1991 | Final RIP/RC Date for IRP Sites: | FY2011 |
| Contaminants: | Battery acid, fuels and used oils, paints and thinners, PCBs, pesticides, | Final RIP/RC Date for MMRP Sites: | FY2012 |
| | | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

Camp Lejeune Marine Corps Base provides housing, training facilities, logistical support, and administrative supplies for Fleet Marine Force units and other assigned units. The installation also provided 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 was placed on the NPL in October 1999. In 1991, a federal facility agreement (FFA) was signed. The installation formed a technical review committee in FY88 and converted it to a Restoration Advisory Board in FY95. A community relations plan was completed in FY90. The installation placed its administrative record on the Web in FY00. In FY99, the installation completed a 5-year review.

Investigations at Camp Lejeune identified 176 sites, including 86 leaking underground storage tank (UST) sites. Since signing the FFA, 18 operable units (OUs), comprising 42 of the 91 Installation Restoration Program sites, have been identified as requiring additional investigation or remediation. To date, the installation has completed 31 Records of Decisions (RODs). In addition, Camp Lejeune has completed an interim final ROD for Site 69. The installation has requested closure with no further action (NFA) at 26 sites. The cleanup progress at Camp Lejeune for FY99 through FY02 is detailed below.

In FY99, a memorandum of agreement and the Site 3 amended ROD were signed. A 5-year review was completed. Site characterization studies were implemented at the natural attenuation (NA) UST sites. Four UST sites attained NFA status.

In FY00, the installation implemented recommendations from the 5-year review. The final interim ROD for Site 69 was signed. The remedial investigation/feasibility study (RI/FS) continued at Sites 84, 88, 89, 90, 92, and 93. Sampling in a creek upstream from base housing detected tetrachloroethene. This discovery led to a time-critical removal action (TCRA) for contaminated soil at Site 89. Removal actions were conducted at Sites 3 and 85. Three UST sites achieved NFA status.

In FY01, the installation completed the TCRA at Site 89. No further remedial action documents for Sites 10, 75, 76, 85, and 87 were finalized. The RODs for OU 9 and OU 17 were completed, as were a supplemental field investigation for Site 10 and an RI/FS project plan for Site 84. The final site management plan was completed and additional sampling was conducted at Sites 35, 78, 82, 84, 86, and 89.

Navy

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

FY03 IRP Progress

The installation completed technology evaluations and treatability study work plans for Sites 78, 35, 73, and 86. 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. Field work was initiated at Sites 88 and 89. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

RODs for OU 6 and OU 19 were delayed due to regulatory issues regarding land use control implementation plans.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

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

IRP

- Initiate field pilot scale treatability study at Site 73, 35, and 86 in FY04.
- Initiate and complete the Phase II Response Action for soils at Site 84 in FY04.
- Complete OU 4 final close out report in FY04.
- Initiate Site 94 preliminary assessment/site investigation in FY04 and complete in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | CA917302353300 | Media Affected: | Groundwater and soil |
| Size: | 125,000 acres | Funding to Date: | \$141.0 million |
| Mission: | Provide housing, training facilities, logistics support, and administrative support to Fleet Marine Force Units | Estimated Cost to Completion (Completion Year): | \$132.8 million (FY2016) |
| HRS Score: | 33.79; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: | FY2014 |
| IAG Status: | Federal facility agreement signed in October 1990 | Five-Year Review Status: | The installation has completed a 5-year review and the remedy remains protective. |
| Contaminants: | Pesticides, herbicides, heavy metals, PCBs, and VOCs | | |



Progress to Date

Camp Pendleton Marine Corps Base provides housing, training facilities, logistics support, and administrative support to Fleet Marine Force Units. Environmental contamination at the installation resulted from maintenance of vehicles, 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. The installation formed a technical review committee in FY91 and prepared a community relations plan in FY92, which was updated in FY01. In FY02, the installation completed the 5-year review for Operable Unit 1 (OU 1).

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 for FY99 through FY02 is detailed below.

In FY99, the installation signed the ROD for OU 3. The installation completed corrective action plans (CAPs) for three program sites, remediated eight sites, installed remediation systems at three sites, and conducted operations and maintenance (O&M) and long-term management (LTM) at an additional seven sites. A remediation system was installed at UST sites in Areas 12 and 13. A CAP was completed for one UST in Area 27 and one UST in Area 53. A remediation system was installed for USTs in Areas 13 and 43.

In FY00, the installation completed O&M and LTM for 10 UST sites in Area 13, 20 UST sites in Area 22, 13 UST sites in Area 12, and UST sites at gas stations in Area 43. Remedial actions (RAs) were completed at OU 3. The installation applied for closure of 40 UST sites in Area 62, 4 UST sites in Area 24, 2 UST sites in Area 26, 1 UST site in Area 27, and 1 UST site in Area 53. Closure was achieved for seven UST sites in Areas 13, 15, and 16. The installation received approval for CAPs for eight UST sites. The installation began a 5-year review of the OU 1 ROD.

In FY01, the installation began construction of the evapotranspiration cover at Site 7 (Box Canyon Landfill). An air quality and noise-monitoring program was developed and implemented to ensure the safety of community members. The OU 4 work plans for the supplemental feasibility study were finalized and fieldwork neared completion. The work plans for the OU 5 remedial investigation (RI) were finalized. Remediation systems for nine UST sites were installed. The closure of one UST in Area 61 and approval of the CAP for a UST in Area 26 were obtained. CAPs were submitted for regulatory review for USTs in Areas 14, 22, 31, and 43. The draft 5-year review of OU 1 sites was completed.

In FY02, the installation completed the evapotranspiration cover at OU 3. CAPs for USTs in Areas 13, 16, 17, 22, and 53 were completed. 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. Closure was received for UST Site 2404. Forty UST sites in Area 62 that had been submitted in FY00 for regulatory review received closure. The 5-year review was completed. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed CAPs for the Area 22 and Area 13 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 to the FFA, including the EPA, California Regional Quality Control Board, and the California Department of Toxic Substances Control. The installation also conducted CERCLA training for the FFA team. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

The environmental engineering/cost analysis for Site 62001 was not completed due to a decision to perform additional site investigation. The OU 4 supplemental feasibility study was delayed due to technical issues. The draft OU 5 RI was delayed due to technical and regulatory issues.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

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

IRP

- Conduct OU 4 optimization study and issue draft final documents for OU 4 supplemental FS, OU 4 proposed plan, and OU 5 RI in FY04.
- Complete 5-year review for OU 1 and OU 3 and closeout Sites 1A and 7 in FY04.
- Implement RA at Area 13 and Area 22 gas stations and continue O&M at UST sites in Areas 11, 13, 21, 22, 24, 26, 43, 53, and 62 in FY05.
- Complete site assessments for USTs in Area 11 and Area 21 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | TX657002404200 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 2,631 acres | Funding to Date: | \$41.6 million |
| Mission: | Housed the 7th Bombardment Wing, 436th Training Squadron and Detachment 1, and the 1365th Audiovisual Squadron | Estimated Cost to Completion (Completion Year): | \$32.3 million (FY2013) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2006 |
| IAG Status: | None | Five-Year Review Status: | Planned FY2004 |
| Contaminants: | Waste oils, POLs, JP-4 jet fuel, solvents, TCE cleaners, and low-level radioactive material | | |



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 was reopened in FY94 after the BRAC Commission recommended its realignment as a Joint Reserve base. All restoration activity is a shared responsibility between the Air Force Real Property Agency (AFRPA) and the Air Force Center for Environmental Excellence. 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 account (ERA) funds to reach cleanup goals. The installation formed a BRAC cleanup team and a Restoration Advisory Board in FY94. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

The cleanup progress at Carswell AFB for FY99 through FY02 is detailed below.

In FY99, background studies were completed for all solid waste management units and areas of concern. Some sites located within the active base were transferred to the ERA program. The maintenance yard and pesticide rinse area at the golf course and the recreational vehicle family camping site have received no further action (NFA) approval letters.

In FY00, the installation completed interim remedial actions (RAs) and submitted the draft RCRA facility investigation and closure report for Landfills 4, 5, and 8, and Waste Pile 7. Phase II investigations of the base sanitary sewer system were initiated. Housing areas were transferred to the local redevelopment authority (LRA). The installation partially funded a focused feasibility study (FFS) with Air Force Plant 4 to address the groundwater contamination in the golf course area.

In FY01, the installation continued transferring sites located within the active base to the ERA program. It also received concurrence from

regulatory agencies for NFA at seven BRAC sites. As of FY01, no BRAC sites remain open. The sewer investigation was completed, with some additional removal necessary. A hazardous waste permit modification to change the status of BRAC sites was completed. The horse stables area was transferred to the LRA. Long-term management began at several sites. The decision document in support of attainment of the land reuse implementation plan milestone was completed.

In FY02, a permeable reactive barrier was installed in order to reduce or eliminate contaminated groundwater flow onto BRAC property. The 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 weapons storage area's (WSA's) explosive ordnance disposal area (EOD) from an agricultural clearance certification to a residential clearance certification. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

FY03 IRP Progress

The final draft finding of suitability to transfer and supplemental environmental baseline survey (FOST/SEBS) for transfer of the WSA was completed.

Funding issues delayed the RA on the sanitary sewer system and transfer of responsibility to the Naval Air Station. The residential clearance certification project and the FOST/SEBS to transfer the WSA were not completed due to funding issues.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Carswell AFB are grouped below according to program category.

IRP

- Complete the RA on the sanitary sewer system and transfer responsibility to Naval Air Station in FY04.
- Complete the residential WSA EOD clearance certification project work in order to complete the FOST/SEBS to transfer the entire WSA in FY04.
- Develop recommendations for Air Force Materiel Command and AFRPA outlining strategies to remediate the TCE plume in FY04.
- Develop the Record of Decision amendment to allow the transfer of BRAC Property G to the LRA in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|---|---|---|
| FFID: CA957002455100 | Media Affected: Groundwater and soil |  |
| Size: 2,777 acres | Funding to Date: \$143.5 million | |
| Mission: Trained tanker crews and serviced KC-135 stratotanker | Estimated Cost to Completion (Completion Year): \$150.4 million (FY2038) | |
| HRS Score: 27.93; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: FY2004 | |
| IAG Status: IAG signed in 1989 | Five-Year Review Status: Completed FY1999/Planned FY2004 | |
| Contaminants: Spent solvents, PCBs, POLs, pesticides, cyanide, cadmium, and VOCs | | |

Progress to Date

In July 1991, the BRAC Commission recommended closure of Castle Air Force Base (AFB) and in September 1995, the installation was closed. In 1998, the first 5-year review for the installation was completed. Castle AFB formerly supported tanker operations and was placed on the NPL in July 1987. Landfills, underground storage tanks (USTs), discharge areas, chemical disposal pits, fire training areas, fuel spill areas, and polychlorinated biphenyls (PCBs) spill areas were identified 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 interagency agreement was signed in 1989 and an environmental baseline survey was completed in FY93. A Restoration Advisory Board (RAB) and a BRAC cleanup team (BCT) were formed. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Sites found at the installation were grouped into three operable units (OUs)—OU 1, OU 2, and the source control OU (SCOU). To date, a Record of Decision (ROD) was completed for OU 2; an interim ROD was completed for OU 1; ROD 1 and ROD 2 were completed for SCOU sites; and a Part 1 ROD was completed for OU 1, OU 2, and Castle Vista. The cleanup progress at Castle AFB for FY99 through FY02 is detailed below.

In FY99, one soil vapor extraction (SVE) system and two bioventing systems were installed for remediation of petroleum/oil/lubricant (POL) intrinsic remediation sites. Two additional UST site SVE systems and three UST site bioventing systems were installed. The installation consolidated Landfill 1 (LF-1) and LF-3 into LF-4 and LF-5. Closure reports were approved for SCOU sites LF-A and LF-2.

In FY00, construction of Phase III of the groundwater treatment system was completed. Repairs to the sanitary sewer and excavation systems at eight SCOU Installation Restoration Program (IRP) sites were completed. The installation also received approval on closure reports for six SCOU sites.

In FY01, the SCOU proposed plan was completed, and the SCOU ROD 2 was undergoing regulatory review. Regulatory review also began for the comprehensive basewide remedial investigation and feasibility study (CB Part 2 RI/FS) and consolidation of the groundwater RI/FS and

the SCOU RI/FS. Long-term operation of groundwater treatment systems, intrinsic remediation sites, bioventing sites, and SVE sites continued. Five SVE systems, which address 10 TCE-contaminated SCOU sites, were constructed. The installation also received approval on closure reports for nine SCOU sites. The Castle BCT created a new process for closing chlorinated volatile organic compound (VOC)-contaminated SCOU sites.

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

FY03 IRP Progress

The installation completed both the SCOU ROD 2 and CB Part 2 RI/FS. The installation issued a draft proposed plan for the remaining SCOU sites that will be finalized in FY04. The draft 5-year review was submitted.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Castle AFB are grouped below according to program category.

IRP

- Complete CB 2 ROD and the SCOU 3 site ROD, which includes LF sites, in FY04.
- Complete operating properly and successfully and transfer all remaining property in FY04.
- Shutdown the Castle Vista groundwater treatment system in FY04.
- Complete a 5-year review in FY04.
- Close all remaining SVE and bioventing systems in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | FL417002247400 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 30,895 acres | Funding to Date: | \$51.8 million |
| Mission: | Provide facilities, services, and material support for maintenance of Naval weapons and aircraft | Estimated Cost to Completion (Completion Year): | \$20.5 million (FY2017) |
| HRS Score: | 31.99; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: | FY2008 |
| IAG Status: | Federal facility agreement signed in November 1990 | Final RIP/RC Date for MMRP Sites: | FY2009 |
| Contaminants: | Waste fuel oil, solvents, heavy metals, halogenated aliphatics, phthalate esters, SVOCs, and lead | Five-Year Review Status: | The installation completed a 5-year review and the remedy remains protective. |



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. Operations that caused contamination include equipment maintenance, storage and disposal of fuel and oil, fire training, and training on target ranges. Investigations identified 30 CERCLA sites; ten major underground storage tank (UST) sites and 235 USTs; 250 BRAC grey sites; and one RCRA site. The installation was placed on the NPL in November 1989 and signed a federal facility agreement in November 1990. In FY94, the technical review committee was converted to a Restoration Advisory Board. A BRAC cleanup team was formed in FY94. In FY00, the installation completed a 5-year review.

The installation has identified 40 sites. Initially, the installation contained six CERCLA sites that required no further action (NFA). The installation has signed Records of Decision (RODs) for Sites 1, 2, 3, 5, 7, 8, 10, 11, 14, 16, 17, 36, 37, and 44. In addition, NFA were signed for Sites 32, 42, and the old golf course. The installation has also signed eight findings of suitability to transfer (FOSTs), equaling approximately 16,100 acres, and delisted approximately 16,500 acres from the NPL. The cleanup progress at Cecil Field NAS for FY99 through FY02 is detailed below.

In FY99, the installation completed three FOSTs. An air-sparging (AS) system was installed in the Site 3 source area and natural attenuation (NA) sampling was conducted. NA monitoring was also conducted at Sites 5, 8, 16, and 17 and the jet engine test cell (JETC). NFA decision documents for Sites 18 and 19 were completed. RODs for Sites 7 and 8 were signed. A groundwater design for Site 11 and a sewer design for Site 16 were submitted. An AS system was installed, and an investigation of the 103rd Street pipeline and removal of asbestos-containing material (ACM) from six buildings were conducted. Soil removal was conducted at Sites 6, 7, and 8 and seven BRAC grey sites. Sixteen petroleum tanks were removed.

In FY00, the installation completed three FOSTs, covering a total of 10,322 acres. Remedial actions (RAs) were conducted for Sites 10 and 11, North Fuel Farm soil, DT1, A Avenue, 31 grey sites, and 28 tanks. ACM was removed from 10 buildings. The remedial investigation/feasibility study (RI/FS) and the proposed plan for Site 36/37 were

completed. The installation also completed the ROD amendment for Site 5 and the 5-year review. Site 6 and 42 grey sites were determined to require NFA. The first 5-year review was completed.

In FY01, the installation completed RODs for Sites 36 and 37. RAs were implemented at Buildings 46 and 9, and 11 grey sites. A FOST covering 29 acres was completed. An RI/FS was completed at Site 45 and a remedial investigation was initiated at Sites 57 and 58.

In FY02, the installation implemented RA at Site 36/37. The RI/FS was completed for Sites 21 and 25. RODs for Sites 42 and 44 and the old golf course were completed. The parks and recreation Phase II, FOST (12 acres) was completed. The engineering evaluation/cost analysis for Sites 32 and 49 was completed. NFA was achieved for PSC 39, Sites 42 and 44, Tanks 428, 367, and 824 OW, and Building 610. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

FY03 IRP Progress

Cecil Field completed the RI/FS for Site 57/58. The installation implemented RAs at Sites 21, 25, 32, 45 and 57/58 (without signed RODs) and JETC and Tank 271. The installation completed two FOSTs for 18.2 acres. The installation achieved the groundwater cleanup criteria at Sites 7 and 11 and Building 610 and regulators approved the NFA. The installation delisted 16,584 acres from the NPL. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Regulatory issues delayed the completion of RODs for Sites 21, 25, 32, 45, and 57/58. Regulatory issues delayed the operating property and successfully (OP&S) determination for Sites 1-3, 5, 8, 16, and 17.

FY03 MMRP Progress

Site 15 was placed in the MMRP.

Plan of Action

Plan of action items for Cecil Field NAS are grouped below according to program category.

IRP

- Sign RODs and complete land use control remedial design for Sites 15, 21, 25, 32, 45, 57 and 58, and sign NFA ROD for Site 49 in FY04.
- Complete RA at Site 49 and implement RA at North Fuel Farm in FY04.
- Complete OP&S for Sites 1, 2, 3, 5, 8, 16, 17, 21, 25, 36, 37, 45, 57, and 58 in FY04.
- Transfer 558 acres in FY04 and remaining 184 acres in FY05.

MMRP

- Begin an RA at Site 15 in FY04.

| | | |
|---|--|---|
| FFID: IL557002475700 | Media Affected: Groundwater, soil, and sediment |  |
| Size: 2,174 acres | Funding to Date: \$88.9 million | |
| Mission: Served as technical training center | Estimated Cost to Completion (Completion Year): \$55.1 million (FY2015) | |
| HRS Score: Pending | Final RIP/RC Date for IRP Sites: FY2005 | |
| IAG Status: None | Five-Year Review Status: Completed FY1998/Planned FY2005 | |
| Contaminants: POLs, chlorinated solvents, and metals and UXO | | |

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 an interagency agreement in 1990 and closure occurred in September 1993. 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 in FY94. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

Environmental studies conducted between FY82 and FY92 identified 69 sites. Areas of concern were identified at Operable Unit (OU) 1 in FY98. To date, a Record of Decision (ROD) has been signed for reuse of the base and an interim ROD has been signed for the construction of landfill caps. The cleanup progress at Chanute AFB for FY99 through FY02 is detailed below.

In FY99, planning documents for the landfill remedial investigation (RI) were completed. The installation completed the site characterization and the engineering evaluation and cost analysis for Fire Training Area 2 (FTA 2) and Building 932. The installation prepared for non-time critical removal actions (NCRAs) to accelerate soil cleanup. A field screening investigation was initiated at OU 2.

In FY00, the majority of field activities for the landfills and Heritage Lake RI were completed. The field screening investigation was completed at OU 2. Preparation for cap construction at Landfills 1, 2, and 3 began. Soil remediation was completed in the Veterans Parkway area, allowing for the construction of a new roadway into the village. The NCRAs for Building 932 and FTA2 were initiated, and approximately 50,000 cubic yards of contaminated soil were removed.

In FY01, an interim ROD for the construction of the landfill caps was signed. Installation of RCRA-equivalent caps was 50 percent complete at Landfills 2 and 3, and 60 percent complete at Landfill 1. Preparation for the OU 2 RI began. Geophysical studies and cone penetrometer testing were completed at OU 1. Unused aboveground storage tanks (ASTs) throughout the facility and underground fuel piping at Building 950 were removed. A work plan for the closeout of 84 AST, UST, and oil-water separator sites was completed, and field activities were initiated. A groundwater assessment was initiated at 15 UST and petroleum/oil/lubricant (POL) sites. Chanute AFB was proposed for the NPL. The Agency for Toxic Substances and Disease Registry initiated a public health assessment for the installation.

In FY02, construction of caps at Landfills 1 and 3 was completed. 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 were completed. The cost of completing environmental restoration at this installation has changed significantly due to technical issues. The DoD Explosive Safety Board approved an explosive safety submission and the unexploded ordnance removal action was completed in FY02 encompassing 27 acres of the installation.

FY03 IRP Progress

The installation substantially completed RI planning documents for OU 1 and OU 2, including the basewide sampling and analysis plan, quality assurance project plan, and investigation work plans. Initial RI fieldwork was initiated for OU 1 and OU 2. Cap construction at Landfill 2 was restarted. The Illinois EPA approved closure of 111 former fuel storage tank sites. The base conducted background studies for soils and groundwater as well as similar studies for surface water and sediments. An operational history was conducted. An outfalls investigation was initiated to determine the source of contamination entering Salt Fork Creek and a hydrogeologic conceptual site model supporting the groundwater investigation was developed.

FY03 MMRP Progress

Military munitions inventories and site summaries for seven sites were completed.

Plan of Action

Plan of action items for Chanute AFB are grouped below according to program category.

IRP

- Complete OU 1 and OU 2 field activities in FY04.
- Complete Non-CERCLA actions at multiple sites in FY04.
- Complete RI, feasibility study, proposed plan, and RODs for OU 1, OU 2, Landfills 1-4, and Heritage Lake in FY04–FY05.
- Complete construction of caps at Landfills 2 and 4 in FY04–FY05.

MMRP

There are no Military Munitions Response Program (MMRP) actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | SC417002434300, SC417002757100, SC417002267000, SC417002425800, SC41700225600 | Media Affected: | Groundwater, sediment, and soil |
| Size: | 2,922 acres | Funding to Date: | \$27.2 million |
| Mission: | Repaired, maintained, and overhauled Navy ships | Estimated Cost to Completion (Completion Year): | \$1.9 million (FY2014) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2006 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY2013 |
| Contaminants: | Asbestos, cyanide, decontaminating agents, heavy metals, paints, PCBs, pesticides, POLs, solvents, and petroleum hydrocarbons | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

The Charleston Naval Complex 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), as well as several small organizations. In July 1993, the BRAC Commission recommended closure of the property and the majority of the commands. Operational closure of the complex occurred on April 1, 1996. During FY94, the installation converted its technical review committee to a Restoration Advisory Board and formed a BRAC cleanup team and local redevelopment agency. A community relations plan was completed and updated during FY01. The primary sites of concern at the installation are areas that were used as landfills or disposal pits.

Charleston Naval Complex has identified 117 RCRA solid waste management units (SWMUs) and areas of concern (AOCs) and 65 underground storage tanks (USTs) and aboveground storage tanks (ASTs) that require some remedial action (RA). The installation has completed 70 no further action (NFA) determinations and 29 interim measures or source removals that will likely lead to NFA determinations. In addition, the installation achieved response complete at seven sites. Charleston Naval Complex also transferred 207 acres using an economic development conveyance (EDC), 16 acres using a public benefit conveyance, and 281 acres using a second EDC. The cleanup progress at Charleston Naval Complex for FY99 through FY02 is detailed below.

In FY99, corrective measure study (CMS) reports for 12 sites were submitted to the regulatory agencies. Rapid site assessments were completed for the USTs and ASTs requiring additional action. Asbestos and lead-based paint abatement was completed for the majority of the historical housing.

In FY00, the installation completed the finding of suitability to transfer (FOST) and the environmental baseline survey for transfer (EBST) for the marina and transferred the parcel to the Parks and Recreation Department. Interim measures, UST site assessments, and lead-based paint and asbestos abatement were completed for sites associated with EDC Phase I. Approximately 207 acres was transferred as part of EDC Phase I, and 16 acres containing the marina was transferred under a public benefit conveyance.

In FY01, lead-based paint abatement was completed in all target housing. Remedies for groundwater contamination were implemented at five of the eight major sites. Asbestos surveys were completed at EDC Phase II buildings, and abatement at Phase III buildings was initiated. The FOST and EBST for EDC Phase II, which encompassed 285 acres, were completed. Nine additional Installation Restoration Program sites were closed with NFA required. Of the remaining 78 UST sites listed for corrective action, 61 have been approved for NFA.

In FY02, the FOST, EBST, and asbestos surveys for Phase III were completed. RA was implemented at SWMU 166. A significant number of the asbestos surveys for Phase IV were completed. The CMS report for SWMU 9 was submitted. The Navy has identified and conducted military munitions response work at the installation. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. AOC 501 and 503 will become MMRP sites. These sites have unaccounted ordnance that have been investigated using geophysical techniques, however nothing resembling the weapons or remnant of ordnance were found. Land use controls (LUCs) are being considered to address the potential presence of the MMRP for future users.

FY03 IRP Progress

The installation completed the Phase IV EBST. A Phase IV finding of suitability for early transfer was signed out by the Assistant Secretary of the Navy to the Governor of South Carolina. The installation submitted reports to the South Carolina Department of Health and Environmental Control for SWMUs 9 and 25/70. A CMS was initiated for AOC 607.

Regulatory issues delayed the Phase IV FOST progress.

FY03 MMRP Progress

No work was performed on the MMRP sites at this installation in FY03.

Plan of Action

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

IRP

- Complete Phase IV transfer for all remaining parcels except Chicora Tank Farm in FY04.
- Complete transfer of Chicora Tank Farm by land sale in FY04.
- Implement LUCs for all parcels associated with Phase IV in FY04.
- Implement corrective actions for SWMU 196 and AOC 607 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | NC417302726100 | Media Affected: | Groundwater and soil |
| Size: | 29,139 acres | Funding to Date: | \$66.1 million |
| Mission: | Maintain and operate support facilities; provide services and materials for marine aircraft | Estimated Cost to Completion (Completion Year): | \$74.4 million (FY2032) |
| HRS Score: | 70.71; placed on NPL in December 1994 | Final RIP/RC Date for IRP Sites: | FY2007 |
| IAG Status: | Federal facility agreement under negotiation | Final RIP/RC Date for MMRP Sites: | FY2012 |
| Contaminants: | PCBs, petroleum hydrocarbons, and solvents | Five-Year Review Status: | The installation completed a 5-year review and the remedy remains protective. However, additional recommendations are being considered to improve the remedy. |



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. The installation was listed on the NPL in December 1994. A technical review committee was established in FY91 and two information repositories were established in FY93. The installation's Restoration Advisory Board was established, and a community relations plan was completed in FY95. Negotiation on a federal facility agreement is currently underway. In FY03, the installation finalized the 5-year review.

Cherry Point MCAS has identified 100 sites, including 22 underground storage tanks (USTs). The installation has completed four Records of Decision (RODs) to date. The cleanup progress at Cherry Point MCAS for FY99 through FY02 is detailed below.

In FY99, a ROD for Operable Unit (OU) 2 and a land use control implementation plan with the State of North Carolina and EPA were signed. An optimization evaluation of four remediation systems was performed. Initial construction at an OU 1 site was completed. Operations and monitoring for the OU 1, 2, and 3 treatment systems were conducted. A treatability study (TS) using substrate injection to treat a chlorinated solvent groundwater plume was implemented. Modifications of the industrial wastewater treatment plant were completed. The installation won the Marine Corps Environmental Award for Excellence.

In FY00, the installation completed remedial investigations (RIs) for OUs 2, 4, 6, and 13. A draft remedial design (RD) and remedial action (RA) report for OU 3 was completed, as was an RA system for OU 3 Site 7. A draft screening-level ecological risk assessment (ERA) for the creek adjacent to OUs 1, 2, and 3 was completed. A draft TS work plan for OU 1 was also completed. A total of nine UST sites achieved regulatory closure.

In FY01, the final site screening assessment work plan was approved for Site 85. The TS was initiated at OU 1. The OU 2 and OU 3 RD, and RAs for groundwater were approved and signed by the state. The OU 5 and OU 14 RIs were initiated and their draft work plans were submitted for review. The 5-year review also began.

Navy

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

FY03 IRP Progress

The installation finalized the OU 1 RI report, 5-year review, Site 85 site specific plan (SSP), and remedial action operation optimization study. Shutdown of the OU 3, Site 7 AS and OU 2, 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 is underway. The OU 1 FS portion focusing on ecological issues will be developed when the ERA for the OU 1 is complete. 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 Site 29 corrective action plan was approved by the State. OU 2 and OU 3 long-term monitoring of groundwater commenced. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Regulatory issues delayed the finalization of the OU 5 RI. Technical issues delayed the completion of the OU 6 RI. NFA was not obtained for OU 4 and OU 13 and regulatory issues delayed the completion of the focused FSs.

FY03 MMRP Progress

No work was performed at the MMRP sites at this installation.

Plan of Action

Plan of action items for Cherry Point MCAS are grouped below according to program category.

IRP

- Obtain concurrence and signature for the SSP decision document at Site 85 in FY04.
- Initiate the non-time critical soil removal and long-term monitoring at Site 29 in FY04.
- Finalize FSs for OU 4 and OU 13 and start drafting the RODs for both OUs in FY04.
- Finalize the OU 5 and OU 6 RIs and initiate FSs in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|----------------------|--|--|-------------------------|---|
| FFID: | IL557122427200 | Media Affected: | Groundwater and soil |  |
| Size: | 274 acres | Funding to Date: | \$9.7 million | |
| Mission: | Housed 126th Air Refueling Wing (Illinois National Guard) and 928th Airlift Wing (Air Force Reserve) | Estimated Cost to Completion (Completion Year): | \$0.04 million (FY2004) | |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2004 | |
| IAG Status: | None | Five-Year Review Status: | Planned FY2007 | |
| Contaminants: | VOCs, SVOCs, PNAs, petroleum hydrocarbons, POLs, TCE, and heavy metals | | | |

Progress to Date

Chicago O'Hare International Airport 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. The 1993 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 is paying for replacement facilities at Scott Air Force Base in exchange for the Chicago O'Hare ARS land. Site types identified at the installation include underground storage tanks (USTs), landfills, 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 hydrocarbon, volatile organic compounds (VOCs), and semivolatle organic compounds (SVOCs), which have been released into soil and groundwater. Interim remedial actions (RAs) have included removal of 19 USTs, contaminated soil, and low-level radioactive waste. In FY97, a stationwide environmental baseline survey (EBS) was completed and parcel-specific EBSs were completed for Parcels 2, 3, and 3A in FY98. A Base Closure and Transition Team as well as a BRAC cleanup team (BCT) were formed. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Environmental cleanup studies have identified 19 Installation Restoration Program (IRP) sites and 23 areas of concern. To date, a basewide Record of Decision (ROD) has been signed. The cleanup progress at Chicago O'Hare ARS for FY99 through FY02 is detailed below.

In FY99, a remedial investigation (RI) was completed for Parcel 3. A finding of suitability to lease was issued. All remaining in-leases between the Air Force and the City of Chicago were terminated. The installation completed RIs for south petroleum/oil/lubricant (POL) and storm drainage and nine IRP sites. The groundwater investigation project was expanded.

In FY00, soil removal for ST-002 and OT-016 was completed. Site inspections were completed. EPA approved four RIs. Illinois EPA approved three RIs. An RA was completed for trichloroethylene (TCE)-contaminated soil at the sanitary sewer/former trailer park (SS-019). Supplemental RIs were completed for three sites (ST-012, SA-017, and IN-018). The Base Closure and Transition Team met monthly.

In FY01, the review and approval process was successfully implemented for all pending documents. The sanitary sewer investigation and the time critical RA for the SS-019 were completed. Soil removals were completed for SA-017, IN-018, and ST-015. A feasibility study was developed to support closure of all sites.

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

FY03 IRP Progress

The basewide ROD was approved, which resulted in a finding of suitability to transfer (FOST) subsequent deed for 99 percent of the installation. The BCT developed a risk assessment for Landfill 1 and the installation implemented an ICMP.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Chicago O'Hare ARS are grouped below according to program category.

IRP

- Select Landfill 1 remedy in FY04.
- Complete FOST for remaining small parcel in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | CA917002452800 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 13,023 acres | Funding to Date: | \$55.0 million |
| Mission: | Ship, receive, inspect, and classify munitions (tidal area); serve as munitions storage and weapons maintenance, inspection, and testing facility (inland area) | Estimated Cost to Completion (Completion Year): | \$76.4 million (FY2017) |
| HRS Score: | 50.00; placed on NPL in December 1994 | Final RIP/RC Date for IRP Sites: | FY2013 |
| IAG Status: | Federal facility agreement signed in June 2001 (EPA and Navy) | Final RIP/RC Date for MMRP Sites: | FY2017 |
| Contaminants: | Heavy metals and petroleum hydrocarbons | Five-Year Review Status: | The installation has completed a 5-year review and the remedy remains protective. |



Progress to Date

Concord Naval Weapons Station (NWS) 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, have contributed to contamination. The installation was placed on the NPL in 1994, primarily because of surface water and sediment contamination at tidal and litigation-area sites. These sites include sensitive habitat for threatened and endangered species and are interconnected to Suisun Bay. In FY90, the installation formed a technical review committee and converted it to a Restoration Advisory Board (RAB) in FY95. The installation updated its community relations plan (CRP) in FY96. A federal facility agreement (FFA) was signed in June 2001. In FY03, the installation finalized the 5-year review for the litigation area sites.

The installation has identified 57 sites. The installation has completed 14 Records of Decision (RODs) since the beginning of environmental restoration activities. In addition, it has recommended 20 sites for no further action (NFA). The cleanup progress at Concord NWS for FY99 through FY02 is detailed below.

In FY99, the installation completed a remedial investigation (RI) for four tidal area sites and confirmed that NFA was required for three of the four sites. A remedial investigation/feasibility study (RI/FS) was initiated for Site 30, and a ROD for four inland sites was submitted for final regulatory agency review and signature. A preliminary assessment (PA) was completed for one area of concern (AOC).

In FY00, the installation prepared RODs for two inland sites and the tidal area landfill. The 5-year review of long-term management (LTM) for seven litigation-area sites was completed. The site investigation (SI) for four solid waste management units (SWMUs) and Inland Site 29 were completed. The RI for four SWMUs, the feasibility study (FS) for Site 29, and the proposed plan (PP) and ROD for three tidal area sites were initiated. The required site screening was completed for documentation of a proposed removal action at AOC 1, Site 31. Planning began for the RI/FS for one tidal area site and the PP and ROD for Site 29. Work began on the site management plan (SMP).

In FY01, the installation completed the 5-year periodic review and assessment report for seven litigation-area sites and submitted it for agency review and comment. An FFA was signed with EPA Region 9, and the public comment period began. The ecological risk assessment component of the tidal area RI was updated to current technical standards, and the RI update was initiated.

In FY02, the FFA was finalized and the SMP was updated. The AOC 1 remedial design (RD) was completed and the remedial action (RA) began. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

FY03 IRP Progress

The 5-year periodic review assessment report for the seven litigation-area sites was finalized with a conclusion that the remedy was not protective in certain areas. An FS was recommended for three sites within the litigation area. A revised draft final RI report was issued for the three tidal area sites, but comments received by the agencies are not in agreement with the NFA. The Site 31 (AOC 1) time-critical removal action (TCRA) was completed and the final TCRA Summary Report issued. The draft final annual amendment to the SMP was approved by EPA. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

Regulatory and technical issues delayed the proposed NFA ROD for Sites 13 and 17. The NFA ROD for Site 17 will be pursued separately. The draft final ROD for Site 1 was delayed due to regulatory issues. The cost of completing environmental restoration at this installation changed significantly due to the need to address the three sites within the litigation area.

The CRP has been finalized with significant input from the RAB and agencies. An award was made under the Navy's Technical Assistance for Public Participation program and work initiated. RAB meetings included training on various technical topics.

FY03 MMRP Progress

In FY03, eight MMRP sites were identified for PAs at Concord NWS.

Plan of Action

Plan of action items for Concord NWS are grouped below according to program category.

IRP

- Resolve dispute with Site 1 ROD and sign ROD in FY04.
- Complete supplemental FS for three litigation area sites in FY04.
- Finalize RI for Tidal Area Sites 2, 9, and 11 and initiate an FS in FY04.
- Complete Site 1 RD in FY04 and RA work plan in FY05.

MMRP

- Initiate a PA in FY04.

| | | |
|---|---|---|
| FFID: NE721382023400 | Media Affected: Groundwater and soil |  |
| Size: 4,020 acres | Funding to Date: \$50.0 million | |
| Mission: Manufactured ammunition | Estimated Cost to Completion (Completion Year): \$1.4 million (FY2028) | |
| HRS Score: 51.3; placed on NPL in July 1987 | Final RIP/RC Date for ER Sites: FY2010 | |
| IAG Status: Federal facility agreement signed in July 1990 | Five-Year Review Status: The installation completed a draft 5-year review in FY2002 that is pending regulatory approval. | |
| Contaminants: Explosives and heavy metals | | |

Progress to Date

Cornhusker Army Ammunition Plant (AAP) is a former ammunition manufacturing facility. 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. 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. In FY94, the Army performed an interim remedial action, removing an additional 5,000 tons of explosives-contaminated soil. The community formed a local redevelopment authority in FY89.

An initial assessment study completed in FY80 identified 65 contaminant sources at the installation. To date, the installation has completed five Records of Decision (RODs). The cleanup progress at Cornhusker AAP for FY99 through FY02 is detailed below.

In FY99, the results of long-term groundwater monitoring of the off-post contamination provided data to support monitored natural attenuation (MNA) of the explosive contaminants. The Army initiated public sales of the clean tracts of land on Cornhusker AAP as designated by the Hall County Reuse Committee.

In FY00, the installation signed RODs for Operable Units (OUs) 3 and 4. The installation added one extraction well to contain the plume within the installation boundary. The Army initiated monitoring for MNA of a slightly elevated solvent (trichloroacetic acid (TCA))-contaminated groundwater plume in the shop area. The installation began operational periodic monitoring (pre-remediation) at the OU 5 open burning grounds due to unexploded ordnance (UXO) removal of micro-mines and explosives.

In FY01, an amendment to the OU 1 ROD was signed to not require off-post treatment and included MNA due to a diminishing explosive groundwater plume and the implementation of institutional controls/land use controls. 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). USACE initiated explosive safety actions to restore Load Lines 1 through 5 and the OU 5 open burning grounds for public disposal.

Army

In FY02, the Army completed the draft 5-year CERCLA review. Long-term operations (LTO) and long-term monitoring continued at OU 1 and the 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.

FY03 IRP Progress

USACE began remedial investigations and remedial actions (RAs) for ASTs in the shop area. LTO and long-term monitoring continued at OU 1 and the OU 3 solvent-contaminated plume.

FY03 MMRP Progress

The Army completed an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents. Military Munitions Response Program (MMRP) sites were identified at this installation. Explosive safety actions continued to restore Load Lines 1 through 5. Load Line 2 was flashed. The Army discovered explosives contamination in buildings on tracts pending real estate transfer/sale; therefore, it reprioritized the explosives safety removal schedule to accelerate disposal.

Funding issues delayed the explosive safety actions for the accelerated ordnance and explosives/UXO cleanup of the open burning grounds.

Plan of Action

Plan of action items for Cornhusker AAP are grouped below according to program category.

IRP

- Complete RA for the AST site in the shop area in FY04.
- Submit final CERCLA review in FY04.
- Continue LTO and long-term monitoring of the contaminated groundwater plume (OU 1) in FY04-FY05.
- Initiate the OU 5 RI in FY05 pending completion of explosive safety action and DoD Explosives Safety Board certification.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | VA317002468500 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 2,677 acres main site; 1,614 acres experimental explosive area | Funding to Date: | \$50.2 million |
| Mission: | Proof and test ordnance | Estimated Cost to Completion (Completion Year): | \$24.7 million (FY2012) |
| HRS Score: | 50.26; placed on NPL in October 1992 | Final RIP/RC Date for IRP Sites: | FY2011 |
| IAG Status: | Federal facility agreement signed in September 1994 | Five-Year Review Status: | The installation has completed a 5-year review and the remedy remains protective. |
| Contaminants: | Cleaning solvents, explosives residues, heavy metals, low-level radioactive materials, mercury, PCBs, and pesticides | | |



Progress to Date

The Dahlgren Naval Surface Warfare Center (NSWC) tests ordnance for the Navy. The installation was placed 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. Site types include former landfills, former ordnance burning and disposal areas, underground storage tanks, operating ordnance ranges, and operating ordnance research and development areas. An information repository and an administrative record were established in FY91. 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. In FY03, the installation completed a 5-year review at Site 2.

Dahlgren NSWC has identified 68 sites. The installation has completed approximately 14 Records of Decision (RODs) since the beginning of the environmental restoration process. The cleanup progress at Dahlgren NSWC for FY99 through FY02 is detailed below.

In FY99, the installation completed three remedial investigation/feasibility studies (RI/FSs), proposed plans (PPs), and RODs for Sites 19, 25, and 29. Six Appendix B sites were evaluated and closed out with no further action (NFA). Construction began on the Site 9 landfill cap and a cap was completed for Site 2.

In FY00, the installation completed RI/FSs, PPs, and RODs for Sites 3/44 and 10. A remedial design (RD) was completed for Site 17. The air-sparging and soil vapor extraction system at Site 12 was recommended for shutdown because soil and groundwater contaminant concentrations met remediation goals.

In FY01, the installation completed RI/FSs, PPs, and RODs for Sites 36/49 and 46. An RD was completed for Site 25, and the remedial action (RA) contract was awarded and initiated. Contracts for removal designs and actions at Sites 31 and 50 were awarded and initiated. Three Appendix B sites were closed out with NFA, including solid waste management units 23, 61, and 77. Regulators approved the Phase II Gambo Creek work plan, and sampling was performed. The long-term management contract for Sites 9 and 17 was awarded and the work plans submitted.

In FY02, the installation completed an RI/FS, a PP, and a ROD for Site 6, and completed a RI for Site 55. Four Appendix B closeout sites were sampled and documents were finalized for NFA. RDs were completed for Sites 46 and 6. LTM work plans were finalized for Sites 9, 10 and 17. Interim RAs were completed at Sites 13 and 50. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed two RI/FSs, two PPs and two RODs for Sites 31 and 55. The 5-year review was completed for Site 2. The installation completed the Site 46 RA and began on the Site 6 RA. The Site 37 RD began. The additional RD planned for FY03 was not required. The Navy initiated a treatability study using in-situ Multiple Application Gas Nutrient System (Magnus System) to inject nutrients into the groundwater at Site 12.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Dahlgren NSWC are grouped below according to program category.

IRP

- Finalize the Phase II Gambo Creek ecological risk assessment in FY04.
- Complete 5-year review for multiple sites in FY04, and three IRAs in FY04–FY05.
- Complete two RI/FSs, PP, and RODs in FY04–FY05.
- Complete wetland monitoring reports for multiple sites in FY04–FY05.
- Complete site screenings for three sites in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|--|---|---|
| FFID: TX617002278600 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 832 acres | Funding to Date: | \$76.9 million | |
| Mission: Served as a pilot training center | Estimated Cost to Completion (Completion Year): | \$5.2 million (FY2017) | |
| HRS Score: N/A | Final RIP/RC Date for IRP Sites: | FY2006 | |
| IAG Status: None | Final RIP/RC Date for MMRP Sites: | FY2006 | |
| Contaminants: POLs, solvents, heavy metals, and asbestos | Five-Year Review Status: | The installation has not completed a 5-year review. | |

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. After the base was closed, operations were transferred to Fort Worth NAS. The installation closed September 30, 1998. 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. The installation completed a RCRA facility assessment, which identified 139 solid waste management units and 44 areas of concern. In FY94, a BRAC cleanup team (BCT) was formed, and a BRAC cleanup plan was completed. The installation formed a Restoration Advisory Board 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.

To date, 47 sites have been identified at this installation requiring further action. The installation has completed an environmental baseline survey (EBS) for transfer and the finding of suitability to transfer (FOST) for the Duncanville Housing site. The cleanup progress at Dallas NAS for FY99 through FY02 is detailed below.

In FY99, final RCRA facility investigation (RFI) reports were submitted for Categories C, E, and F. Fourteen oil-water separators and associated contaminated soil were removed, and 12 soil removal actions were completed as interim remedial measures. All underground storage tanks were removed and the sites were operationally closed out. An interim corrective action evaluation report was completed for the Texas Air National Guard (TANG) ponds. A source removal action was completed at the fuel farm to address groundwater impacted by chlorinated solvents.

In FY00, the installation completed final RFI reports for Categories A, B, and D. Interim corrective soil removal actions were completed at five sites. Remediation of chlordane-impacted soil was completed at the Duncanville Housing site, and the City of Duncanville converted the site to a public park. FOSTs for all parcels of the Clear Zone and transfer of a 14-acre parcel at the southern tip of Runway 17-35 were completed. Interim corrective groundwater actions using in-situ chemical oxidation and enhanced bioremediation were completed at two sites impacted by

chlorinated solvents. A draft finding of suitability for early transfer for the last parcel was submitted to regulators.

In FY01, pilot studies were completed to address groundwater contamination at two sites. A statement of suitability to transfer was prepared for the remaining Navy-owned property. Negotiations were ongoing with the City of Dallas regarding cleanup standards, long-term management (LTM), and long-term operations for remaining sites.

In FY02, the installation continued routine monitoring and one pilot study to address compounds in groundwater. All other cleanup activities were postponed due to a legal dispute with the City of Dallas. Negotiations to settle the dispute were completed and the lawsuit was settled. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

FY03 IRP Progress

Interim actions at the two groundwater sites continued. As part of the remedial efforts, the rubble landfill and TANG pond sediments were excavated and disposed of at an off-site landfill. Additionally, soils across the installation that exceed state closure criteria were excavated and disposed of off-site as part of the source removal actions. The LTM of the remedy for the main fuel farm continued and negotiations were conducted with the regulatory agencies to accept monitored natural attenuation (MNA) as the preferred remedy for groundwater contaminants. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Technical issues delayed the implementation of interim corrective actions at two groundwater sites.

The BCT conducted team meetings and various site visits of ongoing remediation.

FY03 MMRP Progress

No work was performed on MMRP sites at this installation in FY03.

Plan of Action

Plan of action items for Dallas NAS are grouped below according to program category.

IRP

- Complete soil remediation in FY04.
- Begin MNA on groundwater plumes in FY04.
- Develop BCT review closure documents and final regulatory approval in FY04.
- Implement enhanced MNA pilot studies in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | RI117002203600 | Media Affected: | Groundwater and soil |
| Size: | 1,285 acres | Funding to Date: | \$51.7 million |
| Mission: | Provided mobilization support to Naval Construction Forces | Estimated Cost to Completion (Completion Year): | \$16.1 million (FY2007) |
| HRS Score: | 34.52; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: | FY2007 |
| IAG Status: | Federal facility agreement signed in March 1992 | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Heavy metals, PCBs, pesticides, petroleum hydrocarbons, POLs, and VOCs | | |



Progress to Date

The Davisville Naval Construction Battalion Center provided mobilization support to Naval Construction Forces. The installation established an administrative record and an information repository in FY89. The installation was placed on the NPL in November 1989. In July 1991, the BRAC Commission recommended closure of this 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 installation signed a federal facility agreement in March 1992. The installation was 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.

Studies conducted at the installation have identified 25 sites, including 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 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 FY99 through FY02 is detailed below.

In FY99, the remedial action at Allen Harbor Landfill was completed. The ROD for long-term management (LTM) was signed for Site 7.

In FY00, a draft remedial investigation/feasibility study amendment was issued for Sites 2 and 3 (Parcel 7). A finding of suitability to transfer (FOST) was completed. Remedial action operations continued at Site 9 (Parcel 10), and a draft FOST was issued. The installation completed, to the extent practical, all environmental baseline survey (EBS) items.

In FY01, the installation implemented LTM for Sites 3, 7, and 9 and EBS Site 21. The draft Phase I remedial investigation (RI) for Site 16 was completed.

In FY02, the installation completed the Site 16 RI. The work plan and fieldwork was completed for the Phase II RI. LTM was completed at Sites 3, 7, 9 and EBS Site 21. The cost of completing environmental

restoration at this installation changed significantly due to technical issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

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

The Site 21 (Parcel 3) FOST not issued in FY03 because of real estate issues.

FY03 MMRP Progress

The Navy had 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

- Issue FOST for Site 21 (Parcel 3) in FY04.
- Perform pilot study fieldwork at Site 16 in FY04.
- Continue LTM at Site 3, 7, 9, and EBS Site 21 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|-------------------------|
| FFID: | TN497152057000 | Media Affected: | Groundwater and soil |
| Size: | 642 acres | Funding to Date: | \$36.4 million |
| Mission: | Store and distribute clothing, food, medical supplies, electronic equipment, petroleum products, and industrial chemicals | Estimated Cost to Completion (Completion Year): | \$27.2 million (FY2010) |
| HRS Score: | 58.06; placed on NPL in October 1992 | Final RIP/RC Date for IRP Sites: | FY2005 |
| IAG Status: | Federal facility agreement signed in March 1995 | Five-Year Review Status: | Completed FY2003 |
| Contaminants: | PCP, PCBs, chlorinated solvents, POLs, pesticides, heavy metals, and chemical warfare agents | | |



Progress to Date

In September 1995, the BRAC Commission recommended closure of Defense Distribution Depot Memphis (DDD Memphis). The installation closed in FY97. EPA placed the installation on the NPL in October 1992. The installation signed a federal facility agreement in March 1995. The installation divided all CERCLA sites and the remaining underground storage tank (UST) sites into four operable units. All of the USTs have been removed or closed in place. In FY00, the installation formed a Restoration Advisory Board (RAB), developed a community relations plan (CRP). The BRAC cleanup plan (BCP) was updated in FY00 and again in FY02. In FY01, the RAB received a technical assistance for public participation (TAPP) grant. In FY03, the installation completed a 5-year review.

DDD Memphis is approximately 642 acres. Site studies beginning in FY81 have identified approximately 120 sites at the installation, including pentachlorophenol (PCP) wood preservative treatment vat and a UST used for PCP storage and contaminated soil. An interim Record of Decision (ROD) for groundwater contamination at Dunn Field has been completed. The cleanup progress at DDD Memphis for FY99 through FY02 is detailed below.

In FY99, the erosion control, dust prevention, and revegetation project at Site 64 was completed. The remedial investigation and feasibility study (RI/FS) began for Dunn Field. All finding of suitability to lease documents for the main installation were completed, making the entire main installation available for reuse.

In FY00, the removal action at Sites 29 and 31 was completed. Additional Dunn Field RI fieldwork was conducted to investigate a newly identified dense nonaqueous phase liquid solvent source and to evaluate the use of soil vapor extraction (SVE). The main installation RI was completed, and the report was submitted to four information repositories for public review. Groundwater and soil FSs were completed, and a proposed plan (PP) was submitted for public comment. The depot developed a CRP and formed a RAB. The BCP was updated.

In FY01, removal at a suspected chemical warfare materiel site at Dunn Field was completed. The ROD for the main installation was signed. The finding of suitability to transfer (FOST) and the deed for Parcel 2 were signed. The FOST for Parcel 1 was signed. The RAB received a TAPP grant.

In FY02, the Dunn Field RI was completed. Two deeds were signed for Parcel 1. An enhanced bioremediation treatment pilot test of the groundwater at the main installation was initiated and a SVE treatability study at Dunn Field was completed. The BCP was updated, two deeds were signed for Parcel 1, and the TAPP contract was completed. The engineering evaluation/cost analysis and action memorandum with responsiveness summary for Site 60 Dunn Field was also completed. The main installation remedial design (RD) work plan and the Dunn Field RI report were completed.

FY03 IRP Progress

The installation finalized two FSs and the PP for Dunn Field. The 5-year review for CERCLA was completed. A surface soil removal action for lead was conducted at Site 60 on Dunn Field. The installation of monitoring wells was completed to confirm an offsite source of groundwater, volatile organic compound (VOC) contamination. The work plan and pre-design investigation of disposal pits on Dunn Field and the work plan and fieldwork at the former PCP dip vat was completed. The installation conducted pilot test on two insitu enhanced bioremediation treatment technologies to determine the best way to improve the cleanup of the groundwater on the main installation.

Technical issues delayed the signature of the ROD for Dunn Field.

The installation conducted a public meeting for the preferred alternative at Dunn Field.

FY03 MMRP Progress

An ordnance and explosives statement of clearance was approved.

Plan of Action

Plan of action items for DDD Memphis are grouped below according to program category.

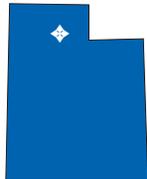
IRP

- Complete the RD for the main installation in FY04.
- Complete the RD for the disposal sites at Dunn Field in FY04.
- Complete the RD for the offsite permeable reactive barrier at Dunn Field in FY04.

- Present FOST 3 and FOST 4 to the BCT for review in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|--|---|---|
| FFID: UT821002092200 | Contaminants (cont'd): PCB-contaminated transformer oils, degreasers, acids and bases, and sand-blast residues |  |
| Size: 1,129 acres | Media Affected: Groundwater and soil | |
| Mission: Store and distribute DoD commodities, including electronic equipment and textiles; package petroleum and industrial and commercial chemicals | Funding to Date: \$1.2 million | |
| HRS Score: 45.10; placed on NPL in July 1987 | Estimated Cost to Completion (Completion Year): \$14.5 million (FY2018) | |
| IAG Status: Federal facility agreement signed in November 1989 | Final RIP/RC Date for IRP Sites: FY2001 | |
| Contaminants: Solvents, paint and paint residues, POLs, insecticides, chemical warfare agents, methyl bromide, metal-plating wastes and sludge, | Five-Year Review Status: Completed/Planned | |

Progress to Date

In September 1995, the BRAC Commission recommended closure of Defense Distribution Depot Ogden (Ogden) except for minimal essential land and facilities for a reserve component area. The depot closed in September 1997. In FY90, a federal facility agreement divided the site into four operable units (OUs). Site types include oil burning pits, disposal pits, a french drain system, and burial sites, which have contaminated the groundwater and soil. More than 130 groundwater monitoring wells and more than 100 extraction and injection wells have been installed. In FY95, the installation established a BRAC cleanup team, and the technical review committee was converted to a Restoration Advisory Board (RAB). The RAB was adjourned in FY02. A 5-year review was completed at the installation.

To date, the installation has identified 106 sites. As of FY03, all property at this installation has been transferred to the local reuse authority. The cleanup progress at Ogden for FY99 through FY02 is detailed below.

In FY99, the cleanup of three BRAC sites was completed. Phase III of the RCRA facility investigation and the remediation of Solid Waste Management Unit (SWMU) 11 were also completed. Two SWMUs were eliminated from further work. The source area at OU 4 was remediated, and a second pump and treat system for groundwater was installed. Cleanup was completed at Building 321. The investigation of the former skeet range was also completed, and the range was granted no further action (NFA) status by the state and the EPA. The corrective action plan was implemented for Tank 19 and Site 5C/6D. A lease in furtherance of conveyance was signed. A memorandum of agreement with the Utah State Historical Preservation Office and the Advisory Council on Historic Preservation was completed.

In FY00, removal of contaminated soil from SWMU 1 was completed. The cleanup of the western boundary area and the pistol range was completed as well. The soil cleanup at the parade ground area source for OU 2 was accomplished. DLA completed a finding of suitability to transfer (FOST). Version 4 of the BRAC cleanup plan was completed. Remediation of the Ogden Nature Center site, a possible chemical warfare materiel recovery site, was initiated.

In FY01, the installation completed soil remediation and was conducting groundwater remediation and long-term management of three groundwater treatment systems. The state approved site closure for

UST Sites 5C and 6D, AST Site 358, and Tank 19. Documentation to support monitored natural attenuation at the OU 2 parade ground area was submitted. Soil removal at SWMU 13 and the pistol range was completed and concurrence was received from the state. The 5-year review was completed, and oral acceptance was received from the state. A remedial process optimization contract was implemented to review groundwater treatment systems throughout the installation.

In FY02, the installation proposed and received a determination of NFA on the Parade Ground area. A determination of NFA was also received for OU2 based on the completion of cleanup of the groundwater to the ROD requirements. Ogden received an operating properly and successfully (OP&S) determination for both the OU 1 and OU 4 groundwater treatment systems. FOST 4 was in the public comment period. The installation began the process of transferring all remaining property to the local reuse authority. Ongoing activities at the site consist of the operation and maintenance of groundwater treatment systems at OU 1 and OU 4. The RAB for Ogden site accomplished all its goals and adjourned in FY02 prior to the transfer of environmental responsibilities from DLA to the Army.

FY03 IRP Progress

The responsibility for ongoing operations and maintenance of groundwater remediation systems at OU 1 and OU 4 was transferred from DLA to the Army. The OU 2 groundwater treatment system and monitoring well network were closed and removed from the site. Oxygen releasing compounds were injected into groundwater at OU 1 in an effort to accelerate cleanup. All remaining property was transferred to the local reuse authority. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

No Military Munitions Response Program (MMRP) sites have been identified at this installation.

Plan of Action

Since all remaining cleanup activities except for operation and monitoring and all property was transferred, this is the last narrative for Ogden.

IRP

No additional Installation Restoration Program (IRP) actions are required at this installation.

MMRP

No additional MMRP actions are required at this installation.

| | | | |
|----------------------|---|--|-------------------------|
| FFID: | CA997152083200 | Media Affected: | Groundwater and soil |
| Size: | 724 acres | Funding to Date: | \$60.1 million |
| Mission: | Receive, store, and distribute supplies, materials, and equipment | Estimated Cost to Completion (Completion Year): | \$31.1 million (FY2015) |
| HRS Score: | 42.24; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2003 |
| IAG Status: | IAG signed in March 1989 | Five-Year Review Status: | Planned/Underway |
| Contaminants: | VOCs, heavy metals, petroleum/oil/lubricants, TCE, and pesticides | | |



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. Heavy equipment investigations have identified: groundwater plumes and contaminated or potentially contaminated soil and building sites. The installation was placed on the NPL in July 1997 and an interagency agreement was signed in March 1989.

The installation is approximately 724 acres. Of the 152 contaminated sites identified, 57 have been closed. One Record of Decision has been signed to date. The cleanup progress at DDD San Joaquin, Sharpe Facility for FY99 through FY02 is detailed below.

In FY99, preparation of remedial action (RA) reports recommending no further action (NFA) began at the 3 metals sites and 10 trichloroethylene (TCE) and volatile organic compound (VOC) sites. The water management plan was finalized, and nine underground storage tanks (USTs) were removed at the installation's fuel station.

In FY00, RA reports were completed for Operable Unit 2 (OU 2) metals Sites S-3 and S-26. Three-dimensional groundwater modeling was performed as Phase I of remedial process optimization (RPO).

In FY01, RA reports for 3 metals and 10 TCE and VOC NFA sites were completed. Operation of the three groundwater treatment systems continued. Implementation of RPO recommendations began. The OU 1 interim groundwater RA report was completed. The soil vapor extraction (SVE) operational phase was extended to the first quarter of FY02. The last two remaining USTs were removed.

In FY02, the SVE RA report was completed. A draft preferred alternatives report for USTs was submitted recommending NFA or natural attenuation (NA) for the remaining open UST sites. The completed sitewide preliminary closeout report was submitted. The Phase II 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.

FY03 IRP Progress

The installation completed an update of community relations plan. 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 remedial operation and process optimization. A draft final 5-year review report was submitted.

FY03 MMRP Progress

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

Plan of Action

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

IRP

- Complete the final 5-year review report in FY04.
- Continue OU 1 groundwater remedial operation and process optimization in FY04.
- Develop an exit strategy for the final closeout report and delisting in FY04-FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------|
| FFID: | CA997150682700 | Media Affected: | Groundwater and soil |
| Size: | 908 acres | Funding to Date: | \$88.3 million |
| Mission: | Store and distribute medical, textile, food, electronic, industrial, construction, chemicals, and other supplies and equipment | Estimated Cost to Completion (Completion Year): | \$25.7 million (FY2015) |
| HRS Score: | 37.16; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | Federal facility agreement signed in 1991 | Five-Year Review Status: | Planned |
| Contaminants: | Chlorinated solvents, heavy metals, pesticides, POLs, and VOCs | | |



Progress to Date

Defense Distribution Depot (DDD) San Joaquin, Tracy Facility was placed on the NPL in August 1990. 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. A federal facility agreement was signed in 1991.

Studies have identified 73 sites at this installation. To date, 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 FY99 through FY02 is detailed below.

In FY99, the Operable Unit 1 (OU 1) groundwater extraction and treatment system (Treatment Plant (TP) 2) went into operation. The design of the OU 2 trichloroethylene (TCE) and volatile organic compound (VOC) soil vapor extraction (SVE) systems was completed, as were removals of pesticide-contaminated soil at Sites 6, 20, and 27.

In FY00, the design of the SVE systems for sites designated in the OU 2 ROD were completed. The ecological risk assessment was prepared for OU 2 Site 4. Institutional controls were implemented at sites designated in the OU 2 ROD, and the design work related to other OU 2 remedial action (RA) was completed.

In FY01, operation of the groundwater treatment system (TP-1 and TP-2) continued. OU 2 RAs at Sites 4, 6, 8, 20, and 27 were completed. Implementation of the remedial process optimization (RPO) recommendations began. The TCE SVE system was constructed and began operation.

In FY02, operation and optimization of the 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 SVE system continued. Small excavation Sites 6, 20, and 27 were completed. The wet season controls Site 4 RA report was completed. The draft Site 67 northern depot area cover installation RA report was submitted. The Phase II RPO evaluation was completed.

FY03 IRP Progress

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. TP-1 was converted to granular activated carbon. The installation implemented pesticide treatment for TP-1. Operation and optimization of the OU 1 groundwater treatment systems continued.

FY03 MMRP Progress

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

Plan of Action

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

IRP

- Complete amendment to sitewide ROD for various sites in FY04.
- Complete ROD explanation of significant differences for various sites in FY04.
- Completed RA reports for completed RAs for Sites 8, 4, 6, and 67, and SVE sites in FY04.
- Complete sitewide preliminary closeout report in FY04.
- Complete 5-year review in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--------------------|--|--|--------------------------------------|
| FFID: | PA397154266500 | Contaminants: | POLs, PCBs, pesticides, and asbestos |
| Size: | 87 acres | Media Affected: | Groundwater and soil |
| Mission: | Procure and distribute 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 | Funding to Date: | \$19.7 million |
| HRS Score: | NA | Estimated Cost to Completion (Completion Year): | \$5.7 million (FY2010) |
| IAG Status: | None | Final RIP/RC Date for IRP Sites: | FY2003 |
| | | Five-Year Review Status: | N/A |



Progress to Date

In July 1993, the BRAC Commission recommended closure of the Defense Personnel Support Center, now known as the Defense Supply Center Philadelphia (DSCP), and relocation of its mission to the Naval Inventory Control Point location in northeast Philadelphia. The commission also recommended closure of the Defense Clothing Factory and the Defense Contract Management District Mid-Atlantic. Studies at DSCP identified 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. A hydrocarbon plume underlies large portions of the installation. Studies 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.

DSCP is approximately 87 acres. Since FY99, a total of 48 Installation Restoration Program (IRP) sites have closed and 4 IRP sites have been added. The cleanup progress at DSCP for FY99 through FY02 is detailed below.

In FY99, DSCP generated a draft human health risk assessment (HHRA) and completed Phase III of the basewide expanded site investigation. A total of 43 remediated IRP sites had been administratively closed. Site #36, the hydrocarbon plume, remained open. A finding of suitability to transfer was completed for Building 13, Building 9, and the Johnston Street parking lot. A cooperative agreement with the City of Philadelphia was completed for operating and maintaining the site until its transfer.

In FY00, Pennsylvania Department of Environmental Protection (PADEP) issued an administrative order requiring DLA to assume all responsibility for plume remediation and investigation, odor control, and the HHRA. Unrelated to the order, four IRP sites were added. Four World War I-era warehouses were demolished. Lead-contaminated soil discovered under Building 20 was excavated and disposed. Asbestos abatement was completed throughout the installation.

In FY01, the HHRA was submitted to PADEP for review and approval. Stakeholders also reviewed and provided comments to the HHRA. Five

IRP sites were closed. The decision document for the remaining IRP site (the Plume) began processing. The remaining South Philadelphia DSCP environmental and site management personnel were relocated to the DSCP Northeast Philadelphia site. Skimming operations continued, and pilot-testing of the vacuum-enhanced recovery system was initiated.

In FY02, the HHRA was finalized. 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.

FY03 IRP Progress

Real estate negotiations delayed the construction of the vacuum-enhanced remediation system. Technical issues delayed the fate-and-transportation analysis for the light non-aqueous phase liquid (LNAPL) plume and negotiations with PADEP to establish remediation cleanup levels for the LNAPL plume.

FY03 MMRP Progress

DSCP performed no Military Munitions Response Program (MMRP) action in FY03.

Plan of Action

Plan of Action items for DSCP are grouped below according to program category.

IRP

- Complete installation of the vacuum enhanced remediation system in FY04.
- Complete the fate and transport analysis in FY04.
- Complete negotiations with the PADEP to establish cleanup levels for the LNAPL plume remediation in FY04.
- Begin negotiations with Army Material Command to return oversight and management of the remaining property (ground portion) in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|--|--|--|
| FFID: | VA397152075100 | Media Affected: | Groundwater and soil |
| Size: | 565 acres | Funding to Date: | \$43.2 million |
| Mission: | Provide logistics support (aviation weapon system and environmental) for DoD | Estimated Cost to Completion (Completion Year): | \$12.8 million (FY2017) |
| HRS Score: | 33.85; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2007 |
| IAG Status: | IAG signed in 1991 | Five-Year Review Status: | Completed FY1997, FY1999, and FY2002/ Planned |
| Contaminants: POLs, chlorinated VOCs, PAHs, solvents, metals, and pesticides | | | |



Progress to Date

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

Studies at DSC Richmond have identified 32 sites, 13 of which have been organized into operable units (OUs). To date, the installation has signed five Records of Decision (RODs), some of which are interim RODs. The cleanup progress at DSC Richmond for FY99 through FY02 is detailed below.

By FY99, five RODs and a corrective action plan had been completed, requiring institutional controls and a variety of remediation systems. Three active groundwater remediation systems were operational, and a 5-year review of OU 1 was accomplished.

In FY00, the OU 1 draft risk assessment was submitted and the draft proposed plan (PP) and ROD for OU 2 were issued. National attenuation studies began at OU 6 and OU 7. A draft pilot test report and draft feasibility study (FS) were issued for OU 6. The final FS and the draft PP and ROD were completed for OUs 10, 11, and 12.

In FY01, a risk assessment for OU 1 was submitted to eliminate land use controls at the site. A final density-driven convection pilot test report was submitted for OU 6. The OU 3 explanation of significant differences was issued. Findings from the first phase of the remedial process optimization (RPO) study were implemented. The draft FS for OU 13 underwent review. A partnering exercise with regulators was completed. The draft CRP was issued and was under review. The community was canvassed for interest in forming a RAB.

In FY02, RPO studies were conducted for OU 8 and OU 9. A consolidated 5-year review was performed for OUs 1, 3, and 9. The CRP was implemented. A RAB was formed, and various training

exercises and meetings were held to inform the members of progress to date. A tour of the facility was provided to the RAB.

FY03 IRP Progress

The installation prepared a detailed supplemental 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 OU 8 and OU 9 remedial systems was optimized using suggestions from the Phase II RPO report.

The development and implementation of the basewide supplement FS delayed the preparation of the three RODs, the performance of additional pilot demonstrations for OU 6 and OU 7, and the preparation of notices of intent for partial deletions to delist OUs 4 and 5 from the NPL.

The installation completed a community involvement plan. Partnering activities with state and federal regulators were conducted.

FY03 MMRP Progress

No Military Munitions Response Program (MMRP) sites have been identified at DSC Richmond.

Plan of Action

Plan of action items for DSC Richmond are grouped below according to program category.

IRP

- Submit FSs and updated risk assessments for groundwater OUs in FY04.
- Draft PPs for groundwater OUs in FY04.
- Conduct pilot demonstration for groundwater at the Former Fire Training Pit in FY04-FY05.
- Perform rebound study for Acid Neutralization Pit groundwater (OU 8) in FY04 and develop a ROD in FY05.
- Develop a ROD for the Area 50 Landfill in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | |
|---|--|
| FFID: DE357182401000 | Media Affected: Groundwater, surface water, sediment, and soil |
| Size: 3,730 acres | Funding to Date: \$62.7 million |
| Mission: Provide airlift support for troops, cargo, and equipment | Estimated Cost to Completion (Completion Year): \$39.9 million (FY2016) |
| HRS Score: 35.89; placed on NPL in March 1989 | Final RIP/RC Date for IRP Sites: FY2011 |
| IAG Status: Federal facility agreement signed in August 1989 | Five-Year Review Status: Underway/Planned FY2007 |
| Contaminants: Solvents, paints, petroleum products, VOCs, heavy metals, and plating wastes | |



Progress to Date

Since 1942, Dover Air Force Base (AFB) has provided airlift support for troops, cargo, and equipment. The installation was placed on the NPL in March 1989 and signed a federal facility agreement in August 1989. Former waste management practices contaminated the shallow groundwater aquifer with petroleum products and volatile organic compounds (VOCs). Site types include solvent spills, fire training areas, landfills, fuel spills and leaks. Five-year reviews were completed for five remedies in FY03. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria, regulatory, and technical issues.

Fifty-nine restoration sites have been identified at this installation. To date, three Records of Decision (RODs) have been signed for groundwater remediation. Additional RODs have been signed for natural attenuation (NA) at four sites and soil excavation at two sites. The cleanup progress at Dover AFB for FY99 through FY02 is detailed below.

In FY99, the installation completed construction of a second free product recovery system. The installation excavated two concrete industrial waste basins and 753 tons of contaminated soil. A full-scale remedial design (RD) was developed for an innovative accelerated anaerobic bioremediation system to treat a chlorinated solvent source area. Feasibility studies (FSs) were drafted for sites requiring remediation.

In FY00, the installation completed draft FSs for all remaining active sites. Long-term operations were implemented at the second free product recovery site. A site inspection and an engineering evaluation and cost analysis were completed for a pesticide-contaminated soil source. A corrective action plan for a third free product source area and a RD for a trench collection system were completed.

In FY01, the installation achieved cleanup standards for two of the petroleum exclusion sites and the sites were deemed response complete. The installation completed construction of an accelerated anaerobic bioremediation system to treat chlorinated solvents in groundwater. The installation initiated two innovative technology demonstrations to gain regulator acceptance for use of more cost-effective field techniques.

In FY02, the installation completed construction of a free product trench collection system. The installation 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 NA sites and a soil removal site. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed a focused FS for land use control (LUC) implementation in lieu of a LUC memorandum of agreement and implementation plans. Five-year reviews for five remedies were completed. Operations continued at three free product recovery systems and an accelerated anaerobic bioremediation system. Total fuel recovered topped 28,000 gallons. Monitoring continued 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. A new innovative technology demonstration project, biogeochemical reductive dehalogenation, was initiated.

The base initiated a LUC proposed plan and ROD, but experienced delays due to regulatory issues.

There is no community interest in forming a Restoration Advisory Board. However, the base continues to hold monthly Tier I meetings and quarterly Tier II meetings with federal and state regulators to discuss progress and resolve issues.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for Dover AFB are grouped below according to program category.

IRP

- Complete LUC ROD in FY04.
- Finalize FSs for remaining sites in FY04.
- Complete final RODs for all remaining actions in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | VA317002251600 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 600 acres | Funding to Date: | \$6.8 million |
| Mission: | Provided radio transmitting facilities and services to support naval ships, submarines, and aircraft | Estimated Cost to Completion (Completion Year): | \$0 million (FY2001) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY1996 |
| IAG Status: | None | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Dichlorobenzene, PCBs, POLs, trichlorobenzene, SVOCs, and lead | | |



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. The RAB was disbanded in FY97. In FY92, the installation completed a community relations plan and an administrative record and established an information repository. Additionally, a BRAC cleanup team was formed in FY94. In FY03, the installation completed a draft of the 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 FY99 through FY02 is detailed below.

In FY99, the long range plan was finalized and the facility was divided into five major parcels of land. The environmental baseline survey was updated to reflect the current conditions of the property, and three findings of suitability to transfer were signed. The property was transferred to three agencies.

In FY00, the installation continued long-term management (LTM) at Sites 1, 5, 7, and 10. A draft of the Long-Term Monitoring Program Annual Report for Year Five was completed. An evaluation of groundwater issues at Site 1 was initiated.

In FY01, the installation continued LTM at Site 1. The possible removal action for PCB-contaminated soil at Site 1 was evaluated and deemed unnecessary.

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.

FY03 IRP Progress

The Long-Term Monitoring Annual Report for Year Five was finalized and the work plan for continued LTM at Site 1 was drafted. The Navy also completed the draft 5-year review.

FY03 MMRP Progress

The Navy had 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

- Finalize the 5-year review in FY04.
- Continue LTM for groundwater at Site 1 in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|------------------------|
| FFID: | AR657002447300 | Media Affected: | Groundwater and soil |
| Size: | 3,401 acres | Funding to Date: | \$30.8 million |
| Mission: | Supported B-52 strategic bombers and KC-97 and KC-135 Stratotanker operations | Estimated Cost to Completion (Completion Year): | \$0.6 million (FY2015) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY1999 |
| IAG Status: | None | Five-Year Review Status: | Planned FY2004 |
| Contaminants: | Petroleum hydrocarbons, POLs, VOCs, UXO, and metals | | |



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 was closed on December 15, 1992. Prominent site types include underground storage tanks, aboveground storage tanks, oil-water separators, petroleum/oil/lubricant (POL) spill sites, and landfills. Other sites include a fire training area, 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 in FY94 and completed a community relations plan in FY95. The BRAC cleanup plan was updated in FY97. The installation also completed an environmental baseline survey (EBS) and several supplemental EBSs (SEBSs). The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Environmental studies conducted between FY85 and FY90 identified 12 sites at Eaker AFB. In addition, a RCRA facility assessment, completed in FY90, identified 21 solid waste management units and 9 areas of concern. 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 FY99 through FY02 is detailed below.

In FY99, the installation received approval for a corrective measures study. The last remedy in place was completed for all Installation Restoration Program sites. A finding of suitability to transfer (FOST) and a SEBS for the golf course, the potable water system, and approximately 100 acres of commercial property were completed and submitted to the regulators for review.

In FY00, the installation completed lead removal at the small-arms firing range. Remedial action (RA) systems were completed, and sites were monitored as necessary. The deeds for the 110-acre golf course and the 160-acre commercial tract were completed. The installation received regulatory concurrence on FOSTs and SEBSs for all farmland and archaeological sites.

In FY01, the installation operated the RA systems and began monitoring sites. FOSTs and SEBSs for all remaining property were submitted to

regulatory agencies for comment. The corrective measures implementation (CMI) design was approved, and the CMI report was submitted to the regulatory agencies for approval.

In FY02, the installation continued monitoring and operation of existing systems. The CMI action report received regulatory approval. The FOST and SEBS for the airfield property and the remaining commercial property were submitted and comments were received and incorporated. The transfer deeds for all remaining property were signed by the Air Force Real Property Agency. At the end of FY02, a 5-year results-based contract was awarded to operate and close out 9 of the 11 remaining sites. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria and technical issues.

FY03 IRP Progress

The installation implemented the 5-year results-based cleanup contract for basewide RA operation activities, long-term management (LTM), and long-term monitoring completion activities. Performance of the contract is on schedule.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Eaker AFB are grouped below according to program category.

IRP

- Continue the 5-year results-based cleanup contract for basewide RA operation activities, LTM, and long-term monitoring completion activities in FY04.
- Prepare for a 5-year review report due in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|----------------------|---|--|---|---|
| FFID: | NJ217002217200 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: | 11,134 acres: 706 acres shoreline; 10,428 acres inland | Funding to Date: | \$23.7 million | |
| Mission: | Handle, store, renovate, and ship munitions | Estimated Cost to Completion (Completion Year): | \$17.5 million (FY2030) | |
| HRS Score: | 37.21; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2008 | |
| IAG Status: | Federal facility agreement signed in December 1990 | Final RIP/RC Date for MMRP Sites: | FY2013 | |
| Contaminants: | VOCs, SVOCs, heavy metals, hydrocarbons, and petroleum products | Five-Year Review Status: | The installation has not completed a 5-year review. | |

Progress to Date

The installation 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. 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 installation was placed on the NPL in August 1990. In addition, a federal facility agreement was signed in December 1999. In FY95, the TRC was converted to a Restoration Advisory Board. The CRP was updated in FY98. In FY03, the installation completed a 5-year review.

Preliminary assessments (PAs) identified 29 sites of concern at this installation, four 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 (UST) sites) have been identified. The installation has completed Records of Decisions (RODs) at eight sites and has recommended no further action (NFA) at eight sites. The cleanup progress at Earle Naval Weapons Stations for FY99 through FY02 is detailed below.

In FY99, an NFA ROD was signed for eight sites. Natural attenuation started at UST Site 7, and remedial action (RA) began for Site 26.

In FY00, full-scale air sparging at Site 26 was initiated, and then expanded to include a new source area. Removals at Sites 12 and 47 and bank stabilization at Sites 6 and 17 were completed. A PA/site investigation (SI) was initiated at Sites 47 and 48. Fuel recovery continued and an optimization study was completed at Site 16F.

In FY01, the installation completed PA/SI fieldwork at Sites 47 and 48. Optimization study recommendations were implemented at Site 16F. A proposed plan (PP) was issued and a public meeting was held for Sites 3 and 10. Emergency ordnance disposal was conducted on a limited basis at the explosives and ordnance range. A PA/SI was completed for Sites 47 and 48. An internal draft PP for Site 13 was developed. Site 19 was reviewed quarterly.

In FY02, the installation completed the PA/SI for Site 48. An environmental engineering/cost analysis, an RA, and confirmatory

sampling indicating NFA were completed at Site 47. Draft feasibility studies (FSs) for Sites 1 and 11 were completed. A secondary tetrachloroethene plume was found at Site 26. The draft PP for Site 13 was submitted. A contract for remedial investigations (RI)/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.

FY03 IRP Progress

The installation completed the draft ROD for Site 13, which is currently under regulatory review. The FS was completed for Sites 1 and 11. The draft PP for Sites 1 and 11 were under regulatory review. The Sites 6, 12, 15, and 17 FS is under review. Sites 3 and 10 landfill caps were completed. The 5-year review plan was completed in FY03. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The installation was unable to complete the RI/FS for Site 48 because the PA/SI was amended due to additional samples taken to show that no further action is necessary.

FY03 MMRP Progress

The Navy had identified no MMRP sites at this installation.

Plan of Action

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

IRP

- Finalize ROD for Site 13 in FY04.
- Begin RA for Site 13 in FY04.
- Complete the preliminary remedial action plan (PRAP) and begin ROD for Sites 1 and 11 in FY04.
- Finalize FS and begin PRAP for Sites 6, 12, 15, and 17 in FY04.
- Complete optimization study for Sites 26 and 16F in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | CA957172450400 | Media Affected: | Groundwater, soil, surface water, and sediment |
| Size: | 301,000 acres | Funding to Date: | \$246.9 million |
| Mission: | Conduct aerospace research, development, testing, and evaluation, and provide support to United States and allies | Estimated Cost to Completion (Completion Year): | \$571.1 million (FY2034) |
| HRS Score: | 33.62; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2009 |
| IAG Status: | Federal facility agreement signed in 1990 | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | Waste oils, solvents, VOCs, petroleum hydrocarbons, POLs, rocket fuel, potential chemical warfare materiel, and heavy metals | Five-Year Review Status: | Planned |



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. The installation was placed on the NPL in August 1990 and signed a federal facility agreement the same year. Interim remedial actions (IRAs) have included installing 11 groundwater extraction and 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 fire fighting training facility; using bioventing at 12 sites; and installing seven soil vapor extraction (SVE) and treatment systems. Over 1.6 million pounds of contaminants have been recycled or destroyed to date. The installation formed a Restoration Advisory Board (RAB) in 1995. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The Edwards Environmental Restoration program consists of 461 sites and areas of concern (AOCs), with 73 sites and AOCs currently being investigated. Thirty-three sites and AOCs are in the cleanup, operations, construction, Record of Decision, or decision document stages; four sites are in long-term monitoring; and 351 require no further investigation (NFI). The cleanup progress at Edwards AFB for FY99 through FY02 is summarized below.

In FY99, a pump and treat system was installed at Operable Unit 4 (OU 4) Site 37 and a SVE/air sparging system was installed at OU 5 Site 240 in support of a treatability study (TS).

In FY00, long-term monitoring of groundwater contaminant plumes and other groundwater studies were performed at all 10 OUs. Screening and investigation of over 20 sites and AOCs were conducted. New soil or groundwater treatment systems were installed at Sites 14, 18, and 23. Soil stabilization was used to remediate metals-contaminated soil at Site 96. A mobile dual extraction system (DES) was used to remove soil and groundwater contamination at five sites. The engineering evaluation and cost analysis (EE/CA) for the Site 25 plume control IRA and the action memorandum became final. NFI letters were signed for 64 sites and AOCs.

In FY01, an ion exchange resin pilot-scale test at Site 285 was completed. Development of a cost-reduction strategy using in situ chemical sensors for long-term monitoring was initiated. A mobile DES was used to remove soil and groundwater contamination at five sites in OU 1. The EE/CA for Site 426 was completed and an IRA work plan was prepared. Groundwater treatment systems for chlorinated solvent contamination were installed and began operation at Sites 25 and 133. A bioventing and air-sparging system was installed at Sites 71 and 74. NFI letters were signed for 104 sites and AOCs.

In FY02, the installation completed the work plan, engineering design documents, and procurement activities for the Site 285 full-scale resin technology TS for perchlorate. The installation field tested in-well chemical sensor technologies for remote monitoring of remediation sites. Four trenches at Site 426 were excavated and no chemical warfare agent-impacted soil or debris was encountered. A successful team-injection-in-fractured-bedrock TS was performed at Site 61. The installation's remedial project managers approved NFI letters for 3 chemical warfare materiel sites and 18 other sites. A remedial process optimization program was initiated to review operation of all treatment systems. Construction of the Site 13 landfill cover/cap was completed.

In FY03, the Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. MMRP sites were identified at this installation. The RAB met quarterly, took site tours and participated in a three-day training session.

FY03 IRP Progress

The Air Force installed the Site 58 pilot-scale DES and began operation in September 2003. 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. The work plan for the Site 44 TS was completed.

Implementation of the Site 44 TS was postponed pending receipt of an airfield construction waiver. Funding issues delayed finalizing the work plans and implementing the trichloroethylene (TCE) plume remediation pilot tests and TSs at the OU 4 sites.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) Scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

Plan of action items for Edwards AFB are grouped below according to program category.

IRP

- Install an array of extraction wells and an ex situ biologically activated carbon treatment system at Sites 225 and 298 in OU 8 in FY04.
- Perform hydrogen release compound, Fenton's reagent, and microbe injection pilot tests and TSs at various OU 4 sites with tetrachloroethylene and STET plumes in FY04 and FY05.
- Continue operating a full-scale exchange resin technology TS for treating perchlorate at Site in FY04–FY05.
- Perform in situ biological or chemical treatment TSs at various sites in OU 2, OU 5 and OU 9 in FY04–FY05.

MMRP

- Begin preliminary assessments at all six MMRP sites in FY05.

| | | |
|--|---|---|
| FFID: AK057302864600 | Media Affected: Groundwater and soil |  |
| Size: 19,790 acres | Funding to Date: \$54.9 million | |
| Mission: Provide tactical air support to Pacific Air Forces | Estimated Cost to Completion (Completion Year): \$9.2 million (FY2012) | |
| HRS Score: 48.14; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: FY1998 | |
| IAG Status: IAG signed in May 1991 | Five-Year Review Status: Completed FY2003/Planned FY2008 | |
| Contaminants: Heavy metals, POLs, benzene, VOCs, PCBs, and solvents | | |

Progress to Date

The mission at Eielson Air Force Base (AFB) is to provide tactical air support to Pacific Air Forces. The installation was placed on the NPL in November 1989 and signed an interagency agreement in May 1991. Environmental studies at Eielson 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 included 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.

By FY93, the installation had identified 64 sites. One additional site has been identified since then. Thirty-one of the sites were grouped into six operable units (OUs); 24 sites were investigated and determined to require no further action. To date, all Records of Decision (RODs) for the base's Installation Restoration Program (IRP) have been signed and amendments have been signed for the OU 2, OU 3, OU 4 and OU 5 RODs. The cleanup progress at Eielson AFB for FY99 through FY02 is detailed below.

In FY99, the installation completed response actions at three of the four remaining areas of concern (AOCs). An investigation began at the fourth site to determine the nature and extent of groundwater contamination. A total of 250 drums were removed from AOC 003. Building 500 was demolished under the Clean Sweep Program. Asbestos and building debris were removed and disposed of properly.

In FY00, the installation completed characterization and delineation of the contaminant plume for AOC 029. Contaminant characterization was completed at Site OT-008.

In FY01, the Phase I remedial process optimization (RPO) was completed, as was annual long-term operations (LTO) and long-term management (LTM). Biannual RAB meetings were held. Institutional controls at IRP sites were enforced during all base construction activities at IRP sites. Because Site OT-008 is located off Air Force property and was determined to be a former Army anti-aircraft artillery site, the site was referred to the U.S. Army Corps of Engineers FUDS program for further action.

In FY02, the installation continued annual LTO/LTM at the active sites. Agenda preparations for the 5-year review ROD were initiated as planned. The Phase II RPO process was completed. Institutional controls at IRP sites were enforced during all base construction activities. Biannual RAB meetings were held. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No sites were identified at this installation.

FY03 IRP Progress

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 proposed closure documents for all sites sampled in the FY02 sitewide sampling and analysis program. Closure documentation will be incorporated into the ROD review report. The installation continued annual LTO/LTM at the active sites.

The system at Site ST-20 E-9 complex was partially decommissioned. The remainder of this system will be removed in FY04. Site validation for AOC-029 was again delayed due to regulatory issues.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for Eielson AFB are grouped below according to program category.

IRP

- Pursue regulatory concurrence for Eielson's proposed "Event-Driven Monitoring" concept for the long-term monitoring program in FY04.
- Conduct a limited site evaluation/removal action at site SS-35 to determine the source and probable extent of a newly discovered asphalt emulsion seepage at the site in FY04.
- Continue annual LTO/LTM at active sites in FY04–FY05.
- Continue biannual RAB meetings in FY04 and FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | CA917302320800 | Contaminants cont'd: | pesticides, and herbicides |
| Size: | 4,738 acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: | Serve 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 | Funding to Date: | \$125.9 million |
| HRS Score: | 40.83; placed on NPL in February 1990 | Estimated Cost to Completion (Completion Year): | \$88.0 million (FY2037) |
| IAG Status: | Federal facility agreement signed in October 1990 | Final RIP/RC Date for IRP Sites: | FY2009 |
| Contaminants: | TCE and other VOCs, petroleum hydrocarbons, PCBs, | Five-Year Review Status: | The installation has not completed a 5-year review. |



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 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 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 was formed and a BRAC cleanup plan was developed. In FY96, the installation updated its community relations plan (CRP).

Studies at the station have identified 24 CERCLA sites, 594 locations of concern, and 404 underground storage tanks (USTs). 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 sites (APHO), and 12 aboveground storage tanks (AST). The installation has also submitted two draft RODs and completed one interim ROD. The cleanup progress at El Toro MCAS for FY99 through FY02 is detailed below.

In FY99, the proposed plan (PP) for Sites 8, 11, and 12 was issued, and the final ROD for Site 11 was completed. The draft ROD for Sites 3 and 5 was also issued. All USTs were taken out of service. Regulatory closure letters were received for 307 USTs. Thirty-two inactive USTs were removed and 10 UST sites were investigated. Most oil-water separators were removed.

In FY00, the installation removed 19 inactive USTs and began closure-in-place for 5. The final interim ROD for Sites 2 and 17 was completed. Remedial design (RD) was initiated for Sites 2 and 17. Remediation of the vadose zone trichloroethylene (TCE) release at Site 24 and confirmation vadose zone sampling were completed. Remedial investigation (RI) was completed for Sites 7 and 14. The primary JP-5 fuel pipelines were cleaned and hydrostatically tested. Regulatory

concurrence on NFA status was achieved for 36 UST sites, 12 APHO sites, 12 AST sites, and 23 oil-water separator sites. Remediation using soil vapor extraction and bioventing began at UST Group 651, former UST Site 364A, and the tank farm.

In FY01, the installation's historical radiological assessment was completed and radiological surveys began. The final ROD for NFA at Sites 7 and 14 was published. A desalter settlement agreement was reached with the Department of Justice and two local water districts, allowing the PP to move forward. RI work for Site 1 began. Verification and remediation activities at various locations of concern, including UST Group 651, Tank 398, Tank Farm 555, and MSC R1/Anomaly Area 3, were performed. NFA status was achieved for 22 compliance sites, including 9 ASTs, 4 USTs and 7 APHOs. Use of a multiphase extraction pilot test for the treatment of VOCs in soil and groundwater at Site 16 expedited the overall project cleanup schedule.

In FY02, the installation published/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 PP 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.

FY03 IRP Progress

El Toro MCAS continued a successful coordination with two local water districts for the development of 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). The RCRA Hazardous Waste Facility Permit for El Toro MCAS expired 18 Aug 2003. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The ROD for Sites 3 and 5 were not completed due to technical issues. The final RD for landfill Sites 2 and 17 was delayed due to regulatory issues related to the design and construction of an evapotranspiration cover.

FY03 MMRP Progress

The Navy had identified no MMRP sites at this installation.

Plan of Action

Plan of action items for El Toro MCAS are grouped below according to program category.

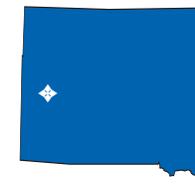
IRP

- Finalize FOST, FOSL, and radiological release report in FY04.
- Initiate CRP update in FY04.
- Initiate Site 11 remedial action and Sites 8 and 12 non-time critical removal actions in FY04.
- Initiate landfill cover construction for Sites 2 and 17 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------|
| FFID: | SD857212464400 | Media Affected: | Groundwater and soil |
| Size: | 4,858 acres | Funding to Date: | \$66.5 million |
| Mission: | Maintain a combat-ready force capable of executing long-range bombardment operations | Estimated Cost to Completion (Completion Year): | \$25.2 million (FY2028) |
| HRS Score: | 33.62; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2002 |
| IAG Status: | Federal facility agreement signed in January 1992 | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | Solvents (including TCE), POLs, lead, and low-level radioactive waste | Five-Year Review Status: | Completed FY2003 |



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 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 concluding that all sites were protective of human health and the environment. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

Environmental studies conducted from FY85 to FY87 identified 20 sites at Ellsworth AFB. Sites at the installation were grouped into 12 operable units (OUs). To date, Records of Decision (RODs) have been signed for OUs 1 through 10 and OU 12. The cleanup progress at Ellsworth AFB for FY99 through FY02 is detailed below.

In FY99, work was completed on the preliminary assessments (PAs) and site inspections for Sites OT-18 and ST-26, and the long-term management (LTM) for Site WP-22.

In FY00, a remedial investigation (RI) was completed and monitoring began at Site ST-26. A 5-year review was completed for 13 ROD sites, with the regulatory agencies concurring that all sites were protective of human health and the environment, subject to landfill cap landslide repairs at LF-05. Remediation of basewide groundwater contamination (OU 11) continued.

In FY01, remediation of basewide groundwater contamination continued and the installation completed the water line extension at OU 11 and placed the site under remedial action operations (RA-O). LTM and RA-O continued at selected sites. The RI for Site RW-27 began. Also in FY01, a comprehensive range inventory was initiated. This inventory was designed to be an annual, iterative effort. To supply data for the inventory, a detailed questionnaire was completed that collected data on the types of munitions used, the range's environmental status, and the type and level of external stakeholder interest.

In FY02, the installation continued the RI and started interim remedial action free product removal at Site RW-27. LTM and RA-O continued at Site OU 11 and other selected sites. The installation continued the RI and feasibility study (FS) for Site OT-18 and continued repairs to LF-05. The cost of completing environmental restoration at this installation has changed significantly due to technical issues. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. An MMRP site was identified at this installation.

FY03 IRP Progress

The Air Force completed repairs at LF-05, continued 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 RW-27.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Codes (RACs) scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

Plan of action items for Ellsworth AFB are grouped below according to program category.

IRP

- Complete RI/FS for Site OT-18 in FY04.
- Complete expanded RI at Site RW-27 in FY04.
- Continue RA-O and LTM at selected sites in FY04–FY05.
- Complete expanded final RI/FS report for Site RW-27 in FY05.

MMRP

- Begin PAs in FY05.

| | | |
|--|--|--|
| FFID: AK057302864900 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: 13,130 acres | Funding to Date: | \$74.4 million |
| Mission: Headquarters Alaskan Command | Estimated Cost to Completion (Completion Year): | \$50.2 million (FY2034) |
| HRS Score: 45.91; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | 2012 |
| IAG Status: Federal facility agreement signed in 1991 | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: VOCs, heavy metals, POLs, PCBs and solvents | Five-Year Review Status: | Completed 2003/Planned FY2008 |



Progress to Date

Elmendorf Air Force Base (AFB) serves as headquarters to the Alaskan Command. The base was placed on the NPL in August 1990 and signed a federal facility agreement in 1991. 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. A 5-year review was conducted in FY98.

Eighty-eight sites have been identified at this installation. Thirty-seven sites, which are grouped into six operable units (OUs), are covered by the federal facility agreement. An additional 39 sites are covered by an agreement with the State of Alaska. To date, Records of Decision (RODs) have been signed for OUs 1, 2, 4, and 5. The cleanup progress at Elmendorf AFB for FY99 through FY02 is detailed below.

In FY99, polychlorinated biphenyls (PCBs) removal and the remedial action (RA) completion report for OU 3 were completed, with no further work required. Shutdown of the groundwater treatment system at OU 2 was completed, the annual beach sweep was conducted, and the installation developed a comprehensive orientation manual for the RAB.

In FY00, an RA at ST74 was completed, resulting in the closure of one bioventing system. The installation's community relations plan was revised. The RA at SS80 was completed, and an engineering evaluation and cost analysis (EE/CA) was initiated at SS83 and DP98. The installation evaluated LF04 for a long-term solution to beach erosion, conducted additional site evaluation at WP14, and closed area of concern OT82. Elmendorf AFB received the General Thomas D. White Restoration Award for the fourth year in a row and also received the FY99 Secretary of Defense Environmental Security Award for environmental cleanup.

In FY01, the groundwater model for OU 2 was completed. RA operations (RA-O) of 21 bioventing systems, the engineered wetland system at OU 5, and the high-vacuum extraction (HVE) system at SD15 continued. The annual beach sweep at LF04 was conducted. The site characterization investigation reports were completed for SS83 and DP98, determining that further site characterization was necessary for DP98. An expedited removal action was completed at SA100.

In FY02, the installation continued RA-O of 21 bioventing systems, the engineered wetland system at OU 5, and the HVE system at SD15. The annual beach sweep at LF04 was conducted. A remedial process optimization 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 was initiated for DP98. The installation received the General Thomas D. White Installation and Team awards for FY02. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. MMRP sites were identified at this installation.

FY03 IRP Progress

The Air Force began the EE/CA at SA99. RA-O of 20 bioventing systems, operation of the engineered wetland system at OU 5, and operation of the HVE system at SD15 continued. The installation also conducted the annual beach sweep.

Funding and regulatory issues delayed the second 5-year review.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) Scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

Plan of action items for Elmendorf AFB are grouped below according to program category.

IRP

- Complete the 5-year review in FY04.
- Complete and sign the ROD for DP98 in FY04.
- Initiate the RA for DP98 and- system optimization of the OU 5 engineered wetland remediation system in FY04.
- Implement the removal action at SS83 in FY04.

MMRP

- Complete removal actions at the Marine Corps Firing Range and H1 groundwater trench, and complete AMs for the DRMO site and OB/OD range in FY04.

| | | | |
|----------------------|---|--|-------------------------|
| FFID: | LA657002445200 | Media Affected: | Groundwater and soil |
| Size: | 2,282 acres | Funding to Date: | \$33.0 million |
| Mission: | Used as a tactical fighter wing | Estimated Cost to Completion (Completion Year): | \$16.7 million (FY2006) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | None | Five-Year Review Status: | Planned FY2004 |
| Contaminants: | Industrial waste, spent solvents, fuels, waste oil, paints, pesticides, alkali, low-level radioactive waste, chlorine gas, PCBs, TCE, POLs, and medical waste | | |



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 in FY93 and a Restoration Advisory Board in FY94. In FY95, the installation updated its BRAC cleanup plan. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Environmental studies have identified 43 sites at the installation. In FY92, a RCRA facility assessment identified 59 solid waste management units (SWMUs) and 5 areas of concern. In FY98, 14 sites were closed and officially transferred to the local redevelopment authority, and in FY99, 19 additional sites were closed. The cleanup progress at England AFB for FY99 through FY02 is detailed below.

In FY99, fieldwork was completed at the chemical burial mound. The installation completed a removal action for Sites SS-39 and OTH-2505. Contaminated sludge was removed and septic tanks were cleaned at Buildings 1631 and 2607. Contaminated soil was removed at Building 2614. Nineteen additional sites were closed.

In FY00, characterization and a corrective measure study of the trichloroethylene (TCE) plume were completed. The installation completed delineation of contamination at two oil-water separators and the 50-acre wastewater lagoon and completed a removal action at a golf course area site (ST-06).

In FY01, the installation completed site investigations at restoration sites. The interim removal action for lead and chromium beneath the two water towers was completed. The remedial action for the petroleum/oil/lubricant (POL) area and the removal of additional soil along underground fuel lines were completed. A hazardous waste permit renewal application was completed. Long-term management (LTM) began at some sites. A decision document to support meeting the last remedy-in-place milestone was finished.

In FY02, draft post closure plans were completed for SS-45 (TCE plume), SWMU 41 (LF-15), and SS-21. Quarterly long-term monitoring

was conducted for SS-45, SS-21, and LF-15. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria, technical, and regulatory issues. 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 discovered that eleven sites required some explosive ordnance disposal (EOD) clearance investigation/certification work.

FY03 IRP Progress

The installation conducted additional sampling and data research to include EPA Adda Lab field investigation for microbial DNA for specific microbes. This investigation will be used to determine if MNA should be rejuvenated/replaced. Additional sentry monitoring wells were installed to further define the eastern TCE plume boundary. TCE microbes that break down TCE and daughter products were found working on half of the TCE plume by EPA's fieldwork. The installation worked with regulators to finalize the 13 final reports containing the 45 sites on the Hazardous and Solid Waste Amendments (HSWA) permit and incorporate comments.

Regulatory issues delayed the renewal of the HSWA/post Closure Plans Permit and subsequent close out of 42 of the 45 sites on the existing RCRA/HSWA permit.

FY03 MMRP Progress

Funding delayed the explosive ordnance disposal/clearance certification work for ten sites.

Plan of Action

Plan of action items for England AFB are grouped below according to program category.

IRP

- Continue to monitor the MNA for the TCE plume to comply with the post closure plans and support a 5-year CERCLA review and an operating properly and successfully determination for the site in FY04.

- Continue LTM for Landfill 15 and the POL tank area to comply with post closure plans in FY04.
- Support the regulatory agencies to complete the HSWA/post closure plans permit so that the existing 38 sites on the permit can be officially closed in FY04.

MMRP

- Investigate the 10 EOD/Small Arms areas to obtain DoD Explosive Safety Board safety certification in order to close the sites and begin process to transfer the sites in FY04.

| | | | |
|----------------------|---|--|--|
| FFID: | WY857212417900 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 5,866 acres | Funding to Date: | \$95.8 million |
| Mission: | Maintained and repaired ships and provided logistical support for assigned ship and service craft | Estimated Cost to Completion (Completion Year): | \$72.8 million (FY2044) |
| HRS Score: | 39.23; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2008 |
| IAG Status: | Federal facility agreement signed in September 1991; Modification 11 signed in July 1998 | Five-Year Review Status: | Completed FY1999/Planned FY2004 |
| Contaminants: | Oil, solvents, metals, acids, petroleum, and explosives residues | | |



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 Site 4 (SS-4), SS-1, SS-7, and the acid dry well site. The base was placed on the NPL in FY90 and a federal facility agreement (FFA) was signed in 1991 that included 20 sites. In FY95, a Restoration Advisory Board (RAB) was formed. A basewide 5-year review was completed in FY99. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

A remedial investigation (RI) identified five plumes of TCE-contaminated groundwater and contamination at 20 sites, which were grouped into 13 operable units. To date, no further action Records of Decision (RODs) have been signed for nine sites; interim remedial action RODs have been signed for three sites; and final RODs have been signed for two sites. The cleanup progress at F.E. Warren AFB for FY99 through FY02 is detailed below.

In FY99, the iron filings wall at SS-7 was completed, as well as the RCRA C cover for Landfill 6 (LF-6). The basewide 5-year review was completed, indicating that all remedial actions (RAs) continued to be protective of human health and the environment.

In FY00, the removal actions and on-base consolidation of LFs 2A, 2B, 3, and 5B, as well as the RIs for Zones A, B, and C were completed. Feasibility studies (FSs) were initiated for Zones A, B, and C. Long-term monitoring of the acid dry well sites was completed, with no further action required.

In FY01, groundwater data collection and the initial field investigation of sources for Zone D were completed. A field investigation was also completed for Zone E. RI report preparation began for Zone D groundwater, Zone D sources, and Zone E. The LF-2A and LF-2B site reclamation was completed. Long-term monitoring of LF-5A, the waste consolidation area, LF-6, and SS-7 continued. A supplemental preliminary assessment (PA) and site inspection was initiated. The RODs for Zone B and C were completed and signed, and remedial designs were initiated.

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 PA 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. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. MMRP sites were identified at this installation. F. E. Warren ranges remain in the Installation Restoration Program (IRP), as they are included as a site in the signed FFA.

FY03 IRP Progress

The Air Force completed construction of the Zone B final RA and installed a pump-and-treat system. The revised FS for Zone C was completed and the ROD amendment is on schedule.

The Zone E ROD was delayed to incorporate additional data into the final RI. The RODs for LFs 4 and 7 were delayed due to regulatory issues.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

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

IRP

- Complete the ROD Amendment for Zone C in FY04.
- Complete the Zone E ROD in FY04.
- Complete the Zone D groundwater and sources RODs in FY04.
- Complete LF-4, LF-7, and Fire Protection Training Area 1 ROD in FY04.

MMRP

- Begin PA in FY05.

| | | | |
|----------------------|---|--|---------------------------------|
| FFID: | WA057212464700 | Media Affected: | Groundwater and soil |
| Size: | 4,300 acres | Funding to Date: | \$43.7 million |
| Mission: | Provide aerial refueling and airlift services | Estimated Cost to Completion (Completion Year): | \$38.5 million (FY2026) |
| HRS Score: | 31.98; placed on NPL in March 1989 | Final RIP/RC Date for IRP Sites: | FY2014 |
| IAG Status: | IAG signed in 1990 | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | Solvents, fuels, electroplating chemicals, cleaning solutions, corrosives, photographic chemicals, paints, thinners, pesticide residues, and PCBs | Five-Year Review Status: | Completed FY2000/Planned FY2005 |



Progress to Date

Fairchild Air Force Base (AFB) provides aerial refueling and airlift services. The installation was placed on the NPL in March 1989 and signed an interagency agreement in 1990. Sites include contaminated fire training areas, landfills, radioactive waste sites, spill sites, waste pits, disposal pits, and ditches. In FY92, interim actions included removal of 1,600 cubic yards of soil contaminated with fuels and oils. The installation formed a Restoration Advisory Board (RAB) in FY95. A 5-year review was completed in FY01.

Environmental studies have identified 43 sites at this installation. To date, Records of Decision (RODs) have been signed for 28 sites. The cleanup progress at Fairchild AFB for FY99 through FY02 is detailed below.

In FY99, the installation, in cooperation with EPA and Washington State, began a 5-year review to ensure that selected remedies protect human health and the environment. Interim removal action was completed at the waste storage area, waste fuel operations, a fuel transfer facility, and arsenic ditches and culverts.

In FY00, fieldwork began for a remedial investigation and feasibility study (RI/FS) of the basewide oil-water separator site. A partial site delisting effort was initiated with the Washington State Department of Ecology (WA DOE) and the EPA. The base prepared 22 sites for removal from the NPL.

In FY01, the first 5-year review was completed. Fieldwork began for an RI/FS study at the trichloroethylene (TCE) plume site. The base discovered and removed 30 buried drums containing 800 gallons of hazardous waste before the waste could leach into the groundwater. Food-grade soybean oil was added as a carbon source before the excavation was backfilled in order to accelerate remediation of TCE throughout the groundwater plume. The installation and the Air Force Center for Environmental Excellence initiated a phytoremediation pilot project. The Fairchild RAB teamed with the U.S. Army Corps of Engineers, Seattle District, at a FUDS site. The base provided a public platform to inform the local community of the site's cleanup progress.

In FY02, the installation initiated the Priority 3 ROD. The RI at Site SD-37 was completed. Basewide soil and groundwater monitoring operations continued, as did remedial actions at groundwater treatment plants, groundwater air sparging and soil bioventing systems. The installation

continued to implement recommendations from the 5-year review. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria and technical issues. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed the FS for Site SD-37 and the remaining 5-year review recommendations. The Air Force pursued privatization of Craig Road Landfill, an off-base Installation Restoration Program (IRP) site. However, privatization was determined not to be in the government's best interest and is no longer being considered. The installation initiated discussion with the WA DOE regarding terminating remedial operations at Site WW-1.

Technical and funding issues delayed the RI/FS for Site SS-39 while technical issues delayed the Priority 3 ROD.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

Plan of action items for Fairchild AFB are grouped below according to program category.

IRP

- Complete Priority 3 ROD in FY04.
- Finalize decision regarding terminating remedial operations and closing out Site WW-1 in FY04.
- Complete second 5-year review in FY05.
- Initiate RD at Site SD-37 in FY05.

MMRP

- Begin preliminary assessments in FY05.

| | | | |
|----------------------|---|--|------------------------|
| FFID: | WV39799F789200 | Media Affected: | Groundwater and soil |
| Size: | 12 acres of former 16,000-acre government plant | Funding to Date: | \$0.7 million |
| Mission: | Manufactured smokeless powder (private party operated a batch chemical plant) | Estimated Cost to Completion (Completion Year): | \$1.9 million (FY2109) |
| HRS Score: | 36.3; placed on NPL in September 1983 | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY2012 |
| Contaminants: | Dioxin, organic and inorganic chemicals, and metals | Five-Year Review Status: | N/A |



Progress to Date

Fike-Artel Chemical 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 and feasibility study (RI/FS) of groundwater and soil (OU 4); and RI of the cooperative sewage treatment plant (OU 5). The EPA placed the property on the NPL in 1983.

A Military Munitions Response Program (MMRP) project was approved in FY96. The cleanup progress at Fike-Artel Chemical for FY99 through FY02 is detailed below.

In FY99, the potentially responsible parties (PRPs) completed implementation of Phase I of the RI/FS work plan. EPA, the Department of Justice, and the Nitro Redevelopment Authority executed a prospective purchaser agreement to allow industrial redevelopment of the property.

In FY00, the PRPs implemented the approved Phase II RI/FS work plan. The draft RI for soil and groundwater was prepared for regulatory agency review. The stormwater treatment system was operating in compliance with permit requirements.

In FY01, the PRPs completed an additional groundwater study and the FS and risk assessment. The parties submitted the Record of Decision (ROD) to EPA. Additional sampling was conducted to characterize waste and media at Lagoon 3. The contractor, GeoSyntec, completed the cap design for Lagoon 3. The documents were submitted to EPA. The stormwater treatment system operated in compliance with permit requirements. The PRPs aided the Nitro Redevelopment Authority in obtaining all deeds associated with land tracts. The estimate for funding of future projects was reviewed and updated.

In FY02, the PRPs provided their written election to perform the ROD soils remedy and the ROD groundwater remedy. 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 have 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 West Virginia Department of Environmental Protection conducted the 5-year review inspection. A draft archive search report was completed for the entire 16,000 acre former government plant.

FY03 IRP Progress

The United States Army Corps of Engineers completed soils remedy at the Cooperative Sewage Treatment Plant, which was leased by the local development authority as a truck terminal. The OU 4 soils remedy is 99 percent complete and the local development authority has leased the north half as a truck terminal. EPA approved the groundwater pre-RD investigation work plan and sampling and analysis plan. The cost of completing environmental restoration at this property has changed significantly due to estimating criteria and technical issues.

FY03 MMRP Progress

No MMRP actions were performed in FY03.

Plan of Action

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

IRP

- Initiate implementation of the groundwater RD and remedial action work plan in FY04.
- Initiate implementation of the World War I sewers work plan in FY04.
- Complete soil remedy in FY04.
- Complete the ASR in FY04.
- Hold public meeting and provide 30-day comment period for draft ASR in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|------------------------|
| FFID: | CO821162033300 | Media Affected: | Groundwater and soil |
| Size: | 580 acres | Funding to Date: | \$21.1 million |
| Mission: | Provided medical services, training, and research | Estimated Cost to Completion (Completion Year): | \$0.0 million (FY2002) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2002 |
| IAG Status: | None | Five-Year Review Status: | N/A |
| Contaminants: | Petroleum hydrocarbons, asbestos, lead-based paint, and radioactive waste | | |



Progress to Date

In July 1995, the BRAC Commission recommended closure of all facilities at Fitzsimons Army Medical Center, except the Edgar J. McWhethy Army Reserve Center. Studies at the installation identified several sites posing environmental concerns, including aboveground storage tanks (ASTs), underground storage tanks (USTs), landfills, clinical areas, pesticide and herbicide facilities, a wastewater treatment plant, and maintenance areas. The Army formed a BRAC cleanup team (BCT) to investigate and ensure cleanup of all areas of concern and to facilitate property transfer to the Fitzsimons Redevelopment Authority. The installation formed a Restoration Advisory Board (RAB) and completed a community relations plan in FY96.

To date, the Army has transferred all 580 acres in accordance with the Fitzsimons Redevelopment Plan. The cleanup progress at Fitzsimons for FY99 through FY02 is detailed below.

In FY99, an independent technical review concurred with the approach used by Fitzsimons for the salvage yard, the wastewater treatment plant (WWTP), and the landfills. The installation completed a draft work plan for closure of the WWTP. The Army completed cleanup of the salvage yard and an interim removal action at the former Army and Air Force Exchange Service station.

In FY00, the installation completed fieldwork for several areas, the risk assessments for all areas except the greenhouse area, and closed remaining UST and AST sites. The work and finding of suitability to transfer (FOST) for closure of the perinatal research facility were completed, and the BCT reviewed and approved two other FOSTs, which facilitated the transfer of 159 acres.

In FY01, the BCT approved a risk assessment and began a remedial action (RA) at the greenhouse area. The Army completed several response actions and determined that the remedial system at Building 135 was operating properly and successfully. The Army completed the draft remedial investigation, feasibility study, and risk assessment for Landfills 1, 2, 3, and 4. Also, the Army completed an environmental services cooperative agreement with the City of Aurora for the privatization of cleanup upon early transfer of the landfills. The city assumes remediation responsibilities for the landfills upon transfer. The RAB participated in all RA and early transfer discussions, and completed a site tour of remedial and redevelopment activities.

In FY02, the Army completed the RA at the greenhouse area. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

FY03 IRP Progress

The installation completed the finding of suitability for early transfer for Landfills 1, 2, and 4, and the early transfer parcels were transferred to the City of Aurora. The installation reviewed and approved the remedial investigation and feasibility report and proposed plan. All of the excess property underwent early transfer to the City of Aurora.

The operation of the Fitzsimons RAB was transferred to the City of Aurora.

FY03 MMRP Progress

The Army identified no Military Munitions Response Program (MMRP) sites at this installation in FY03.

Plan of Action

Since all remaining cleanup activities and all property have been transferred, this is the last narrative for Fitzsimons Army Medical Center.

IRP

No additional Installation Restoration Program (IRP) actions are required at this installation.

MMRP

No additional MMRP actions are required at this installation.

| | | | |
|----------------------|---|--|---------------------------------|
| FFID: | VA39799F156700 | Media Affected: | Soil, groundwater, and sediment |
| Size: | 975 acres | Funding to Date: | \$25.1 million |
| Mission: | Served as ordnance depot | Estimated Cost to Completion (Completion Year): | \$31.1 million (FY2017) |
| HRS Score: | 70.0; placed on NPL in July 1999 | Final RIP/RC Date for IRP Sites: | FY2018 |
| IAG Status: | IAG under negotiation | Final RIP/RC Date for MMRP Sites: | FY2006 |
| Contaminants: | TNT, solvents, fuels, pesticides, heavy metals, and ordnance and explosives | Five-Year Review Status: | N/A |



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 exceded the property and conveyed it to the Beasley Foundation, Inc. Currently, Tidewater Community College (TCC); the General Electric Company (GE); Dominion Lands, Inc.; Continental Properties; Suffolk Towers LLC; SYSCO Food Services; Hampton Roads Sanitation District; and Interstate 664 occupy the property. Contaminants identified at the property include TNT, solvents, fuels, pesticides, heavy metals, and ordnance and explosives (OE). In FY97, FNOD held its first Restoration Advisory Board meeting. The EPA placed the property on the NPL in 1999.

The cleanup progress at FNOD for FY99 through FY02 is detailed below.

In FY99, EPA placed FNOD on the NPL. In addition, the U.S. Army Corps of Engineers (USACE) conducted a removal action at the impregnite kit area. USACE conducted a geophysical investigation at the James River source area and contracted with the Navy to search for munitions and explosives of concern (MEC) around two World War II piers. None were detected.

In FY00, USACE completed the main burning ground and the horseshoe-shaped pond Phase I remedial investigations (RIs). USACE also performed a baseline ecological assessment across the property and developed a geographic information system to facilitate communication with the regulatory agencies. Munitions removal continued at the main burning ground.

In FY01, USACE completed removal actions at the Nansemond and James River beachfronts and the Track K source area (over 2,660 tons of debris and contaminated soil); completed the offshore ecological risk analysis; and initiated site inspection work for Streeter Creek, TCC Lake, and J Lake. USACE completed offshore MEC investigations, including investigations of suspected unexploded ordnance near the Monitor Merrimac Bridge Tunnel, and continued MEC removal actions on GE and TCC property. The Army established a web site for FNOD

and added bimonthly partnering meetings with the state and federal regulators.

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

FY03 IRP Progress

EPA delisted the impregnite kit area 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 level of community support. The Track K dump was found to have unanticipated contamination, and is no longer proposed for no further action (NFA).

USACE delayed the LUC implementation plan memorandums of agreement with landowners in order to complete the key agreement with the City of Suffolk. The off shore NFA proposed plan (PP) and Record of Decision (ROD) were delayed to complete the human health risk assessment. Negotiations on the interagency agreement (IAG) continued.

The FNOD project delivery team and statewide FUDS Management Action Plan team met approximately every month. In addition, an EPA Region III FUDS Partnering team met 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.

FY03 MMRP Progress

USACE completed the time critical removal action (TCRA) at the TNT area, which is the last FNOD MEC IAG site. It discovered an additional MEC site at the Nansemond River beachfront. Although there is no evidence of chemical weapons material (CWM) storage or disposal at FNOD, the EPA completed a second round of CWM sampling due to the lack of complete site documentation. The sampling yielded negative results. At the end of FY03, USACE had removed a total of 2,302 explosive items, 8,874 lbs of TNT, and over 3 million pounds of scrap and contaminated soil.

Plan of Action

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

IRP

- Complete the off shore NFA PP and ROD in FY04.
- Complete the Track K risk assessment in FY04.
- Close out the GE Pond area of concern in FY04.

MMRP

- Close out the OE TCRA IAG in FY04.

| | | | |
|----------------------|--|--|------------------------|
| FFID: | MO79799F037400 | Media Affected: | Groundwater and soil |
| Size: | 17,232 acres | Funding to Date: | \$229.8 million |
| Mission: | Manufactured TNT and DNT during World War II | Estimated Cost to Completion (Completion Year): | \$6.6 million (FY2015) |
| HRS Score: | 30.26; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2017 |
| IAG Status: | IAG signed in 1990; amended in August 1991 | Final RIP/RC Date for MMRP Sites: | FY2003 |
| Contaminants: | TNT, DNT, lead, asbestos, PCBs, and PAHs | Five-Year Review Status: | Planned FY2004 |



Progress to Date

From 1941 to 1944, the Weldon Spring Ordnance Works 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). The ordnance works was placed on the NPL in February 1990. The U.S. Army Corps of Engineers (USACE) signed an interagency agreement in 1990, which was amended in 1991. A parcel covering approximately 200 acres was acquired by the Atomic Energy Commission in the early 1950s and 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 the DOE as a separate NPL site. USACE formed a Restoration Advisory Board (RAB) in FY97.

Two operable units (OUs) exist at the ordnance works: OU 1, soil and pipeline, and OU 2, groundwater. The cleanup progress at Weldon Spring Ordnance Works for FY99 through FY02 is detailed below.

In FY99, USACE completed OU 1 soil and pipeline incineration activities, however, contaminated soil was found to remain in an area that had been remediated. Groundwater monitoring continued and became focused on determining the response of nitroaromatic concentrations to the OU 1 remedial action (RA).

In FY00, OU 1 RA work continued, including stabilization and disposal of stockpiled lead-contaminated soil, supplemental DNT characterization of selected areas per EPA requirements, and excavation and disposal of DNT-contaminated soil. USACE changed the remedy for disposal of the rest of the contaminated soil to disposal in the adjacent DOE containment cell, which required documentation in an explanation of significant differences (ESD).

In FY01, the construction associated with OU 1 was completed after EPA identified a new area containing TNT-contaminated soil, which required additional remediation. EPA confirmatory sampling identified an area requiring excavation of DNT- and lead-contaminated soil. The ESD for OU 1 was completed. OU 2 groundwater monitoring continued.

Discussions with EPA and the Missouri Department of Natural Resources (MDNR) about the OU 2 feasibility study (FS) and proposed plan (PP) also continued. Quarterly groundwater monitoring will continue for approximately 36 months to acquire data that are representative of post-RA groundwater conditions before submission of a revised FS and PP.

In FY02, DOE/USACE generated the OU 1 closure report and submitted it to MDNR and EPA for comment. They also submitted a draft ESD 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 FS. A work plan for groundwater sampling and well installation was completed. Five proposed monitoring wells were installed to aid in determining the extent of groundwater contamination. Approximately 0.8 bulk cubic yards of TNT-contaminated soil were removed from two locations.

FY03 IRP Progress

The USACE submitted the 5-year review and continued groundwater monitoring. Two additional OU 1 sites, T-13 and T-14, were identified. The USACE modified the work plan for remediation at T-13 leading to a faster execution timeline and awarded a contract for remediation of this site. No further action was required at T-14. USACE used geographic information system technology to present groundwater data more effectively. The cost of completing environmental restoration at this property has changed significantly due to technical issues.

RAB members actively participated in groundwater remediation decisions and the 5-year review process. Monthly coordination meetings were re-initiated with regulatory agencies.

FY03 MMRP Progress

The Army initiated the CTT ranges and site inventory in FY03.

Plan of Action

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

IRP

- Draft and complete the FS, PP, and Record of Decision for OU 2 in FY04.
- Complete construction and closure of OU 1 in FY04.
- Continue groundwater monitoring as may be required as part of the OU 2 selected remedy in FY04-FY05.

MMRP

- Complete CTT ranges and site inventory.

| | | | |
|----------------------|---------------------------------|--|------------------------|
| FFID: | AR621372018700 | Media Affected: | Groundwater and soil |
| Size: | 71,359 acres | Funding to Date: | \$29.4 million |
| Mission: | Light infantry and mobilization | Estimated Cost to Completion (Completion Year): | \$1.3 million (FY2001) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY1999 |
| Contaminants: | POLs, DDT, Chlordane, and TCE | Five-Year Review Status: | Planned |



Progress to Date

When in operation, Fort Chaffee supported light infantry and mobilization missions. In July 1995, the BRAC Commission recommended closure of Fort Chaffee, except for the minimum essential buildings and ranges for a Reserve component training enclave. The installation closed in FY97. Primary site types include underground storage tanks, a fire training area, landfills, and hazardous waste and hazardous material storage areas. Primary contaminants of concern include petroleum/oil/lubricants (POLs) in groundwater and soil; solvents in groundwater; and pesticides in soil. The community formed a local redevelopment authority in FY95. In FY96, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB).

The BRAC parcel available for transfer is approximately 7,037 acres. The installation has completed nine Records of Decision (RODs), including one signed in FY03. Seven of the signed RODs included no further action (NFA) provisions. The cleanup progress at Fort Chaffee for FY99 through FY02 is detailed below.

In FY99, the installation completed all previously funded work on the enclave sites, passing full responsibility for the sites to the National Guard. The BCT agreed to prioritize all environmental sites and to address them in four NFA RODs and one limited action ROD. RODs I, II, and III were completed, which cleared 37 sites from the enclave and BRAC excess property. The Army completed a finding of suitability to transfer (FOST) for 4,617 acres of CERFA-uncontaminated acreage. The U.S. Army Corps of Engineers completed an archive search report (ASR) for the installation. The Army approved a No Further DoD Action explosive safety submission as a result of the ASR.

In FY00, presumptive remedies through non-time critical removal actions were implemented at two landfill sites. The Army initiated cap construction at landfill site 1 and completed the cap for landfill site 32. The Army split FOST II into two parts (FOSTs II and III) because of regulator concern about possible contamination from adjacent property. FOST II was completed for 1,453 acres, and FOST III, for 973 acres. These FOSTs were transmitted to EPA and the state for final concurrence. The installation completed RODs IIID and IV for NFA, clearing an additional eight sites on enclave and excess property. The installation initiated cleanup of two additional environmental sites when land within the enclave was designated for transfer to the public.

In FY01, the Army completed FOST IV, freeing an additional 83 acres for transfer. Construction of the cap at Landfill 1 was completed. The installation completed characterization and remediation of two sites, Pesticide Handling Area Building 477 (FTCH-042), and the HW Satellite Accumulation Point Building 460 (FTCH-21E). The soil removal action at FTCH-21E was completed on an accelerated schedule by using innovative sampling and monitoring technology. In addition, the installation used an expedited site characterization approach whereby the direction of fieldwork was developed on a day-by-day basis from the results of data collected. The installation completed remedial fieldwork at landfill site 1. Fort Chaffee met its remedy-in-place date through excellent partnering with regulators, innovative field techniques and adept use of streamlining processes.

In FY02, the Army signed the ROD V and amended the action memorandum for FTCH-042. The closeout reports for FTCH-001 and FTCH-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 cost of completing environmental restoration at this installation increased due to estimating criteria issues. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

FY03 IRP Progress

The installation briefed stakeholders on the LUCIP for FTCH-001, -013, -21E, and -032 and subsequently completed the document. The installation signed ROD VI, which included no further action for FTCH-045 and FTCH-013, and specified an industrial use control and 5-year reviews for FTCH-013. The installation signed FOST V to facilitate the transfer of the remaining acreage at Fort Chaffee. The cost of completing environmental restoration at this installation has changed significantly due to regulatory and technical issues.

Regulatory issues delayed the closeout of the BCT and RAB.

FY03 MMRP Progress

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 investigated previously and now listed as response complete. Four are low risk areas and the remaining two are negligible risk.

Plan of Action

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

IRP

- Provide stakeholders with the supporting documents for the finalized LUCIP in FY04.
- Issue the first FTCH-21E annual groundwater monitoring report and review it with the BCT and RAB in FY04.
- Closeout the BCT and RAB in FY04.
- Relocate administrative files and close the site environmental office in FY04.

MMRP

There are no Military Munitions Response Program (MMRP) actions scheduled for FY04 or FY05.

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|--------------------|---|--|--|
| FFID: | MO79799F034700 | Contaminants: | VOCs, including TCE and carbon tetrachloride |
| Size: | 42,786 acres | Media Affected: | Groundwater and soil |
| Mission: | Served as World War II Signal Corps training facility; Korean conflict-era reception station; disciplinary barracks; Atlas missile rocket engine manufacture and testing facility; and jet engine and component manufacture and repair facility | Funding to Date: | \$1.8 million |
| HRS Score: | 50.00; placed on NPL in October 1999 | Estimated Cost to Completion (Completion Year): | \$33.7 million (FY2037) |
| IAG Status: | None | Final RIP/RC Date for IRP Sites: | FY2017 |
| | | Final RIP/RC Date for MMRP Sites: | FY2039 |
| | | Five-Year Review Status: | N/A |



Progress to Date

The former Fort Crowder is located near the city of Neosho, in southwestern Missouri. The Army used the property during World War II as a Signal Corps training center and again during the Korean conflict as a reception station. In 1956, approximately 3,650 acres were transferred to the Air Force for the establishment of Air Force Plant 65. Approximately 4,358 acres were leased to the Missouri National Guard for a training facility, known as Camp Crowder. Air Force Plant 65 operated until 1968 as an Atlas missile manufacturing and testing facility, and later, until 1980, as a jet engine overhaul and testing facility. Plant 65 was a government-owned, contractor-operated facility. The operating contractors were the Rocketdyne Division of North American Aviation (now Boeing) and Continental Aviation (now Allegheny Technologies). The EPA placed the property on the NPL in 1999.

The cleanup progress for Fort Crowder for FY99 through FY02 is detailed below.

In FY99, the United States Army Corps of Engineers (USACE), Kansas City District, signed two administrative orders on consent for removal actions. USACE monitored a removal action to connect approximately 225 residents to city water executed by a private potentially responsible party (PRP). A second removal action by a private PRP was monitored as well.

In FY00, USACE contributed to planning the technical aspects of an additional source removal action. USACE also continued to monitor and review the successful execution of two administrative orders. A portion of Air Force Plant 65 is located on the federally owned Camp Crowder. The National Guard Bureau directed a removal action on this property and planned a remedial investigation (RI) and a feasibility study.

In FY01, the PRP group completed planning and began an alternate dispute resolution process. USACE continued technical and legal support to the Department of Justice (DOJ). USACE also monitored and reviewed work performed by PRPs and participated in planning a pilot study.

In FY02, USACE continued to provide support to DOJ. USACE planned and negotiated an engineering study for a source removal. USACE monitored the execution of work done by private PRPs and planned and negotiated an additional source removal. A site visit to a potential

munitions area and a former chemical warfare materiel area was conducted. USACE met with a landowner to discuss future actions.

FY03 IRP Progress

The 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.

FY03 MMRP Progress

DoD completed a geophysical study of a potential chemical warfare materiel site. In addition, DoD initiated a review of potential military munitions and chemical warfare materiel areas.

Plan of Action

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

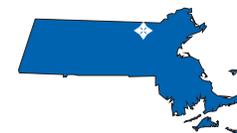
IRP

- Provide technical and legal support to DOJ in FY04.
- Monitor execution of several source area investigations and removal actions in FY04.
- Assist in planning and estimating a RI to be conducted by the private PRPs in FY04.
- Continue efforts with DOJ to obtain settlement of DoD liability for non-Military Munitions Response Program restoration in FY04.

MMRP

- Begin intrusive investigations of the potential chemical warfare materiel site in FY04.

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|----------------------|---|--|--------------------------|
| FFID: | MA121402027000 | Media Affected: | Groundwater and soil |
| Size: | 9,302 acres | Funding to Date: | \$136.9 million |
| Mission: | Support Reserve component training | Estimated Cost to Completion (Completion Year): | \$12.4 million (FY2004) |
| HRS Score: | 42.24; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | IAG signed in November 1991 | Final RIP/RC Date for MMRP Sites: | FY1993 |
| Contaminants: | VOCs, heavy metals, petroleum products, PCBs, pesticides, herbicides, and explosive compounds | Five-Year Review Status: | Completed FY2001/Planned |



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. 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 FY93, the Army investigated the training areas and ranges for possible unexploded ordnance (UXO), but no ordnance was found. In FY94, the commander 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. A 5-year review was approved in FY01.

Environmental investigations since FY89 identified 77 sites with 324 BRAC areas of concern (AOCs). The Army and EPA have signed seven Records of Decision (RODs) to date. From FY97 through FY99, the Army conveyed 222 acres to the U.S. Bureau of Prisons; 22 acres to the U.S. Department of Labor; and 836 acres to the U.S. Fish and Wildlife Service (USFWS). The cleanup progress at Fort Devens for FY99 through FY02 is detailed below.

In FY99, the installation signed two RODs for eight sites. The Army transferred an 836-acre parcel to the USFWS and issued a revised proposed plan for AOC 69W. The Army also conducted removal actions at AOCs 32, 43A, and 57 and installed microwells for long-term monitoring at Shepley's Hill Landfill. The installation signed a no further action (NFA) decision document (DD) for the former maintenance shop and initiated final remedial investigations/feasibility studies (RI/FSs) for AOCs 50 and 57.

In FY00, the installation completed RIs for AOCs 50 and 57. The Army made the final decision to remediate the landfill sites, with on-site consolidation, and began remedy construction. The installation completed the final draft report for the 5-year reviews of all ROD sites. An NFA DD was signed for AOC 61Z, a former waste accumulation area. The installation conducted a removal action at AOC 17, the former railroad house.

In FY01, the installation completed the FS and the ROD for AOC 57. Construction continued on the permanent on-site landfill. The draft FS for AOC 50 was completed. The installation obtained approval of the final 5-year review report. Excavation of AOCs 9, 11, 40, and 41 and Study Areas (SAs) 12 and 13 for transport to a permanent landfill began. The Army signed an environmental services cooperative agreement (ESCA) with the local redevelopment authority (LRA) for demolition of the former military housing areas and removal of pesticide-contaminated soil underneath the housing units.

In FY02, the Army completed excavation and transport to a permanent landfill at AOCs 9, 11, 40, 41, and SAs 12 and 13. 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 installation conducted a tour of all environmental restoration sites. The BCT addressed regulatory issues, concerns, and comments for all remaining sites undergoing environmental restoration. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions, or munitions constituents.

FY03 IRP Progress

The installation completed the final FS and draft ROD for AOC 50. The LRA 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.

Regulatory issues delayed the installation of the contingency remedy specified in the 1995 ROD. The Army is preparing an explanation of significant differences (ESD) for a contingency remedy to address arsenic from the Shepley's Hill Landfill.

A newsletter was generated for the community.

FY03 MMRP Progress

The Army completed the BRAC portion of the CTT range and site inventory and initiated the active sites portion of the inventory.

Plan of Action

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

IRP

- Install the modified contingency remedy and complete an ESD for the Shepley's Hill Landfill in FY04.
- Complete remediation and site investigation reports on contaminants discovered in the housing areas in FY04.
- Complete remedial action at AOC 57 in FY04.
- Complete ROD for site AOC 50 in FY04.

MMRP

- Complete the active sites portion of the inventory in FY04.

| | | | |
|----------------------|--|--|--|
| FFID: | NJ221042027500 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 30,997 acres | Funding to Date: | \$11.5 million |
| Mission: | Provide training and Reserve support | Estimated Cost to Completion (Completion Year): | \$9.6 million (FY2017) |
| HRS Score: | 37.40; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2006 |
| IAG Status: | Federal facility agreement signed in September 1991 | Final RIP/RC Date for MMRP Sites: | FY2017 |
| Contaminants: | Heavy metals, VOCs, POLs, chlorinated solvents, and PCBs | Five-Year Review Status: | Completed FY1999/Planned |



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. In FY95, the BRAC Commission recommended realignment of Fort Dix, with retention of land and facilities for Reserve component training. The installation formed a Restoration Advisory Board in FY96. The installation completed a 5-year review in FY99.

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. The cleanup progress at Fort Dix for FY99 through FY02 is detailed below.

In FY99, the installation started RIs and feasibility studies (FS) for the Range Landfill and the ANC-2 Storage Area sites and a site investigation for leaking UST sites with residual contamination. The Army Environmental Center conducted an independent technical review of five sites. The sanitary landfill was added to EPA's construction complete list. The Army completed the preliminary remedial action closeout report and the 5-year review report for the landfill.

In FY00, Fort Dix petitioned EPA to remove the sanitary landfill from the NPL. The installation completed final proposed plans (PPs) and draft RODs for the ANC-9 landfill and the golf course pesticide mixing and storage area. No further action (NFA) PPs were drafted for several areas and were submitted for review. The installation completed the final RI and the draft FS for the Armament Research and Development Center (ARDC) test facility.

In FY01, the Army reached an agreement with regulators on a remedy for the taxi stand site, Property Disposal Office (PDO) landfill, EPIC-8 landfill, ARDC site, and Magazine-1 (MAG-1) site. The installation completed site investigations of residual contamination at Buildings 7061

and 5390, and New Egypt Armory. Monitoring continued at the sanitary landfill. PPs for the EPIC-8 landfill and PDO landfill were completed. The installation received an NFA letter and a covenant not to sue from the New Jersey Department of Environmental Protection (NJDEP) for five former hydrocarbon spill sites, two motor pool spill sites, the MAG-2 area, and the old sewage treatment plant site. EPA, NJDEP, and Pinelands Commission reviewed a PP for monitored natural attenuation for the Range Impact Area 4400 Area spill site. An investigation of previously removed USTs was conducted.

In FY02, the Army initiated remedial design and remedial action at the taxi stand site and an RI/FS at the pesticide control shop. The UST remedial report for Buildings 5390, 7061 and the golf course site were all completed. The installation completed RODs for EPIC-8 landfill, PDO landfill, hazardous waste storage area, paint shop, polychlorinated biphenyls (PCB) transformer storage area, Bivouac 5 wash rack, MAG-1 area, and the golf course pesticide mixing area. Fort Dix continued to pursue deletion of the sanitary landfill from the NPL.

FY03 IRP Progress

The Army included MAG-1 site, ARDC site, leaking USTs 7061, 5390, and golf course leaking USTs in a remediation contract for remediation of fourteen 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; however, additional delineation work is required around four monitoring wells that exceed criteria and standards for VOCs and metals that could increase long-term monitoring. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The RI/FS for the New Egypt Armory was delayed due technical issues.

FY03 MMRP Progress

The Army completed the inventory of closed, transferred, and transferring 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.

Plan of Action

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

IRP

- Conduct 5-year review of the Fort Dix Sanitary Landfill NPL site in FY04.
- Conduct further delineation of groundwater surrounding four monitoring wells at the Fort Dix Sanitary Landfill in FY04.
- Conduct remediation at 14 Fort Dix sites in FY04-FY05.
- Complete remediation of New Egypt Armory PCB-contaminated soils in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | NJ221402027500 | Media Affected: | Groundwater, soil, and building interior |
| Size: | 31,065 acres | Funding to Date: | \$30.7 million |
| Mission: | Provide training and mobilization | Estimated Cost to Completion (Completion Year): | \$0.0 million (FY2001) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | Federal facility agreement signed in 1991 | Final RIP/RC Date for MMRP Sites: | FY2000 |
| Contaminants: | Chlorinated solvents, heavy metals, PCBs, and asbestos | Five-Year Review Status: | N/A |



Progress to Date

Fort Dix supported training and mobilization efforts for the Army. The Army signed a federal facility agreement in 1991. In July 1995, the BRAC Commission recommended realignment of Fort Dix and transfer of excess property. 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 has a Restoration Advisory Board (RAB).

The cleanup progress at Fort Dix for FY99 through FY02 is detailed below.

In FY99, the installation completed a radiological archive search and the final environmental condition of property (ECP) documents for transfer of property to the Air Force, Navy, Coast Guard, and Federal Bureau of Prisons. The installation also initiated a site inspection (SI) at Facility 5675.

In FY00, the installation completed draft investigation reports for two potential underground storage tank (UST) sites. The asbestos abatement for BRAC Building 8401 was completed. The installation completed an asbestos survey and prepared a draft supplemental environmental baseline survey (EBS) for additional BRAC property (Walson Hospital complex). The draft supplemental EBS report and a draft ECP document for additional BRAC property (Buildings 5651, 5653, and 5654) were completed.

In FY01, preliminary sampling results from an investigation at Facilities 5656 and 5675 demonstrated that soil and groundwater remediation was not needed. The installation conducted an asbestos inspection and sampling survey of Walson Hospital complex Buildings 5250, 5251, and 5252. Asbestos abatement at the Walson Hospital heating plant (debris removal) and mid-state correctional facility (MSCF) Building 8401 was completed. Also in FY01, the installation submitted a draft investigation and UST closure report (Parcel 48) for regulatory review. It removed the two USTs identified by the investigation and performed soil sampling. A supplemental EBS for the Walson Hospital complex was completed. The installation completed the ECP document for property transfer of Buildings 5651, 5653, and 5654. The Army completed a final SI report for ordnance for the MSCF Building 8401 and found no ordnance.

In FY02, the installation submitted the SI for the Walson Hospital complex for regulatory review. The cost to complete at this installation increased due to technical issues. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. The RAB continued to hold meetings and review documents.

FY03 IRP Progress

The installation completed asbestos abatement at the Walson Hospital complex and received EPA concurrence on the close out report.

Technical issues delayed the completion of the SI for PCBs at the Air Mobility Warfare Center. Regulatory issues delayed approval of the operational plans, which delayed initiation of SI fieldwork and the subsequent report. The installation initiated fieldwork at the Walson Hospital complex.

The RAB continued to receive and review documents. No RAB meetings were held in FY03.

FY03 MMRP Progress

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 portion of the installation.

Plan of Action

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

IRP

- Complete SI and finish SI report for Walson Hospital complex in FY04.
- Complete SI for PCBs at the Air Mobility Warfare Center in FY04-FY05.
- Remediate PCB releases in Areas 5700 and 5800 in FY04-FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|--|
| FFID: | VA321372032100 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 8,228 acres | Funding to Date: | \$46.6 million |
| Mission: | Home of the Army Transportation Center; provide training in all modes of transportation, including rail and marine; aviation maintenance; involved in amphibious operations | Estimated Cost to Completion (Completion Year): | \$70.8 million (FY2017) |
| HRS Score: | 50.00; placed on NPL in December 1994 | Final RIP/RC Date for IRP Sites: | FY2009 |
| IAG Status: | Federal facility agreement under negotiation | Final RIP/RC Date for MMRP Sites: | FY2017 |
| Contaminants: | Petroleum products, PCBs, VOCs, pesticides, and heavy metals | Five-Year Review Status: | Planned |



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. 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, polyaromatic hydrocarbons, 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 (RAB). The community relations plan (CRP) was updated in FY00.

Investigations have identified 27 sites at the installation. Two Records of Decision (RODs) have been signed to date. The cleanup progress at Fort Eustis for FY99 through FY02 is detailed below.

In FY99, the installation completed the capping of contaminated sediment and the installation of two aerators to enhance water quality at Brown's Lake. Advertisements were placed in two local newspapers to determine interest in the formation of a RAB. Very limited interest caused the installation to conclude that a RAB was not necessary.

In FY00, the installation completed removal of over 6,000 tons of PCB-contaminated sediment from Bailey Creek. The installation prepared draft work plans for the Fire Training Area (FTA) area and Bailey Creek. The CRP was updated.

In FY01, the installation developed a Web site, which provided the local community with cleanup information through access to administrative record documents. The free product recovery system operated at two UST sites. Long-term monitoring of groundwater and surface water at one closed landfill and operation of a methane soil vapor extraction system (SVES) at another closed landfill continued. Fort Eustis completed a feasibility study (FS) and proposed plan, held a public

meeting, and completed a ROD for the DOL Storage Yard. A deep monitoring well was installed, and sediment, soil, and groundwater samples were collected at the FTA.

In FY02, the Army awarded a treatability study contract at the 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 installation held two technical review committee (TRC) meetings off-post that were open to the public. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions or munitions constituents.

FY03 IRP Progress

The installation completed the remedial action (RA) at the DOL Yard. The Army signed the final ROD for the Oil Sludge Holding Pond and awarded a RA contract. The installation submitted the Bailey Creek draft FS for regulatory review. The Army awarded a contract for additional sediment and fish tissue sampling at Eustis Lake. The results will be incorporated into the FS. Free product recovery continues at two UST sites. Liquid vapor extraction (LVE) was also initiated at these sites. The methane SVES continues to operate at Landfill 7. The Army awarded a contract for preparation of a 50 percent design stage for the final cap renovation of Landfill 15. The Army completed the federal facilities agreement (FFA) and submitted it for regulatory review; however, the FFA will not be signed until a resolution has been reached on the land use control dispute. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Two TRC meetings were held off-post.

FY03 MMRP Progress

The Army completed the CTT range and site inventory report. Twelve Military Munitions Response Program (MMRP) sites were identified at this installation.

Plan of Action

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

IRP

- Complete RA at the Oil Sludge Holding Pond in FY04.
- Complete RODs for Bailey Creek, Brown's Lake, Eustis Lake, and Milstead Island Creek in FY04.
- Conduct monthly LVE events at Army-Air Force Exchange Service Station and the Helicopter Maintenance Area, and continue operation of the SVES at Landfill 7 in FY04.
- Initiate treatability study at the FTA in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

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| FFID: MD321022056700 | Media Affected: Groundwater and soil |
| Size: 13,680 acres | Funding to Date: \$71.7 million |
| Mission: Serve as administrative post for various DoD tenants | Estimated Cost to Completion (Completion Year): \$15.5 million (FY2018) |
| HRS Score: 52.0; placed on NPL in July 1998 | Final RIP/RC Date for IRP Sites: FY2010 |
| IAG Status: Federal facility agreement under negotiation | Final RIP/RC Date for MMRP Sites: FY2003 |
| Contaminants: Heavy metals, petroleum hydrocarbons, VOCs, and UXO | Five-Year Review Status: Underway |



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. In July 1995, the Commission recommended additional realignment, reducing Kimbrough Army Community Hospital to a clinic. 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. EPA placed Fort Meade on the NPL in July 1998.

To date, three No Further Action (NFA) Records of Decision (ROD) have been completed, two for Tipton Airfield and one for the clean fill dump. The cleanup progress at Fort Meade for FY99 through FY02 is detailed below.

In FY99, Fort Meade began quarterly monitoring at the post laundry facility. The installation completed capping of the active sanitary landfill and completed remedial investigations (RIs) and feasibility studies (FSs) at the trap and skeet range and the incinerator site. The incinerator site required NFA. The installation completed the proposed plan (PP), a final RI report for two sites, and two NFA RODs for Tipton Airfield. EPA delisted the Tipton Airfield parcel from the NPL in November 1999. Between FY99 and FY00, two rounds of soil and groundwater investigations were completed at the solid waste management unit (SWMU) locations.

In FY00, the installation completed the PP and NFA ROD for the clean fill dump.

In FY01, the installation continued RI/FS activities and discussions with the regulatory community concerning the ordnance demolition area (ODA). Long-term monitoring began at the Tipton Airfield and the clean fill dump site. Initial screening of SWMUs throughout the installation continued. The installation continued work on its site management plan (SMP) and federal facility agreement (FFA).

In FY02, the installation continued long-term monitoring activities at the clean fill dump and Tipton Airfield. Fort Meade completed follow-up

investigations of SWMUs requiring further action. Approximately 50 of the original 152 SWMUs need no further action. The installation completed the draft SMP and the FFA. Offsite wells were approved and drilled on the south side of the closed sanitary landfill to monitor possible offsite migration of contaminants. The RAB continued involvement in installation restoration activities including document reviews, training sessions, and other activities. 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).

FY03 IRP Progress

The installation completed the FS and PP for ODA. Long-term monitoring activities for the BRAC parcel continued. The 5-year review for Tipton Airfield was underway. RI work plans were initiated for many of the CERCLA SWMUs. The cost of completing environmental restoration at this installation has changed significantly due to regulatory and technical issues.

Regulatory issues delayed the decision document (DD) for ODA and the closeout of the Post Laundry Facility, Battery Shop, and Granite Nike Control Site.

The installation continued partnering with the RAB in installation restoration activities including document review, site tours and training.

FY03 MMRP Progress

The installation completed the BRAC CTT range and site inventory. The Army initiated the non-time-critical removal action (NTCRA) at the Patuxent Research Refuge.

Plan of Action

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

IRP

- Complete DD for the ODA in FY04.
- Continue long-term monitoring activities for the BRAC parcel in FY04.

- Complete the 5-year review for the Tipton Airfield segment of the BRAC parcel in FY04.
- Finalize remaining RI work plans for the CERCLA SWMUs in FY04.
- Continue efforts at Post Laundry Facility and complete RI in FY05.
- Close out Battery Shop and Granite Nike Control Site in FY05.

MMRP

- Complete the NTCRA at Patuxent Research Refuge in FY04.

| | | | |
|--------------------|--|--|---|
| FFID: | WA021402050600 | Contaminants: | VOCs, PCBs, heavy metals, waste oils and fuels, coal liquification wastes, PAHs, solvents, and battery electrolytes |
| Size: | 86,176 acres | Media Affected: | Groundwater and soil |
| Mission: | Provide I Corps Headquarters; plan and execute Pacific, NATO, or other contingency missions; provide troop training, airfield, medical center, and logistics | Funding to Date: | \$63.0 million |
| 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 | Estimated Cost to Completion (Completion Year): | \$31.7 million (FY2041) |
| IAG Status: | IAG signed in January 1990 | Final RIP/RC Date for IRP Sites: | FY2010 |
| | | Five-Year Review Status: | Completed FY1997 and FY2002/Planned |



Progress to Date

EPA placed two Fort Lewis sites, Landfill No. 5 and the Logistics Center, on the NPL after investigations revealed soil and groundwater contamination. EPA removed Landfill No. 5 from the NPL in FY95. Additional sites include landfills, disposal pits, contaminated buildings, abandoned 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 the Logistics Center, Landfill 4, and the Illicit PCB Dump Site in FY02.

Three Records of Decision (RODs) have been signed to date. The cleanup progress at Fort Lewis for FY99 through FY02 is detailed below.

In FY99, planning began on a treatability test for six-phase soil heating at Landfill No. 2. The clay cap at the polychlorinated biphenyl (PCB) dump site was inspected and found serviceable, and a new fence was installed around the area.

In FY00, the Army completed site closeout at Vancouver Barracks. An old explosive ordnance disposal site remedial investigation (RI) was completed. The contract to remove containerized sources (drums of trichloroethylene (TCE)) from Landfill No. 2 was completed. The Logistics Center lower aquifer was investigated for TCE contamination. The installation's contractor completed the old explosive ordnance disposal site remedial investigation (RI).

In FY01, removal of 29,000 pounds of TCE in drums (Logistics Center contaminating source) and 250 tons of RCRA waste occurred during the Landfill No. 2 vadose zone source removal project. The engineering evaluation and cost analysis report for Landfill No. 2 and Logistics Center remediation was completed. The two pump and treat systems at the Logistics Center continued operation. EPA Region 10 approved innovative biotechnology treatment of dense non-aqueous phase liquid (DNAPL). The Army used Stratiprobe tools and sonic drilling to characterize source contamination in the unconfined aquifer at Landfill No. 2.

In FY02, the installation completed a 5-year review for the Logistics Center, Landfill 4, and the Illicit PCB Dump Site. It also completed a Phase II RI at Landfill No. 2 (Logistics Center) and thermal specifications for 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.

FY03 IRP Progress

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 Landfill 2 vadose zone and unconfined aquifer TCE DNAPL began. The monitoring of Landfill No. 4 contaminants (TCE) continued. The installation completed bioremediation feasibility studies for TCE. The Army 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 cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The installation hosted quarterly work group meetings with scientists and regulators from the U.S. Corps of Engineers, the U.S. Geological Survey, EPA, and the Pacific Northwest National Laboratory to assist the remediation of the Logistics Center. An open house for the public was held, and a newsletter distributed reporting on status to date for site remediation activities and to solicit RAB interest.

FY03 MMRP Progress

The Army initiated the closed, transferring and transferred (CTT) range and site inventory for Fort Lewis and Vancouver Barracks.

Plan of Action

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

IRP

- Operate two pump and treat systems at the Logistics Center for containment and treatment of upper aquifer TCE plume in FY04.
- Complete thermal remediation of Area 1 at the Logistics Center for the vadose zone and unconfined aquifer TCE NAPL in FY04.
- Continue work on studies involving enhanced mass transfer, assessment of flux, numerical modeling to support a monitored

natural attenuation decision, and a vapor intrusion study of Madigan Housing Area in FY04.

- Complete and publish the lower aquifer study in FY04.

MMRP

- Complete the CTT range and site inventory in FY04.

| | |
|----------------------|--|
| FFID: | AL421372056200 |
| Size: | 41,191 acres |
| Mission: | House the U.S. Army Chemical School, the U.S. Army Military Police School, and the DoD Polygraph Institute |
| HRS Score: | N/A |
| IAG Status: | None |
| Contaminants: | VOCs, SVOCs, pesticides, explosives, metals, UXO, radioactive sources, and non-stockpile chemical warfare materiel |

| | |
|--|--------------------------|
| Media Affected: | Groundwater and soil |
| Funding to Date: | \$166.0 million |
| Estimated Cost to Completion (Completion Year): | \$120.9 million (FY2017) |
| Final RIP/RC Date for IRP Sites: | FY2011 |
| Final RIP/RC Date for MMRP Sites: | FY2012 |
| Five-Year Review Status: | N/A |



Progress to Date

In July 1995, the BRAC Commission recommended closure of most Fort McClellan facilities. The Army will retain 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 (USTs); landfills; incinerators; storage handling areas for toxic and hazardous materials; and chemical agent and radioactive substance training, storage, and disposal areas. Trichloroethylene (TCE) and 1,1,2,2-tetrachloroethane are the main contaminants affecting groundwater. In FY95, EPA concluded that environmental conditions at Fort McClellan did not warrant its placement on the NPL. During FY95, the Army established information repositories at three locations, and the community formed a local redevelopment authority. In FY96, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB). The RAB received a technical assistance for public participation (TAPP) grant in FY03. The installation completed its environmental baseline survey and BRAC cleanup plan version I in FY98.

Environmental studies have identified 140 sites at the installation. Seventy-nine decision documents, four action memoranda, and one Record of Decision (ROD) have been completed to date. The Army has transferred over 17,966 acres. The cleanup progress at Fort McClellan for FY99 through FY02 is detailed below.

In FY99, the installation completed fieldwork for 57 previously unevaluated parcels. The Army published a ROD for its environmental impact statement in the Federal Register. It also performed removal actions for four indoor pistol ranges, and prepared a finding of suitability to lease (FOSL) for leasing 355 acres to the City of Anniston for parks and recreation. The installation completed an Archives Search Report for ordnance, ammunition, and explosives, and chemical warfare materiel (CWM).

In FY00, the installation completed a radiological historical site assessment. The U.S. Fish and Wildlife Service and Fort McClellan signed a memorandum of agreement, establishing natural and cultural resource management responsibilities for the undeveloped main post property. The installation completed 33 SIs for previously

uncharacterized parcels. The Army conducted radiological release surveys for 28 radiological commodity storage sites. The installation conducted an engineering evaluation and cost analysis (EE/CA) to evaluate potential cleanup methods and associated costs for remediating lead-contaminated soil and sediment at three small-arms ranges and one skeet range. USTs were removed from a former gas station. The installation completed a FOSL for leasing 2,387 acres to the Joint Powers Authority. The Army approved a finding of suitability to transfer (FOST) for 1,971 acres; the first transfer of 1,297 acres occurred on December 12, 2000. The installation completed a general installationwide work plan for the ordnance and explosives (OE) field program that is supplemented by site-specific work plans. It also completed the ordnance and explosives EE/CA for the Eastern Bypass and the M2 Parcel.

In FY01, the Army Environmental Center technical assistance team reviewed the draft fill area EE/CA report. The team presented its findings and recommendations on the EE/CA and received regulatory comments. Decommissioning activities at Rideout Field burial mound began. The environmental condition of property determination for two federal-to-federal transfers, 19.3 acres to the Department of Health and Human Services, and 64.27 acres to the Department of Justice, was approved. The BRAC cleanup team reviewed and recommended approval for four FOSTs for 301 acres.

In FY02, contracting issues delayed the decommissioning activities at Rideout Field burial mound. The Fort McClellan RAB requested and received a technical assistance for public participation contract for technical evaluation and training. Two FOSTs were completed and the installation transferred approximately 2,847 acres. The BCT reviewed the EE/CAs for the M1.01 Parcel, 33 CWM sites, and 11 fill areas. The installation completed a CWM EE/CA for 33 sites; no CWM was found. It also 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.

FY03 IRP Progress

The installation completed decommissioning activities at Rideout Field burial mound and submitted the final report to the Nuclear Regulatory Commission. The installation is awaiting NRC concurrence on the report and license termination. The EE/CA for 11 fill areas was completed. The installation completed fieldwork for SIs at the historical ranges. The Army

entered into an environmental services cooperative agreement (ESCA) with the local reuse authority (LRA), which transferred the responsibility for cleanup of 13 sites to the LRA and allowed for the early transfer conveyance of approximately 4,692 acres to the LRA. The \$48 million agreement was the largest ESCA awarded by the Army and the first ever privatization of a unexploded ordnance (UXO) cleanup. The Army completed four FOSTs for the transfer of approximately 498 acres. One environmental condition of property was completed for a federal-to-federal transfer of approximately 7,759 acres. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

The RAB received another TAPP contract for technical evaluation and training. The BCT holds facilitated monthly meetings.

FY03 MMRP Progress

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 Army completed the closed, transferring, and transferred ranges and sites inventory Report. Military Munitions Response Program (MMRP) sites were identified at this installation.

Plan of Action

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

IRP

- Complete Phase II ESCA on remaining LRA property in FY04.

MMRP

- Complete the Bravo Area EE/CA in FY04.
- Complete the Charlie Area EE/CA in FY04.
- Complete the Water Tower Removal Action in FY04.
- Complete the Removal Action in the Mountain Longleaf Pine NWR in FY04.
- Complete the Eastern Bypass final removal report in FY04.

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| FFID: NJ221382059700 | Media Affected: Groundwater and soil |  |
| Size: 1,338 acres | Funding to Date: \$23.7 million | |
| Mission: N/A | Estimated Cost to Completion (Completion Year): \$3.1 million (FY2008) | |
| HRS Score: None | Final RIP/RC Date for IRP Sites: FY2003 | |
| IAG Status: Federal facility agreement signed in July 1990 | Five-Year Review Status: Planned | |
| Contaminants: Petroleum hydrocarbons, VOCs, SVOCs, PCBs, heavy metals, and radionuclides | | |

Progress to Date

In July 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. In FY94, an enhanced preliminary assessment of the BRAC parcels identified 32 sites in the Evans Area and 8 sites in the Olmstead Housing Area. Prominent sites are landfills, underground storage tanks (USTs), 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 (RAB).

Environmental studies identified 37 sites in three areas of the installation. The cleanup progress at Fort Monmouth for FY99 through FY02 is detailed below.

In FY99, the installation decommissioned the sewage treatment plant site and removed underground neutralization tanks. Archaeological field investigations for Parcels A, B, and E uncovered human remains, believed to be Native American in origin. The Army initiated contact with the federally recognized tribes, in accordance with the Native American Graves Protection and Repatriation Act.

In FY00, the Army completed a preliminary groundwater model in Parcels A, B, C, and D. The Army completed removal actions for metals- and PCB-contaminated soil at the metal plating facility, assessed the PCB spill site and contracted for its remediation. All cleanup activities at UST sites and remediation of mercury in the sewer system were completed. The installation completed a finding of suitability to transfer (FOST) for Parcel E.

In FY01, the Army completed all radiological disposal actions and obtained Nuclear Regulatory Commission unrestricted use approval for the remainder of the Evans Area. The Army completed removal

action reports for the metal plating facility and the mercury remediation sites and the New Jersey Department of Environmental Protection (NJDEP) issued no further action (NFA) letters. PCB soil contamination was identified within Parcel C and D, adjoining the electrical substation (Building 9112) as well as adjacent residential properties. The NJDEP approved a Groundwater Classification Exception Area application for Parcels A', B, D', D and C. The installation completed all FOST and BRAC disposal support packages for Parcels A and A'. The Army completed the Historic and Cultural Resources memorandum of agreement with the NJ State Historic Preservation Office and the Advisory Council on Historic Preservation.

In FY02, the installation assessed the chemical discharges at storage sheds impacting Parcels C and D (34 sites), Parcels B, D', and F environmental baseline surveys, records of environmental compliance, and FOST actions were completed. The installation completed FOST actions 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; no Military Munitions Response Program (MMRP) sites were identified at this installation.

FY03 IRP Progress

The installation transferred Parcels D', F, and A (Pumphouse Area only) via deed. PCB soil remediation was completed in Parcels A and D.

Technical issues delayed the PCB soil remediation in Parcel C. The Army remediated most of the chemical storage shed discharges; the remaining areas were delayed by technical issues. Contracting issues delayed decision documents for Parcels C, D, and G. The Army delayed the transfer of Parcels A, A', B and E due to concerns over the presence of lead-based paint.

FY03 MMRP Progress

No MMRP sites were identified at this installation.

Plan of Action

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

IRP

- Facilitate deed transfer actions with all public benefit conveyance agencies (Department of Health and Human Services, Department of the Interior, Department of Energy, etc.) and receivers for Parcels A, A', B, C, D and E in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

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|----------------------|---|--|--|---|
| FFID: | CA921372067600 | Media Affected: | Groundwater and soil |  |
| Size: | 27,827 acres | Funding to Date: | \$279.0 million | |
| Mission: | Housed 7th Infantry Division (Light); supports the Defense Language Institute Foreign Language Center, currently at the Presidio of Monterey, California | Estimated Cost to Completion (Completion Year): | \$402.7 million (FY2031) | |
| HRS Score: | 42.24; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2031 | |
| IAG Status: | Federal facility agreement signed in July 1990 | Final RIP/RC Date for MMRP Sites: | FY2002 | |
| Contaminants: | VOCs, petroleum hydrocarbons, heavy metals, and pesticides | Five-Year Review Status: | Completed FY1999, FY2001, and FY2002/ Planned | |

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 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. The RAB was dissolved in FY99 in favor of reestablishing the TRC. The installation has completed three 5-year reviews; one in FY99, one in FY01, and one in FY02.

The Army has identified 46 Installation Restoration Program (IRP) category sites at Fort Ord. The Army has transferred over 700 acres to date. The installation has completed seven Records of Decision (RODs) to date. The cleanup progress at Fort Ord for FY99 through FY02 is detailed below.

In FY99, installation constructed a groundwater pump and treat system for Site 12. The installation reestablished the TRC and dissolved the RAB, but developed alternative public outreach initiatives. A 5-year review was conducted for Operable Unit 1 (OU 1).

In FY00, the installation completed the construction enhancement for the OU 2 groundwater systems. The installation completed Fort Ord's first economic development conveyance for the transfer of 245 acres. The Army completed a finding of suitability for early transfer (FOSET) for the Fritzsche Army Air Field (FAAF) OU, which was approved by EPA. The FAAF OU transfer marked the Army's first use of the Department of Toxic Substances Control's (DTSC's) Covenant to Restrict Use of Property, which was developed and signed by the Army and DTSC.

In FY01, the installation continued off-post groundwater investigation and operation of the three groundwater treatment systems. The results of the investigation further defined the limits of a carbon tetrachloride

contamination plume. The installation prepared and reviewed two FOSETs and one finding of suitability to transfer (FOST) and completed a 5-year review for OU 1. The State completed and certified RCRA clean closure of the Defense Reutilization and Marketing Office. The installation formally documented a site security/school safety program plan for Military Munitions Response Program (MMRP) category sites, which has been in place for several years. The installation issued an ordnance detection and discrimination study in support of the MMRP remedial investigation and feasibility study (RI/FS) for the entire installation.

In FY02, the installation initiated a pilot study for Site 39 lead-contaminated soil cleanup. The Army completed an installationwide 5-year review. Fort Ord completed a RI/FS and signed a ROD to allow for 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 of areas that will be transferred to the City of Seaside for redevelopment. The Army and regulators signed a ROD for the Track 0 MMRP sites and the Army initiated the property transfer process on the affected parcels. The interim action ROD for cleanup on three high priority sites was also signed.

FY03 IRP Progress

The installation completed a lead-contaminated soil waste consolidation action and closed OU 2. The installation designated carbon tetrachloride as an OU and initiated a RI/FS. All RCRA clean closure actions for Building T-111 were completed. The installation continued operation of the three groundwater pump and treat plants. The Track 0 FOST and Del Rey Oaks FOSET property transfers were initiated. The Army transferred ten parcels totaling 484 acres. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Weather conditions delayed the vegetation removal actions (prescribed burn) and MMRP remedial actions at Ranges 43-48. Regulatory issues delayed the Track 1 proposed plan (PP) and ROD.

FY03 MMRP Progress

The installation initiated MMRP cleanup actions at the Seaside Parcel area and Monterey County Parcel and completed the final clearance work at the Del Rey Oaks parcel. Maintenance actions included munitions and

explosives of concern (MEC) school safety presentations, clearance of fuel breaks in the multi range 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.

Weather conditions delayed the vegetation removal actions (prescribed burn) and MMRP remedial actions at Ranges 43-48.

Plan of Action

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

IRP

- Complete Track 1 PP and ROD in FY04.
- Complete RCRA clean closure certification for T-111 in FY04-FY05.
- Initiate RCRA closure actions for open burn/open detonation area 36A in FY04-FY05.
- Complete the Track 0 FOST and Del Rey Oaks FOSET property transfers in FY04-FY05.

MMRP

- Complete MMRP surface removal work on a 650-acre area in FY04.
- Complete clearance work at Seaside Parcels 1-4 and Monterey County Parcel 2 in FY04.
- Complete vegetation removal actions (prescribed burns), followed by MMRP remedial actions, at Ranges 43-48 in FY04-FY05.

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|---|---|
| FFID: VA321402070500 | Media Affected: Groundwater, surface water, sediment, and soil |
| Size: 45,160 acres | Funding to Date: \$11.3 million |
| Mission: Provide training support for active and Reserve component units of all Services | Estimated Cost to Completion (Completion Year): \$0.0 million (FY2002) |
| HRS Score: N/A | Final RIP/RC Date for IRP Sites: FY2002 |
| IAG Status: None | Final RIP/RC Date for MMRP Sites: FY1997 |
| Contaminants: Petroleum hydrocarbons, metals, pesticides, and PCBs | Five-Year Review Status: Planned |



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 45,100 acres from Fort Pickett, over 42,000 acres of which went to the Army National Guard. The remaining 60 acres will be transferred upon completion of environmental cleanup and documentation. The cleanup progress at Fort Pickett for FY99 through FY02 is detailed below.

In FY99, the Army completed a time-critical removal action at the former salvage yard. The Army conducted seven small removal actions for CERCLA-regulated wastes, effectively serving as final remedial actions at these locations.

In FY00, the installation completed a finding of suitability to transfer (FOST) and a supplemental environmental baseline survey document for 2,792 acres of the excess property. The installation transferred 1,608 acres of excess property to the Nottoway County LRA. In addition, it completed draft remedial investigations (RIs) for the former firefighter training area, the former storage compound, and the former service station and a Phase I RI for the former salvage yard. The installation also achieved closure of the underground gasoline pipeline and closed all of the petroleum release sites adjacent to the pipeline after completion of several site assessment reports.

In FY01, the installation completed a site characterization report for Former Fuel Station #1 and began a quarterly monitoring program. It also completed the RIs at the storage compound, the firefighter training area, and the former service station. The draft Phase II RI at the salvage yard was completed, and the RI at the motor pools began. The installation completed four removal actions at isolated contamination areas and a removal action at the firefighter training area. The Army assigned 1,182 acres to the U.S. Department of Education for a public benefit conveyance.

Army

In FY02, the installation awarded a guaranteed fixed price remediation contract (GFPR) to complete restoration activities at the former Salvage Yard (EBS-13) and to complete a decision document (DD) at the former Storage Compound (EBS-79). The installation completed remedial investigations at the motor pools (EBS-115 and EBS-124). DDs were completed for 41 sites including the Firefighter Training Area (EBS-103) and the former Service Station (PI-1).

FY03 IRP Progress

The Army completed 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 GFPR contract proceeded as scheduled.

Regulatory issues delayed the completion of DDs for the Motor Pools (EBS-115, EBS-124) and the former Storage Compound (EBS-79).

FY03 MMRP Progress

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 the installation.

Plan of Action

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

IRP

- Complete DDs for the Motor Pools (EBS-115, EBS-124) and the former Storage Compound (EBS-79) in FY04.
- Complete the RI and feasibility study at the former Salvage Yard (EBS-13) in FY04.
- Complete FOSTs for the Motor Pools and the former Storage Compound in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

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| FFID: AK021452215700 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: 64,470 acres | Funding to Date: | \$82.4 million |
| Mission: Support and sustain forces assigned to U.S. Army Alaska | Estimated Cost to Completion (Completion Year): | \$206.9 million (FY2017) |
| HRS Score: 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2007 |
| IAG Status: Federal facility agreement signed in December 1994 | Final RIP/RC Date for MMRP Sites: | FY2017 |
| Contaminants: White phosphorus, PCBs, heavy metals, POLs, solvents, dioxins, pesticides, and VOCs | Five-Year Review Status: | Completed FY2003/Planned |



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 are contaminated with white phosphorus. EPA placed Fort Richardson on the NPL in 1994. Removal actions addressed PCB contamination in 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 initial 5-year review was completed in FY03.

Preliminary assessments and site inspections ending in FY93 identified 38 potential contaminated sites. Four Records of Decision (RODs) have been signed to date. The cleanup progress at Fort Richardson for FY99 through FY02 is detailed below.

In FY99, the Army continued remedial actions (RAs) at Operable Unit (OU) C (Eagle River Flats) by draining ponds and wetlands in the impact area and started the remedial investigation/feasibility study (RI/FS) for OU D.

In FY00, the Army, the Alaska Department of Environmental Conservation, and EPA signed the OU D ROD. Ten of 12 OU D sites were determined to require no further action. Two sites (Building 35-752 and a potential burial site discovered during investigation of OU D) were recommended for further investigation under a new OU (OU E). The installation used ground-penetrating radar to delineate and identify potential areas of contamination in the OU E sites.

In FY01, a review of all data collected for OU B showed that heat-enhanced soil vapor extraction had significantly reduced contamination to levels such that further active treatment was not required. The Army started to develop RA reports and exit strategies for the operational and functional remedies at OU B and OU C. The installation conducted pre-remedial investigations (geophysical studies and groundwater sampling) at OU E sites and developed the RI/FS management plan.

In FY02, the Army initiated the RI/FS for OU E. The Army used EPA's new 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 reports were developed for OU B and OU 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 remedial action to clean up white phosphorus at OU C. There was active public participation in the RAB and several new members were added at the beginning of FY02. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. Military Munitions Response Program (MMRP) sites were identified at this installation.

FY03 IRP Progress

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 plan and exit strategy. The installation completed and signed the interim remedial action reports for OU B and OU C, finalizing the construction complete process for both sites. The Army completed the final year of active RA at OU C. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Technical issues and a change in site conditions delayed completion of the RI/FS for OU E.

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.

FY03 MMRP Progress

Army identified twelve MMRP sites and incorporated them into the environmental sites database.

Plan of Action

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

IRP

- Complete RI/FS and ROD for OU E in FY04.
- Develop long-term mortality monitoring strategy for OU C and initiate long-term monitoring in FY04.
- Update groundwater model for OU B and finalize closure strategy in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|--|
| FFID: | KS721402075600 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 100,656 acres | Funding to Date: | \$63.2 million |
| Mission: | 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 | Estimated Cost to Completion (Completion Year): | \$18.3 million (FY2017) |
| HRS Score: | 33.8; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2008 |
| IAG Status: | IAG effective June 1991 | Five-Year Review Status: | Completed FY2002/Planned |
| Contaminants: | Solvents, pesticides, and lead | | |



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 extends off post. A 5-year review was completed in FY02. The installation formed a Restoration Advisory Board (RAB).

Environmental studies have identified 72 sites at Fort Riley. To date, the installation has completed two Records of Decision (RODs), one for OU 1 and one for OU 2. The cleanup progress at Fort Riley for FY99 through FY02 is detailed below.

In FY99, the installation completed a draft groundwater modeling report for Camp Funston groundwater evaluation project and the remedial investigation/feasibility study (RI/FS) work plan for OU 5. Phase I RI fieldwork for OU 5 expanded as groundwater screening showed additional up gradient contamination. The installation completed an action memorandum (AM) for Forsyth Landfill Area 2.

In FY00, the Army completed construction for the Southeast Funston Landfill/Incinerator removal action and Phase I of the Forsyth Landfill Area 2 riverbank stabilization. The installation initiated a work plan addendum for OU 5. Direct-push screening (soil gas, soil, and groundwater sampling with on-site analysis) defined the nature and extent of contamination at OU 5. The U.S. Geological Survey, in coordination with Fort Riley, issued a water resources report on groundwater modeling of the Kansas River valley. The installation operated a free-product recovery pilot system near the tank farm.

In FY01, the installation performed additional site screening at OU 3 that led to RI/FS revisions. The RI report for OU 4 was approved. The Army negotiated revised schedules with the regulators for OU 3, OU 4, and OU 5. The Army initiated the first 5-year review, focusing on OU 1 and OU 2. The installation initiated a new project to repair excessive settlement at OU1. A site investigation (SI) was initiated at the petroleum oil/lubricants Tank Farm (POL Tank Farm).

In FY02, the installation completed the 5-year review, which was

reviewed by the public and the RAB. EPA approved the review. The installation initiated the FS for OU 4. The Army installed an alternate water supply for affected off-post properties to meet a lawsuit judgment. An RI addendum work plan and fieldwork for additional investigations for OU 3 was completed. The installation completed 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 SI for the POL Tank Farm continued and the installation initiated a SI for the abandoned gasoline line (AGL).

FY03 IRP Progress

The installation submitted the FS for OU 4 for regulatory review. The SIs for the POL Tank Farm and AGL continued. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

The Army will not initiate the proposed plan (PP) for OU 4 until the FS is approved by the regulators. The installation cancelled the EE/CA and AM for removal at OU 5 due to lack of risk or applicable or relevant and appropriate requirements. The installation delayed the RI for OU 5 to incorporate additional data; the FS will not begin until the RI is completed. Technical issues delayed the revision of the RI and FS for OU 3.

FY03 MMRP Progress

The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

Plan of Action

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

IRP

- Complete the RI addendum and initiate the FS addendum for OU 3 in FY04.
- Complete the PP and initiate the ROD for OU 4 in FY04.
- Complete the RI and initiate the FS for OU 5 in FY04.
- Develop technical memorandum for characterization of Open Burning/Open Detonation Range in FY04.

- Complete the SI for the POL Tank Farm in FY04.

MMRP

- Complete the CTT ranges and sites inventory in FY04.

| | | | |
|----------------------|---------------------------------------|--|------------------------|
| FFID: | MD321022075800 | Media Affected: | Groundwater and soil |
| Size: | 1,374 acres | Funding to Date: | \$8.8 million |
| Mission: | Supported Site R underground facility | Estimated Cost to Completion (Completion Year): | \$3.5 million (FY2004) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY2003 |
| Contaminants: | UXO, heavy metals, and asbestos | Five-Year Review Status: | N/A |



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 have included removal or replacement of USTs, relining of sewer lines with plastic, removal of falling lead paint and high-hazard friable asbestos, and closure of an incinerator. 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 U.S. Army Corps of Engineers, St. Louis District, and in FY98, the installation completed the UXO sampling and UXO interim characterization report.

To date, the installation has completed one Record of Decision. The cleanup progress at Fort Ritchie for FY99 through FY02 is detailed below.

In FY99, the installation completed a groundwater monitoring report for the former gas station. The Army completed removal actions at 19 UST sites, the incinerator, and the Reservoir Road area to expedite cleanup. An engineering evaluation and cost analysis (EE/CA) was completed for the Directorate of Public Works (DPW) maintenance area and the incinerator area. The installation developed work plans and sampling and analysis plans for the golf shop, lakes, and the motor pool. The Army made more than 300 acres of non-UXO property available for reuse. A final EE/CA was published for the munitions impact area.

In FY00, the removal action in the administrative area and the decision documents (DDs) for the autocraft shop and the former hospital area were completed. The installation completed an ordnance and explosives action memorandum for the munitions impact area.

In FY01, the Army completed the DPW maintenance area removal action. The installation completed DDs for no further action (NFA) on Operable Units (OUs) 1, 2, 3, 7, 9, 11, and 15. The memorandum of

agreement for property transfer was completed. Sampling results from the fish studies indicated that the risk associated with eating fish from the lakes was acceptable. The Army completed the finding of suitability to transfer (FOST) for all non-UXO property. The installation completed a munitions and explosives of concern (MEC) safety submission and work plan, and the removal action started at the munitions impact area.

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 DDs for NFA on OUs 5, 8, 14 & 16 were completed. 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 or munitions constituents.

FY03 IRP Progress

The Army completed Phase II of the motor pool CAP. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

The Army completed the MEC removal action report, DD, FOST, and final inventory of CTT ranges and sites with UXO, discarded military munitions or munitions constituents. Military Munitions Response Program (MMRP) sites were identified at this installation.

Plan of Action

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

IRP

- Monitor motor pool wellheads and determine next step in FY04.

MMRP

- Complete the MEC removal action in the Fill Area in FY04.

| | | | |
|----------------------|---|--|------------------------|
| FFID: | IL521402083800 | Media Affected: | Groundwater and soil |
| Size: | 709 acres | Funding to Date: | \$56.7 million |
| Mission: | Provided administrative and logistical support; non-excess property currently used as Army Reserve installation and Navy housing area | Estimated Cost to Completion (Completion Year): | \$0.0 million (FY2003) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY2003 |
| Contaminants: | Fuel hydrocarbons, PAHs, metals, VOCs, and UXO | Five-Year Review Status: | Planned |



Progress to Date

In December 1988, the BRAC Commission recommended closure of Fort Sheridan. The fort’s missions have included cavalry and infantry training, Nike systems maintenance, and administrative and logistical support. 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 (RI/FS) 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. In FY94, an installation survey identified UXO at the former artillery range at the north end of the fort and in FY96, the installation performed a UXO clearance. In FY95, the installation formed a Restoration Advisory Board (RAB).

The cleanup progress at Fort Sheridan for FY99 through FY02 is detailed below.

In FY99, the installation prepared a no action decision document (DD) for the remainder of the excess property and an environmental baseline survey and finding of suitability to transfer for excess property. The RAB submitted a technical assistance for public participation (TAPP) application for installation approval.

In FY00, the installation completed the Phase III remedial investigation for non-surplus property and prepared a no action DD for several study areas within that property. The TAPP contractor independently evaluated Landfill 6 and 7 interim remedial action design plans as requested by the RAB.

In FY01, the installation updated the non-surplus DoD operable unit (OU) property RI report with Phase III RI data. The installation completed the FS for the DoD OU property study areas. The Army awarded a guaranteed fixed price remediation contract in order to complete the remedial actions for the DoD OU property.

In FY02, the Army completed the final Landfill 6 and 7 cap design and began cap construction. The Army initiated an inventory of closed,

transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions, or munitions constituents.

FY03 IRP Progress

The Army prepared proposed plans (PPs) for CSA 3 and Landfill 5. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The installation initiated construction of the cap on Landfills 6 and 7; regulatory and weather issues delayed completion of the cap. The no further action (NFA) DD for CSA 4, VES 8, Water Tower, and pesticides in Building 70 was initiated, but not completed. Regulatory issues delayed the DDs for CSA 3 and Landfill 5, and the PP for Landfill 1. The delay prevented the initiation of the remediation work for CSA 3 and Landfill 5.

FY03 MMRP Progress

The Army completed the CTT inventory. One Military Munitions Response Program (MMRP) site was identified within the BRAC portion of the installation.

Plan of Action

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

IRP

- Complete the NFA DD for CSA 4, VES 8, Water Tower, and pesticides in Building 70 in FY04.
- Complete the construction of the Landfill 6 and 7 cap in FY04-FY05.
- Complete the DD for CSA 3 and Landfill 5 and implement the remedy in FY04-FY05.
- Complete the PP and DD for Landfill 1 and initiate implementation of the remedy in FY04-FY05.
- Prepare and implement an operation and maintenance plan and a groundwater monitoring plan for Landfills 6 and 7 in FY04-FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|------------------------|
| FFID: | NY221022089700 | Media Affected: | Groundwater and soil |
| Size: | 175 acres | Funding to Date: | \$0.9 million |
| Mission: | Provided administrative and logistical support and housing; non-excess property currently used as an Army Reserve enclave | Estimated Cost to Completion (Completion Year): | \$0.0 million (FY2003) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY1998 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY2003 |
| Contaminants: | Fuel hydrocarbons and metals | Five-Year Review Status: | N/A |



Progress to Date

In 1995, the BRAC Commission recommended closing Fort Totten, except for use as an enclave for the U.S. Army Reserve. In 1989, the installation initiated a broad Installation Restoration Program (IRP). The Army conducted several preliminary studies, including groundwater sampling at the former landfill area and soil sampling throughout the installation. The installation has completed several interim remedial actions and removals, including removing and replacing polychlorinated biphenyl (PCB)-containing transformers, removing and replacing tanks, and removing petroleum-contaminated soil. In FY96, the Army performed an unexploded ordnance archive search, along with a limited field survey. In FY97, the Army completed the environmental baseline survey and began an environmental investigation. The installation has a BRAC cleanup team and a Restoration Advisory Board.

The Army has identified 100 acres of CERFA-uncontaminated acreage at this installation for transfer. To date, the Army has transferred 37 acres to the New York City Fire Department. The cleanup progress at Fort Totten for FY99 through FY02 is detailed below.

In FY99, a programmatic agreement to address cultural resource issues was revised to reflect the comments of the State Historic Preservation Office, the New York City Landmarks Preservation Commission, the City of New York, the Department of Education, and the National Park Service. The Army completed a final environmental assessment for the disposal and reuse action, as required by the National Environmental Policy Act, resulting in a finding of no significant impact.

In FY00, the installation removed 11 fuel oil underground storage tanks (USTs). Soil was sampled at five former UST sites to determine a further course of action. The installation began preparing a draft finding of suitability to transfer (FOST).

In FY01, the Army and the City of New York completed the cultural resources programmatic agreement. Additional groundwater monitoring was required at five former UST sites, and additional soil removal was necessary at one former UST site. The installation prepared a draft FOST and requested public and regulatory review and comments. The installation incorporated comments into the final FOST.

In FY02, the Army completed the environmental documentation required for property transfer, consisting of the FOST and base disposal support

package. Groundwater monitoring at five former UST sites continued. The soil removal at one former UST site was completed. The Army completed a public benefit conveyance (PBC) through the Department of Education, transferring 37 acres to New York City Fire Department. The installation prepared two additional assignment packages for PBCs to the Department of the Interior (DOI) and the Department of Health and Human Services (HHS) and sent them to Headquarters, Department of the Army for review.

FY03 IRP Progress

The installation completed groundwater monitoring at five former UST sites and plans no further monitoring. The Army completed assignment of two PBCs to New York City; one parcel went through DOI and one went through HHS.

FY03 MMRP Progress

The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents for the BRAC portion of the installation. The Army identified four Military Munitions Response Program (MMRP) sites on the BRAC portion.

Plan of Action

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

IRP

- Complete assignment of PBC parcel to the Department of Interior, Parks and Monuments in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|-------------------------------------|
| FFID: | AK021452242600 | Media Affected: | Groundwater and soil |
| Size: | 917,993 acres | Funding to Date: | \$126.6 million |
| Mission: | House the headquarters of the 6th Light Infantry Division | Estimated Cost to Completion (Completion Year): | \$122.0 (FY2017) |
| HRS Score: | 50.00; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2006 |
| IAG Status: | Federal facility agreement signed in November 1991 | Final RIP/RC Date for MMRP Sites: | FY2017 |
| Contaminants: | Petroleum/oil/lubricants, heavy metals, solvents, pesticides, paints, UXO | Five-Year Review Status: | Completed FY2001/ Planned FY2006 |



Progress to Date

Since World War II, Fort Wainwright has housed light infantry brigades, most recently the 1st Brigade, 6th Infantry Division (Light). Studies at the installation identified a chemical agent dump, 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 installation divided sites into five operable units (OUs). The installation established a technical review committee in FY90. In FY97, it established a Restoration Advisory Board (RAB). A 5-year review was completed in FY01. The entire installation achieved construction complete in FY02.

The installation has signed five Records of Decision (RODs). The cleanup progress at Fort Wainwright for FY99 through FY02 is detailed below.

In FY99, the installation completed the interim remedial action reports (RAR) for OU 2 and OU 4. The Army installed an air-sparging (AS) curtain in OU 5 next to the Chena River to treat potential contamination moving off post.

In FY00, the installation negotiated long-term monitoring plan agreements with the state on petroleum-contaminated sites, and completed operations and maintenance (O&M) reports for OU 1, OU 2, and OU 4. The installation completed the interim RAR for OU 2, 4, and 5. Remediation systems were expanded at OU 5 to enhance Chena River protection. The installation also removed and recycled old AS/soil vapor extraction systems for reuse at other sites.

In FY01, the Army awarded a contract to continue the evaluation of Chena River. The Army also continued to negotiate an explanation of significant differences (ESD) for OU 3, covering product recovery of fuel that was discovered after the signing of the ROD, as well as increased costs and areas of contamination. The Army completed the first 5-year review and concluded that the remedies implemented to date were effective. The Army also awarded a contract to complete a comprehensive exit strategy for all OUs. The restoration program managers approved O&M plans for systems, detailing operation and long-term monitoring requirements. Exit strategies for OUs were developed, resulting in a decrease in monitoring frequency. The Military Munitions

Response Program (MMRP) began in FY01. Previously, response activities related to unexploded ordnance (UXO) had occurred in support of the Installation Restoration Program (IRP). The installation completed an interim RAR for OU 1.

In FY02, the Army completed the interim RAR for OU 3, and EPA signed the preliminary closeout report for Fort Wainwright. The installation completed negotiations with EPA and the state regarding the OU 3 ESD. All operable units have 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 a comprehensive exit strategy at one site. The installation held semi-annual RAB meetings and continued to publish quarterly newsletters. The Army completed an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents. Nine sites were identified in the inventory; six have been closed and three have been transferred.

FY03 IRP Progress

The installation completed an evaluation of the OU 3 product recovery system. The Army completed cleanup operations and site exit strategy (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. An evaluation of the OU 2 Defense Reutilization and Marketing Office systems continued. Reduced monitoring efforts at the Coal Storage Yard, OU 4, and in OU 5 were implemented in accordance with CLOSES evaluations. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

No MMRP activities were performed at the installation level.

Plan of Action

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

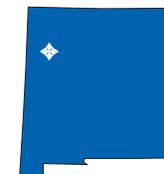
IRP

- Complete CLOSES evaluations on six additional sites in FY04.
- Complete site closeout at two sites in FY04.
- Implement reductions in O&M requirements per agreed-upon CLOSES evaluation in FY04-FY05.
- Closeout two sites in FY04 and two sites in FY05.
- Begin five-year cyclic sampling in FY05 in preparation for 5-year review in FY06.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------|
| FFID: | NM621382097400 | Media Affected: | Groundwater and soil |
| Size: | 21,881 acres | Funding to Date: | \$34.4 million |
| Mission: | Stored, shipped, and received ammunition components and disposed of obsolete or deteriorated explosives and ammunition | Estimated Cost to Completion (Completion Year): | \$38.0 million (FY2015) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2008 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY2015 |
| Contaminants: | Explosive compounds, UXO, PCBs, pesticides, heavy metals, asbestos, and lead/PCB-based paint | Five-Year Review Status: | N/A |



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 501 and 11, the former explosive washout plant (Building 503), and three solid waste landfills. In FY94, the installation formed a BRAC cleanup team and a Restoration Advisory Board. In FY95, the installation revised its BRAC cleanup plan.

The installation has transferred over 5,400 acres to date. The cleanup progress at Fort Wingate for FY99 through FY02 is detailed below.

In FY99, the installation completed asbestos abatement for 8 buildings and provided an assessment survey report for Army review on the remaining 29 buildings. It also completed a remedial design (RD) for Building 11, the investigation at the disposal pits at Functional Test Range (FTR) 1, and an assessment for installationwide surface water. The installation developed and coordinated a draft application for a post-closure care permit, and submitted it for regulatory approval. The installation remediated the Group C landfill, the central landfill, and completed the RD for the western landfill. Remedial actions (RAs) for the pistol range and the coal tar storage site were also completed. The installation completed removals of underground storage tanks installationwide. The installation demolished Building 29 and took groundwater samples at the TNT Beds. The installation submitted the Phase 1A report for soils/solid matrix, and the Phase 1B report for groundwater matrix on OB/OD site for the New Mexico Environment Department's (NMED's) review and approval. The installation conducted UXO clearance on the southeastern and southern side of the OB/OD area in order to define the boundary fence lines.

In FY00, the installation received NMED approval for no further action status on its southern properties, and was able to transfer the entire parcel (4,527 Acres) to the Bureau of Land Management after a fence was built around the OB/OD area. Wells were installed at Buildings 542 and 600. The installation conducted quarterly groundwater sampling at

the OB/OD area and the TNT Leaching Beds and completed the installationwide soil background studies.

In FY01, the installation completed an RA at the western landfill, and remedial investigations for Building 537 and Building 9. The installation conducted a complete investigation of septic tanks and Building 542. The installation awarded a contract for asbestos remediation at the administrative buildings. The Army transferred parcels 15 and 17 (907 Acres) to the Bureau of Land Management. The installation installed a western boundary fence at the OB/OD area and continued asbestos studies and abatements for all the suspected buildings. The installation removed the western landfill. Groundwater sampling at Buildings 542 and 600, and the OB/OD areas continued.

In FY02, the installation demolished Building 11, which was contaminated with PCB 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 NMED for review and approval. The installation adopted a program to consider and incorporate cultural resources into property transfer and cleanup decisions.

FY03 IRP Progress

The installation completed groundwater sampling at the TNT Leaching Beds. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Regulatory issues delayed the project initiation dates for the TNT Leaching Beds RD project and the FTR 1 RA project. The installation also decided to discontinue the quarterly groundwater sampling efforts for the OB/OD ground until clear permit requirements are established.

FY03 MMRP Progress

The Army completed an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions or munitions constituents. Military Munitions Response Program (MMRP) sites were identified at this installation. The Army completed clearance for the OB/OD area western boundary fence.

Plan of Action

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

IRP

- Complete quarterly groundwater sampling at the TNT Leaching Beds in FY04.
- Negotiate with NMED for RCRA post-closure permit requirements for the OB/OD area, and define cleanup requirements for explosive compounds in FY04.
- Complete Tribal input on the archeological data for the OB/OD site in FY04-FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | MN517002291400 | Media Affected: | Groundwater and soil |
| Size: | 82.6 acres | Funding to Date: | \$34.5 million |
| Mission: | Design and manufacture advanced weapons systems | Estimated Cost to Completion (Completion Year): | \$9.8 million (FY2015) |
| HRS Score: | 30.83; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: | FY2002 |
| IAG Status: | Federal facility agreement signed in March 1991 | Five-Year Review Status: | The installation has completed a 5-year review and the remedy remains protective. |
| Contaminants: | POLs, VOCs, SVOCs, TCE, metals, and cyanide | | |



Progress to Date

Fridley Naval Industrial Reserve Ordnance Plant 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 FY90 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 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.

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 Naval Industrial Reserve Ordnance Plant for FY99 through FY02 is detailed below.

In FY99, the installation issued the final remedial investigation (RI) report, including the human health risk assessment, for OU 2 and Site 3. Wells were installed at Anoka County Park. The Agency for Toxic Substances and Disease Registry completed a public health assessment.

In FY00, the installation completed evaluation of onsite and residual off-site groundwater contamination. The installation continued implementing the groundwater remedy.

In FY01, the installation completed the RI and the risk assessment for OU 2 and OU 3. The groundwater treatment facility upgrade was completed. The work plan for the pilot-scale enhanced bioremediation project was completed for Anoka County Park. A diffusion sampler study for groundwater sampling was completed, to be implemented upon further analysis requested by regulators. Implementation of the remedy for discharging National Pollutant Discharge Elimination System effluent into the Mississippi River continued.

In FY02, the installation continued remedial action operations of the sitewide groundwater remedy for OU 1. Regulators approved the RIs 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. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation signed RODs for OU 2 and OU 3. Two additional rounds of sampling have been 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. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The installation did not make a decision regarding implementation of full-scale enhanced bioremediation in Anoka County Park. Data quality objectives were not met with the first year of sampling.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

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

IRP

- Complete land use control remedial design in FY04.
- Continue operation of the OU 1 pump and treat groundwater containment system in FY04.
- Evaluate results of pilot-scale enhanced bioremediation study and begin full-scale implementation, if successful, in FY04.
- Complete 5-year review for OU 1 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|------------------------|
| FFID: | OH597152435700 | Media Affected: | Groundwater and soil |
| Size: | 162 acres | Funding to Date: | \$3.7 million |
| Mission: | Provided logistical support to the military services by supplying electrical and electronic material | Estimated Cost to Completion (Completion Year): | \$0.9 million (FY2005) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2002 |
| IAG Status: | None | Five-Year Review Status: | Planned FY2003 |
| Contaminants: | Residual POLs, solvents, coal pile runoff (VOCs and SVOCs), and metals | | |



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 in FY94. The DLA's involvement in environmental restoration at the installation was terminated at the end of FY98 by a memorandum of agreement with the Air Force Real Property Agency. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

This installation has identified 22 sites and 48 AOCs. To date, one Record of Decision has been signed. The cleanup progress at Gentile AFS for FY99 through FY02 is detailed below.

In FY99, the removal action for LF008 began. Parcel F (17 acres) was transferred. In FY00, the BCT signed a decision document (DD) selecting long-term management (LTM) as the final remedy for Parcel B groundwater. The removal actions at Sites SD001(C1) and LF008(D1) were completed, and the final removal action report for LF008 was published. The supplemental remedial investigation report for Parcel E was published.

In FY01, Parcel B was transferred to the local redevelopment authority, and LTM began. The final removal action report was published and the draft DD was started for Site SD001. The final second annual groundwater monitoring report for Site WP026 (R2) was published. Draft no further remedial action planned (NFRAP) DDs for four Installation Restoration Program (IRP) sites in Parcel E were prepared and sent out for regulatory review. Two other IRP sites in Parcel E were closed with signed NFRAP DDs. The draft final focused feasibility study (FFS) report was prepared. A pilot study was initiated for Parcel E soil and groundwater treatment at Sites LF008 and SS035 (C7).

In FY02, the FFS for Parcel E was finalized after making major revisions to the draft final version. The DD for Site SD001 was finalized and signed by the BCT as planned. The 2001 Annual LTM Reports for Sites WP026 (R2) and SS028 (Parcel B) were completed. Semiannual groundwater monitoring was also conducted at these two sites. The last remedy in place milestone was reached at two sites (LF008 and SS035) through the removal of soil contamination and ongoing groundwater monitoring. Two IRP sites (ST004 and SS029) were closed with NFRAP DDs signed by the BCT.

FY03 IRP Progress

The installation finalized the LTM work plan for Parcel E, installed monitoring wells, and conducted five rounds of groundwater monitoring at Sites LF008 and SS035. The fourth annual report for Site WP026 (R2) was finalized and semiannual groundwater sampling at Sites WP026 (Parcel A), SS028 (Parcel B), LF008, and SS035 (Parcel E) was conducted. The installation signed explanation of significant differences to remove commercial/industrial use restrictions at Sites D4 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) determination for groundwater monitoring following a soil removal action.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Gentile AFS are grouped below according to program category.

IRP

- Complete 5-year review in FY04.
- Finalize OP&S determination for Sites C7 and D1 in FY04.
- Transfer the last parcel at Gentile AFS (Parcel E) to the local redevelopment authority in FY04.
- Continue remedial action operations through sampling of groundwater at Parcel B and Sites C7, D1, and R2 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|--|--|---|
| FFID: CA957002445300 | Media Affected: Groundwater and soil |  |
| Size: 5,062 acres | Funding to Date: \$85.5 million | |
| Mission: Provided tactical fighter operations support | Estimated Cost to Completion (Completion Year): \$29.7 million (FY2031) | |
| HRS Score: 33.62; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: FY2005 | |
| IAG Status: Federal facility agreement signed in October 1990 | Five-Year Review Status: Completed FY2000/Planned FY2005 | |
| Contaminants: POLs, VOCs, and lead | | |

Progress to Date

George Air Force Base (AFB) provided tactical fighter operations support. The installation was placed on the NPL in February 1990 and signed a federal facility agreement 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. In FY93, the installation closed and a 5-year review was completed in FY00. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Sites were grouped into three operable units (OUs). To date, Records of Decision (RODs) have been signed for OU 1 and OU 3. The cleanup progress at George AFB for FY99 through FY02 is detailed below.

In FY99, approximately 20,000 gallons of free product were removed from OU 2. A remedial action was implemented at OT-51, and a basewide groundwater monitoring project was approved. Long-term operations and management continued at OU 1 and OU 2. In addition, all remaining UST locations were identified.

In FY00, construction and installation of the soil vapor extraction pilot system for OU 2 were completed. A CERCLA-mandated 5-year review of the overall cleanup program was completed. Closeout of bioventing site WP-17 was completed, and all work plans were submitted to the BCT for approval. The installation initiated sampling at identified UST sites.

In FY01, the installation updated the model for the OU 1 groundwater monitoring system. The OU 2 remedial investigation and feasibility study (RI/FS), proposed plan, and ROD were being finalized.

In FY02, the geologic conceptual site model (CSM) for the OU 1 groundwater treatment system and the draft OU 2 RI/FS were completed. Funding was approved for the removal of polyaromatic hydrocarbons and lead shot at the second skeet range. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues.

FY03 IRP Progress

The installation completed drafting the planning document for removal action at the Site 28 Defense Reutilization Marketing Office site 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.

FY03 MMRP Progress

The Air Force and EPA agreed on a risk-based closure of the second skeet range to unrestricted usage of the property.

Plan of Action

Plan of action items for George AFB are grouped below according to program category.

IRP

- Complete the FS for OU 2 in FY04.
- Complete hydrologic CSM in FY04.
- Revise draft 5-year review in FY04.

MMRP

There are no Military Munitions Response Program (MMRP) actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | IL517002293000 and IL517009999900 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 1,453 acres (1,289 acres at Glenview; 164 acres at Libertyville) | Funding to Date: | \$5.2 million |
| Mission: | Provided accommodations for aircraft; conducted flight and general training; served as a Nike missile location (Libertyville site) | Estimated Cost to Completion (Completion Year): | \$0 million (FY2003) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | None | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Petroleum hydrocarbons, heavy metals, PCBs, solvents, asbestos, and waste activated sludge | | |



Progress to Date

Glenview Naval Air Station (NAS) and Libertyville Training Site was established in 1937 to provide accommodations for Service aircraft. In World War II, the station was used for flight training. In 1946, it became a Reserve Command training facility. Libertyville was a flight training site and a Nike missile air defense location. In July 1993, the BRAC Commission recommended closure of Glenview NAS (except for 93 acres of housing property) and the Libertyville Training Site. The installation was closed in FY95. The sites that present the greatest risk are firefighter training areas, landfills, fuel storage areas, and areas where waste was disposed of on the land surface. Two Restoration Advisory Boards were formed, and have remained active. The Navy prepared the Libertyville community relations plan (CRP) in FY93 and the Glenview CRP in FY95.

Forty-three sites have been identified at the two bases: 33 CERCLA sites and two underground storage tank (UST) sites at Glenview; seven CERCLA sites and one UST site at Libertyville. There were eight sites at Glenview designated for no further action (NFA). At Libertyville, three sites were designated for NFA. The cleanup progress at Glenview NAS and Libertyville Training Site for FY99 through FY02 is detailed below.

In FY99, interim remedial actions (IRAs) at five sites and an engineering evaluation and cost analysis (EE/CA) for nine Glenview sites and one Libertyville site were completed. Remedial investigations (RIs) at three Glenview sites and IRAs at 11 Glenview sites and one Libertyville site were also completed. All fieldwork at Glenview was completed. All USTs have been removed from Glenview and Libertyville. Site investigations (SIs) at six Glenview sites were completed.

In FY00, the installation completed IRAs for seven Glenview sites, one Libertyville site, and Libertyville Parcel 3. An SI was also completed for the one Libertyville site. Two closure reports on USTs were also completed, as was a remedial action (RA) at one Libertyville site. An EE/CA and a work plan were completed for Parcel 4. Documentation for the remaining Glenview sites was transferred to the local redevelopment agency.

In FY01, the installation completed an RA at two Glenview sites. Two sites were removed from Parcel 5C, and separate findings of suitability to transfer were completed. The decision document (DD) for Libertyville Parcel 3 was finalized. The RA, closure report, proposed plan (PP), and DD for Libertyville Parcel 4 were completed.

Navy

In FY02, the installation completed all RA investigations at Site 6A (Silos A, B, and C) and Site 7. All closure reports and PPs are currently being drafted. Environmental cleaning was completed inside three silos. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The last 5.6 acres at the Libertyville Training Site were transferred to the National Park Service. All DDs for Parcel 4 were completed. All cleanup efforts at Libertyville are complete and no more funding is required. Final property disposal has occurred; therefore, this will be the last narrative.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Glenview NAS and Libertyville Training Site are grouped below according to program category.

IRP

There are no IRP actions scheduled for FY04 or FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | NY257002445100 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 3,638 acres | Funding to Date: | \$110.1 million |
| Mission: | Operate air refueling and long-range bombardment facility | Estimated Cost to Completion (Completion Year): | \$54.5 million (FY2036) |
| HRS Score: | 34.20; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2005 |
| IAG Status: | Federal facility agreement signed in June 1990 | Five-Year Review Status: | Planned FY2004 |
| Contaminants: | VOCs, heavy metals, PCBs, grease, degreasers, caustic cleaners, dyes, penetrants, TCE, and UXO | | |



Progress to Date

The mission of Griffiss Air Force Base (AFB) was to operate as an air refueling and long-range bombardment facility. The installation was placed on the NPL in 1987 and signed a federal facility agreement in June 1990. 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 included 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 and a Restoration Advisory Board in FY95. The BRAC cleanup plan was completed the same year. The installation received technical assistance for public participation (TAPP) funding in FY99. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Environmental studies identified 61 sites at Griffiss AFB. To date, a property disposal Record of Decision (ROD) has been signed for base realignment. The installation has also signed 21 of the required 41 environmental RODs. The cleanup progress at Griffiss AFB for FY99 through FY02 is detailed below.

In FY99, the installation completed interim remedial actions (IRAs) for five sites and prepared closure documents. The Landfill Consolidation program was completed. The area of concern (AOC) expanded site inspection (ESI) was completed, and regulators reviewed an addendum. The proposed plan (PP) was completed for Landfill 1, and five no further action (NFA)/institutional control RODs were completed. A total of 54,030 tons of polychlorinated biphenyl (PCB)-contaminated soil and 11,785 tons of lead-contaminated soil were removed. Of the 368 identified USTs, 332 have been removed, and 54,000 tons of petroleum-contaminated soil was remediated using the land-farming process. TAPP program assistance was provided for review of the final PPs for CERCLA sites. A RCRA closure report was submitted for five additional sites. Concurrence was received on the closure of the first 76 sites.

In FY00, the AOC ESI was completed. The installation also began IRAs at the ST26 Building 43 refueling station and received final approval on all RCRA site closures.

In FY01, the installation executed the Landfill 6 ROD. RODs have now been issued for all landfills, and landfill closure plans are being prepared. An additional five RODs were signed and six PPs were submitted. IRAs began at three sites. A contract to remediate petroleum-contaminated soil was awarded. IRAs for Building 789 and the Pumphouse 5 site were completed.

In FY02, a treatability study commenced for four trichloroethylene (TCE) plumes. Remediation for three of the five remaining landfills began. Six PPs were submitted and approved. Three RODs were executed and an additional three are awaiting EPA comments. The Apron bioventing system was installed and initiated. The feasibility study (FS) and remediation activities for the creeks were rescheduled to allow for floodplain sampling that will evaluate the possibility of creating new wetlands. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 IRP Progress

The installation completed two landfill closures, continued another, and initiated the fourth. Four hardfill areas received closure approval and an explanation of significant differences was executed closing the groundwater component of four sites. The FS for the two creeks was completed and the associated PPs were approved. Reconstruction of the landfarming operation was completed involving 80,000 cubic yards of contaminated soil. Remediation of the small arms range was completed; an NFA PP and ROD are presently planned. Installations of the bioventing systems were completed for Apron 1 & 2. Removal of 11,000 cubic yards of contaminated soil was completed at the Tank Farms 1 & 3 sites. Griffiss AFB completed installation of the Pumphouse 1 free product recovery system and closed 12 petroleum spill sites, 43 open spills remain.

Funding issues delayed a treatability study (TS) on four sites.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Griffiss AFB are grouped below according to program category.

IRP

- Commence remediation of the final landfill and complete the TS for four TCE plumes in FY04.
- Complete RODs for two creeks and award contract for remediation in FY04.
- Issue the remedial investigation/FS for SS62 AOC 9 in FY04.
- Complete RODs for the four TCE plumes in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|------------------------|
| FFID: | IN557212447200 | Media Affected: | Groundwater and soil |
| Size: | 2,722 acres | Funding to Date: | \$16.3 million |
| Mission: | House a refueling wing; formerly housed a bombardment wing | Estimated Cost to Completion (Completion Year): | \$9.0 million (FY2025) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | None | Five-Year Review Status: | Planned FY2005 |
| Contaminants: | Household and industrial waste, spent solvents, fuels, waste oil, pesticides, lead, munitions, asbestos, radiation contamination, PCBs, and lead-based paint | | |



Progress to Date

In July 1991, the BRAC Commission recommended realignment of Grissom Air Force Base, which houses a refueling wing. When the installation was realigned in September 1994, the Air Force retained approximately 1,380 acres for military activities and returned 1,342 acres to the community for redevelopment. Grissom is a joint-use base, which uses both BRAC and Environmental Restoration Account funds to reach cleanup goals. In FY94, the installation completed a basewide environmental baseline survey (EBS) and supplemental EBSs for specific parcels. Also in FY94, the installation formed a BRAC cleanup team (BCT) and prepared a BRAC cleanup plan (BCP). In FY95, the installation formed a Restoration Advisory Board. The BCP was updated in FY99. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Twenty-one sites have been identified at this installation. To date, Records of Decision (RODs) have been signed for fire protection training area (FPTA) 1, FPTA 2, the polychlorinated biphenyls (PCBs) site, and B-58. The cleanup progress at Grissom AFB for FY99 through FY02 is detailed below.

In FY99, monitored natural attenuation was initiated to address groundwater contamination at the base exchange (BX) and flightline gas stations. The munitions burn and burial area report was finalized with a no further remedial action planned (NFRAP) decision document (DD). A methane gas study was completed for both BRAC landfills. Nine NFRAP documents were signed to close out areas of concern (AOCs), and findings of suitability to transfer were signed. Underground storage tank (UST) sites within military family housing were closed and required no further action (NFA). The BCP abstract was updated.

In FY00, the installation finalized the focused feasibility study (FS) and began quarterly groundwater monitoring at the two FPTAs. The remedy in place (RIP) DD for Landfill 1 (LF1) was signed. Soil removal and closure of the abandoned UST site (ST009) were completed. The field investigation of the former interim RCRA hazardous waste storage area was completed. The remedy for the indoor and outdoor small arms firing ranges was completed, and the sites will close with NFA.

In FY01, the focused site assessment at the Central Heat Plant (CHP) was initiated. The remedial investigation/FS was started for the PCBs site. Removal actions were completed for the buried B-58 site. The DD

for the remedy at LF2 was signed. The DD for the abandoned UST site was in draft final form. Fieldwork was completed and the report was pending for the undocumented storage tank at Building 512. Environmental restoration to facilitate conveyance of 79 acres was completed. Also in FY01, the Air Force completed clearance of the former grenade training range and the firing-in butt.

In FY02, ROD documents for FPTAs 1 and 2 as well as the PCB Site were signed. The State approved the proposed remedies for both the flightline gas station and Building 14. Investigation of the oil-water separator at former Building 122 was completed and the final report awaits regulatory review. Site investigation for the CHP Site was completed. Regulators approved the B-58 survey as well as removal action recommending NFA and unrestricted reuse. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria and technical issues.

FY03 IRP Progress

The installation initiated the supplemental remedial action (RA) for the BX Gas Station and the supplemental investigation at Building 747. 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, Installation Restoration Program (IRP) sites FT001 and FT002, was operating properly and successfully. The BCT also 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 the transfer and redevelopment of these areas. RIP environmental RODs were completed for one IRP site and six AOCs.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites have been identified or reported.

Plan of Action

Plan of action items for Grissom AFB are grouped below according to program category.

IRP

- Complete the investigation and achieve RIP at the CHP in FY04.
- Complete the supplemental investigation of the closed-in-place USTs at Building 747 in FY04.
- Complete the investigation of the previously undocumented groundwater contamination south of Building 190 (IRP site SS190) in FY04.
- Complete the supplemental RA at Building 407 and proceed with demonstration that natural attenuation is effective as the remedy in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|-------------------|--|--|---|
| FFID: | GU917002753200, GU917002758300, GU917002758500, and GU917002757600 | IAG Status: | IAG signed in 1993 |
| Size: | 15,306 acres | Contaminants: | PCBs, POLs, solvents, pesticides, and heavy metals |
| Mission: | 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 | Media Affected: | Groundwater and soil |
| HRS Score: | N/A | Funding to Date: | \$102.2 million |
| | | Estimated Cost to Completion (Completion Year): | \$46.3 million (FY2018) |
| | | Final RIP/RC Date for BRAC Sites: | FY2014 |
| | | Five-Year Review Status: | The installation has not completed a 5-year review. |



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 (FISC), Naval Ship Repair Facility (NSRF), and Public Works Center (PWC)) for realignment or closure in 1995. NSRF ceased operations in September 1997. The complex completed a joint community relations plan in FY92. The installation signed an interagency agreement in 1993. A local information repository was established in FY94. The complex converted its technical review committee to a Restoration Advisory Board in FY95. 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 four commands have 30 CERCLA sites, 26 RCRA sites, and 8 BRAC sites. Environmental studies at the installation have identified 64 sites. The installation has achieved response complete at 44 sites. The cleanup progress at Guam Apra Harbor Complex for FY99 through FY02 is detailed below.

In FY99, at NAVACTS, corrective measures implementation (CMI) was completed at Sites 16 and 17. The engineering evaluation and cost analysis and the design for the seawall to stabilize the cliff were completed for Site 1. Investigations were completed for Areas of Concern (AOC) 2 and 21. At NSRF, the removal action at Site 25 was completed and the site was undergoing long-term management as part of the groundwater study (AOC 1). At PWC, an interim remedial action (IRA) for Site 16 was completed. The CMI for solid waste management unit (SWMU) 1 was completed, and preparation of a closure report began. A screening ecological risk assessment (ERA) for SWMU 11 was initiated.

In FY00, the installation completed design and began construction of a landfill cap at NAVACTS Site 1. A removal action at NAVACTS AOC 2 was completed. An IRA at NAVACTS Site 4 was initiated. The draft revised screening ERA was completed for FISC Site 19. Groundwater sampling was conducted at PWC Site 17. Maintenance and monitoring continued at PWC Site 28-10.

In FY01, the installation completed the screening ERA for PWC SWMU 11 and the CMI for NAVACTS SWMU 26. Construction of the seawall and the landfill cap at NAVACTS Site 1 and fieldwork for the IRA at NAVACTS Site 4 were completed. Two rounds of groundwater monitoring were conducted at NAVACTS Site 31. Closure reports for NAVACTS SWMUs 16 and 17, FISC SWMU 12, and PWC SWMU 1 were partially completed.

In FY02, the installation completed the IRA and submitted the proposed plan recommending no further action (NFA) at NAVACTS Site 4. Fish sampling for the screening human health risk assessment was completed at NAVACTS Site 1. Remedial actions at NAVACTS AOCs 1 and 3 were completed. The site closeouts for NAVACTS SWMU 49 and PWC AOC 1 were completed. NFA Records of Decision (RODs) for NAVACTS SWMU 49 and PWC AOC 1 were signed. Removal action at PWC Site 17 began. Removal action at NAVACTS SWMU 26 was completed. The cost of completing environmental restoration at this installation changed significantly due to technical issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

NAVACTS completed revegetation work for Site 1 and initiated Phase II RI, including source characterization and risk evaluations. The installation completed site close out for NAVACTS Site 4 and closure of on-site monitoring wells for PWC Site 2810.

The installation is awaiting concurrence from Guam EPA on the closure reports for NAVACTS SWMUs 16 and 17, FISC SWMU 12, PWC SWMU 1, PWC SWMU 11, and NAVACTS SWMU 26.

FY03 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 NFA RODs for NAVACTS AOC 1, AOC 2, AOC 3, and Site 28 in FY04.

- Continue Phase II RI, including groundwater dye trace study and installation of new groundwater monitoring wells for NAVACTS Site 1 in FY04.
- Conduct baseline ERA for FISC Site 19 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|--|--|---|
| FFID: CA921402303800 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 669 acres | Funding to Date: | \$32.1 million | |
| Mission: Conducted Reserve training | Estimated Cost to Completion (Completion Year): | \$1.0 million (FY2005) | |
| HRS Score: N/A | Final RIP/RC Date for IRP Sites: | FY2005 | |
| IAG Status: None | Final RIP/RC Date for MMRP Sites: | FY2003 | |
| Contaminants: Metals, VOCs, SVOCs, fuel hydrocarbons, PCBs, PAHs, POLs, and pesticides | Five-Year Review Status: | N/A | |

Progress to Date

In December 1988, the BRAC Commission recommended closure of about 669 acres at Hamilton Army Airfield, as well as relocation of the airfield's mission. There are eight areas at the installation: a former petroleum/oil/lubricant (POL) hill area, a hospital complex, five "out parcels" (A-2, A-3, A-4, A-5, and A-6), 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. Metals, petroleum hydrocarbons (PAHs), volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), pesticides, and polychlorinated biphenyls (PCBs) are the main contaminants of concern. In FY94, the installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB). Out Parcels A-2, A-3, A-5, and A-6 were transferred to the City of Novato in 1996. In 2003, the Army transferred the hospital parcel to the City of Novato; it transferred Out Parcel A-4 to a developer; and it transferred the Main Airfield Parcel to the State of California.

The Army has completed two Records of Decision (RODs) to date. Approximately 20 of the 669 acres remain to be transferred. The cleanup progress at Hamilton Army Airfield for FY99 through FY02 is detailed below.

In FY99, the Army completed the comprehensive remedial investigation (RI) report, a fate-and-transport study, and risk assessment work. Interim removal actions were used to remove impacted soils for several sites that were identified in the RI report. The Army completed the design for the onshore fuel line remedy and removed the fuel line. The offshore fuel line was flushed, sealed, and abandoned in place. The regulators approved the offshore fuel line closure report, which concluded that the site requires no further action (NFA).

In FY00, the installation completed the interim removal actions for several airfield sites. Closure reports for Out Parcel A-4, the POL hill, and the hospital area were prepared and submitted to the regulators for review.

In FY01, the installation completed the sampling plan for the coastal salt marsh (CSM) sites and collected additional samples. The Army

provided the ROD for the airfield for public comment. Closure reports for Out Parcel A-4 and the hospital area were completed. The installation identified additional BRAC cleanup activities and scheduled fieldwork.

In FY02, the Army completed final remedial actions outlined in the ROD for the airfield sites. The Army completed CSM sampling, and prepared and submitted the feasibility study (FS) draft for review. The installation completed the finding of suitability to transfer (FOST) for Hospital Hill as planned and the Army initiated the transfer. The Army signed an NFA decision document for Out Parcel A-4 and sent the FOST to U.S. Army Forces Command for signature. The installation prepared the draft closure report and corrective action plan 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.

FY03 IRP Progress

The installation completed a combined ROD for the inboard and outboard sites. The Army completed a finding of suitability for early transfer (FOSET) for 630 acres and transferred those acres. The remaining 14 acres were removed from the early transfer package and will proceed with a straight transfer to the city. The Army transferred the Hospital Hill parcel to the City of Novato and transferred the A-4 Parcel to the developer. The installation completed the closure report, corrective action plan, and FOST for POL Hill. The closure report and the corrective action plan are awaiting regulatory concurrence, and FOST is awaiting final signature. The FS and ROD were completed for CSM sites.

Endangered species nesting season constraints delayed the RA for the CSM sites.

The RAB added four community members and reviewed the ROD/ remedial action plan and FOSET for the Main Airfield Parcel and the POL Hill FOST. An orientation was held for new and existing members.

FY03 MMRP Progress

The Army completed the CTT range and site inventory and identified one low risk Military Munitions Response Program (MMRP) site at this installation that requires no action.

Plan of Action

Plan of action items for Hamilton Army Airfield are grouped below according to program category.

IRP

- Prepare and complete the FOST for the levee parcel that was removed from the FY03 early transfer in FY04.
- Complete the transfer of the POL Hill and Levee parcels in FY04.
- Complete the remedial design for CSM sites in FY04.
- Complete the remedial actions for the CSM sites in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|--|--|---|
| FFID: MA157172442400 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 826 acres | Funding to Date: | \$34.7 million | |
| Mission: Support Electronic System Center | Estimated Cost to Completion (Completion Year): | \$10.2 million (FY2020) | |
| HRS Score: 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2003 | |
| IAG Status: Federal facility agreement under negotiation | Five-Year Review Status: | Completed FY2002/Planned FY2007 | |
| Contaminants: VOCs, chlorinated solvents, gasoline, jet fuel, tetraethyl lead, PCBs, and mercury | | | |

Progress to Date

Hanscom Air Force Base (AFB) acts to support the electronic system center and was placed on the NPL in May 1994. Operations at Hanscom AFB have involved generation, use, and disposal of numerous hazardous substances. Possible sources of contamination 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 (USTs), and fuel spill areas. Fourteen sites have been closed out and remedies are in place at eight remaining sites. In FY95, the installation converted its technical review committee to a Restoration Advisory Board. A 5-year review was completed for the Operable Unit 2 (OU 2) remedy in FY97 and for the Hanscom Field/Hanscom AFB Superfund site in FY02. Both 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. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Studies have identified 22 sites at the installation. 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 FY99 through FY02 is detailed below.

In FY99, the installation completed the human health risk assessment (HHRA) and ecological risk assessment (ERA) for OU 3/IRP Site 6 and the ERA for OU 1. MCP documentation was filed to establish natural attenuation as the final remedy for the base motor pool UST site.

In FY00, the installation completed a supplemental remedial investigation, HHRA, and ERA for OU 3/IRP Site 21 and finished a focused feasibility study (FFS) and a proposed plan (PP) for OU 3/IRP Site 6. Also, an FFS and an interim PP were completed for OU 1.

In FY01, the installation finalized the ROD and completed the design and construction of the final remedy for OU 3/IRP Site 6. The interim ROD to convert the OU 1 system to an interim final remedy was finalized. The no further remedial action planned decision documents for two UST sites

were also finalized. The feasibility study for OU 3/IRP Site 21 was completed, and the ROD for this site entered the signature phase. Regulator concurrence on the closeout of nine sites was received. The installation began remedial action operations (RA-O) at OU 1 and OU 3/IRP Site 6. RA-O at OU 2 (capped municipal waste landfill), the Army and Air Force Exchange Service (AAFES) service station, and base motor pool sites continued. The removal action at OU 3/IRP Site 21 also continued.

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, RA-O continued at OU 1, OU 2, OU 3/IRP Site 6, the 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. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

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 OU 1, OU 2, OU 3/IRP Site 6, the AAFES service station, and base motor pool sites.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for Hanscom AFB are grouped below according to program category.

IRP

- Continue RA-O at OU 1, OU 2, OU 3/IRP Site 6, OU 3/IRP Site 21, the AAFES service station, and base motor pool sites in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|-------------------------------------|--|--------------------------|
| FFID: | NE79799F041100 | Media Affected: | Groundwater and soil |
| Size: | 48,753 acres | Funding to Date: | \$69.7 million |
| Mission: | Produce, load, and store ammunition | Estimated Cost to Completion (Completion Year): | \$145.8 million (FY2056) |
| HRS Score: | 42.24; placed on NPL in June 1986 | Final RIP/RC Date for IRP Sites: | FY2008 |
| IAG Status: | IAG (effective September 1998) | Final RIP/RC Date for MMRP Sites: | FY1991 |
| Contaminants: | UXO, VOCs, PAHs, and heavy metals | Five-Year Review Status: | Underway FY2002 |



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 former naval yard dump, the explosives disposal area, and the bomb and mine complex production facility (OU 16); and an OU for a 44,500-acre area that consists of all areas of the former NAD not included in the other OUs (OU 15). The EPA placed the property on the NPL in 1986 and signed an interagency agreement in 1998. USACE formed a Restoration Advisory Board (RAB) at this property. The RAB received a technical assistance for public participation (TAPP) contract in FY99. USACE completed a 5-year review in FY02.

EPA signed a Record of Decision (ROD) for removal of surface soil. In FY95, EPA signed an amendment to this ROD. The Army approved a Military Munitions Response Program (MMRP) project in FY96. The cleanup progress for Hastings Groundwater Contamination Site for FY99 through FY02 is detailed below.

In FY99, the RAB received training through a TAPP contract. USACE completed the OU 14 ecological risk assessment (ERA) and submitted the OU 16 final draft removal action report for the explosives disposal area. The associated engineering evaluation and cost analysis (EE/CA) was completed, finding no need for further action. The Huntsville Division prepared an ordnance and explosives EE/CA that recommended institutional controls and education of the public for some portions of the NAD.

In FY00, USACE submitted a final OU 4 technical memorandum addressing carcinogenic polyaromatic hydrocarbons (cPAHs) and issued a proposed plan (PP). Construction of the OU 8 Phase II soil vapor extraction (SVE) system was completed, and the systems began operating. USACE submitted the draft-final feasibility study (FS) for groundwater contamination at OU 14 and the draft-final EE/CA for OU 15 to the regulators. EPA approved the ERA for OU 15. USACE also completed the OU 16 EE/CA. USACE developed the Hastings Project Web page as a communication tool for RAB members and the general public.

In FY01, USACE submitted the draft ROD for cPAH-contaminated surface soil (OU 4, OU 15, and OU 16) to the regulators. The cPAH predesign investigations of residential properties were completed. They also prepared a revision to the groundwater contamination FS. The remedial design (RD) and soil removal action at the OU 16 bomb and mine complex were completed, as were the RDs for the OU 15 removal actions (Area 10 SVE and pistol/rifle range soil removal). USACE completed the performance evaluation of the OU 8 Phase II SVE operating systems. The naval yard dump system was moved to Area 10 (OU 15) for future SVE remediation efforts. The USACE conducted an MMRP review.

In FY02, USACE completed the OU 4 PP and ROD for the cPAH contamination in surface soils at the NAD residential properties. The Army and EPA signed the residential cPAH ROD, completed design, and began soil remediation. The removal action at the OU 15 pistol range was completed. The contractor constructed the SVE system at Area 10, which continues to operate. The Army approved the removal action to provide alternate water to residents with contaminated groundwater. Installation of new supply wells for affected residents began. The provision of alternate water is a component of each remediation alternative in the site wide groundwater FS. The Army completed the initial 5-year review for the NAD. USACE submitted the final FS for OU 14.

FY03 IRP Progress

The cPAH remedial action (RA) for the nine residential properties was completed. Alternate water supply wells were installed for residents with contaminated groundwater. USACE initiated a quarterly sampling program to ensure the new wells are in compliance with federal and state drinking water standards. USACE completed a two phase pre-design investigation to support the future design of the OU 14 groundwater remediation system and initiated the groundwater modeling based on the investigation results. An FS to document completed removal actions for the OU 16 sites was initiated. Technical discussions with the regulators concerning cPAH cleanup levels for the non-residential properties of the NAD began. The cost of completing environmental restoration at this property has changed significantly due to technical issues.

Regulatory issues delayed the completions of the FS and the PP for OU 14.

FY03 MMRP Progress

No work was performed on MMRP sites at this property in FY03.

Plan of Action

Plan of action items for Hastings Groundwater Contamination Site are grouped below according to program category.

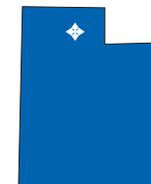
IRP

- Complete OU 15 baseline risk assessment in FY04.
- Complete OU 16 FS in FY04.
- Complete the PP for groundwater remediation in FY05.
- Complete the PP and ROD for the non-residential properties cPAH RA in FY05.

MMRP

- Conduct recurring review of ordnance response actions in FY04.

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|----------------------|---|--|--|
| FFID: | UT857172435000 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 6,666 acres | Funding to Date: | \$189.5 million |
| Mission: | Provide logistics support for weapons systems | Estimated Cost to Completion (Completion Year): | \$287.0 million (FY2028) |
| HRS Score: | 49.94; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2010 |
| IAG Status: | IAG signed in April 1991 | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | Solvents, sulfuric acid, chromic acid, metals, and petroleum wastes | Five-Year Review Status: | Completed FY2003/Planned FY2008 |



Progress to Date

The mission of Hill Air Force Base (AFB) is to provide logistics support for weapons systems. The installation was placed on the NPL in July 1987 and signed an interagency agreement in April 1991. 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. The installation formed a Restoration Advisory Board (RAB) in FY95. The installation conducted 5-year reviews in FY97 and FY03. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Since FY87, 109 sites have been identified. Forty-two of these sites have been grouped into 12 operable units (OUs). To date, the installation has signed Records of Decision for 6 OUs. The cleanup progress at Hill AFB for FY99 through FY02 is detailed below.

In FY99, a groundwater collection trench and a spring collection and treatment system were installed at OU 2. A groundwater pump-and-treat system and a natural attenuation (NA) and monitoring system were installed at OU 6. At OU 8, a groundwater pump and treat system was installed. Construction design was completed for six sites in OU 1, and three sites were closed.

In FY00, construction of groundwater collection and treatment systems began at six cleanup sites in OU 1. In addition, NA has been implemented at some off-base areas of OU 1. The installation closed seven sites, and final remedial actions (RAs) were completed at eight sites.

In FY01, the base reduced on-site treatment costs through partnerships with local sewer districts. Hill AFB completed final RAs at five sites and closed six sites. Five RAB meetings were held, and regulatory and RAB participation in numerous community meetings continued. Also in FY01, a comprehensive range inventory was initiated. This inventory was designed to be an annual, iterative effort. To supply data for the inventory, a detailed questionnaire was completed that collected data on the types of munitions used, the range's environmental status, and the type and level of external stakeholder interest.

In FY02, the installation completed an RA and closed one site. The installation continued to partner with regulatory agencies and to foster RAB involvement. The RAB met quarterly, and four RAB training

meetings and site tours were held. RAB members attended eight 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. The cost of completing environmental restoration at this installation changed significantly due to technical issues. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. MMRP sites were identified at this installation.

FY03 IRP Progress

The installation conducted a 5-year review and completed remedies in place (RIPs) at two sites. In addition, one site was closed and a feasibility study (FS) was completed for OU 8.

Regulatory issues delayed the completion of the innovative cleanup agreement for the Utah Test and Training Range (UTTR).

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.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) Scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

Plan of action items for Hill AFB are grouped below according to program category.

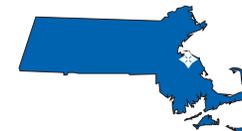
IRP

- Sign innovative cleanup agreement for the UTTR in FY04.
- Complete FSs for two OUs in FY04.
- Continue partnering with regulatory agencies and fostering RAB involvement in FY04–FY05.
- Complete RIPs at two sites in FY05.

MMRP

- Begin preliminary assessments in FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | MA121402280500 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 125 acres | Funding to Date: | \$3.5 million |
| Mission: | Served as a naval ammunition depot and Army Reserve center | Estimated Cost to Completion (Completion Year): | \$0.0 million (FY2001) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | None | Five-Year Review Status: | N/A |
| Contaminants: | POLs, heavy metals, VOCs, PCBs, and asbestos | | |



Progress to Date

In July 1995, the BRAC Commission recommended closure of Hingham Annex, a subinstallation of Devens Reserve Forces Training Area. The annex is now inactive. Studies have identified the following site types at the annex: underground storage tanks (USTs), aboveground storage tanks (ASTs), spill sites, waste disposal areas, sewage filter beds, storage areas for polychlorinated biphenyl (PCB)-containing transformers, and areas with asbestos-containing materials. Investigations to date have revealed groundwater and soil contaminated with volatile organic compounds (VOCs), petroleum/oil/lubricants (POLs), and heavy metals. Interim actions at the installation have included removal of USTs; ASTs; an oil-water separator; contaminated soil, including contaminated soil from an area that held PCB-containing electrical transformers; and asbestos abatement (building insulation and roofing tiles). In FY93, the Army formed a BRAC cleanup team. The Army completed the final BRAC cleanup plan in FY97. The installation conducted an unexploded ordnance (UXO) archives search to support a recommendation of no further action and prepared a report on the results in FY97.

The cleanup progress at Hingham Annex for FY99 through FY02 is detailed below.

In FY99, the installation completed a removal action at one POL-contaminated site, release abatement measures, and the final Phase II screening site inspection. The installation also conducted topographical surveys and asbestos abatement.

In FY00, the installation removed additional asbestos. It also completed a final draft sampling and analysis plan to address all sites requiring additional investigation.

In FY01, the installation completed the final sampling and analysis plan for the Phase II comprehensive site assessment. The Army awarded a guaranteed fixed-price remediation (GFPR) contract to address all remaining environmental issues. The GFPR contractor initiated remediation work based on the final sampling and analysis plan. The installation developed a public participation/involvement plan that includes monthly progress presentations.

In FY02, the installation completed documentation for a public conveyance site transfer. Milestone presentations and progress briefings enhanced public participation. The Army completed an inventory of

closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents. No Military Munitions Response Program (MMRP) sites were identified.

FY03 IRP Progress

The installation achieved regulatory closure in accordance with the Massachusetts Contingency Plan and assigned the property to the Department of the Interior for transfer to the Massachusetts Department of Environmental Management.

FY03 MMRP Progress

No MMRP sites were identified at this installation.

Plan of Action

Since all remaining cleanup activities except for operation and monitoring and all property was transferred, this is the last narrative for Hingham Annex.

IRP

No additional Installation Restoration Program (IRP) actions are required at this installation.

MMRP

No additional MMRP actions are required at this installation.

| | | | |
|----------------------|---|--|---------------------------------|
| FFID: | FL457212403700 | Media Affected: | Groundwater and soil |
| Size: | 2,938 acres | Funding to Date: | \$30.9 million |
| Mission: | Housed the Air Combat Command 31st Fighter Wing | Estimated Cost to Completion (Completion Year): | \$2.3 million (FY2015) |
| HRS Score: | 42.24; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | Federal facility agreement signed in March 1991 | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | Heavy metals, VOCs, cyanide, pesticides, solvents, and PCBs | Five-Year Review Status: | Completed FY2003/Planned FY2008 |



Progress to Date

Homestead Air Force Base (AFB) housed the Air Combat Command 31st Fighter Wing. The installation was placed on the NPL in February 1990 and signed a federal facility agreement 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. 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, a 5-year review was completed. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

In FY94, an environmental baseline survey identified more than 540 potentially contaminated sites. By FY95, 400 sites had been closed, and in FY96, the remaining sites were consolidated into 30 operable units (OUs) and 5 major fuel areas. To date, Records of Decision (RODs) have been signed for OUs 2, 11, 18, 26, 28, and 29. The cleanup progress at Homestead AFB for FY99 through FY02 is detailed below.

In FY99, a ROD was signed and remedial actions (RAs) were completed for OUs 18, 26, 28, and 29. RAs were also completed at OU 2 and Site SS-15A, and RAs with no further action (NFA) recommended were completed at two sites in SS-20, Buildings 900 and 966. The installation completed the remedial investigation for OU 1.

In FY00, RA plans were completed for OUs 20/21, 30, and 31. Closeout of SS-20, Building 766, and one site within SS-15B Pump House 4 was completed with NFA required.

In FY01, interim RAs (IRAs) were completed for OUs 20/21, 30, and 31. Building 711 was closed out. The installation held quarterly BCT meetings.

In FY02, the feasibility study and proposed plan for OU 11 as well as RAs for OUs 20/21, 30, and 31 were completed. The RA for OU 11 was initiated with the completion of the remedial design. The cost of completing environmental restoration at this installation has changed significantly due to technical issues. 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, allowing the Air Force and regulators to update the community on the program's status.

FY03 IRP Progress

The installation completed the 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. Responsibility for obtaining a ROD for the terrestrial portion of OU 11 is being transferred to Air Force Reserve Command. The installation initiated the RA for OU 11.

Regulatory issues delayed RODs for OUs 20/21, 30, and 31.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Homestead AFB are grouped below according to program category.

IRP

- Complete the RODs for OUs 20/21, 30, and 31 pending the resolution of the land use control/institutional control issue in FY04.
- Complete the work for OU 11 in FY04.
- Obtain an operating properly and successfully determination from EPA for OU 26 in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--|--|---|---|
| FFID: CA917002278400 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 934 acres | Funding to Date: | \$334.0 million | |
| Mission: Repaired and maintained ships | Estimated Cost to Completion (Completion Year): | \$176.6 million (FY2009) | |
| HRS Score: 48.77; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: | FY2008 | |
| IAG Status: Federal facility agreement signed in September 1990 and revised in January 1992 | Five-Year Review Status: | The installation has not completed a 5-year review. | |
| Contaminants: Heavy metals, PCBs, petroleum hydrocarbons, VOCs, and SVOCs | | | |

Progress to Date

In July 1991, the BRAC Commission recommended closure of this installation. 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 Engineering Field Activity West. 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. The installation was placed on the NPL in November 1989. In addition, it signed a federal facility agreement in September 1990 and was revised in January 1992. A BRAC cleanup team was formed in FY94. The installation's technical review committee was converted to a Restoration Advisory Board. The installation prepared its BRAC cleanup plan in FY94 and updates it regularly. The installation's FY89 community relations plan was revised in FY97.

Environmental studies at the installation have identified 78 CERCLA sites. The installation has completed a Record of Decision (ROD) for no further action at Parcel A. In addition, it has completed National Environmental Policy Act (NEPA) ROD and a finding of suitability to transfer (FOST) for Parcel A. The cleanup progress at Hunter's Point Annex – Treasure Island for FY99 through FY02 is detailed below.

In FY99, the installation began a risk management analysis at Parcels B through E. Parcel F was investigated under a regional approach covering offshore sediment at multiple naval facilities on San Francisco Bay.

In FY00, the installation completed NEPA and California Environmental Quality Act (CEQA) documents. The installation also submitted the Parcel B draft final land use control implementation plan (LUCIP) for review. An action memorandum (AM) to remove steam lines, fuel lines, and contaminated soil from Parcels C and D was developed. An AM was also developed for the remediation of low-level radioactive contamination at four buildings in Parcels D and E. A work plan was developed for performance of soil vapor extraction and groundwater chemical oxidation treatability studies (TSs) at Parcels B, C, and E.

FY01, the NEPA ROD was signed. The FOST for Parcel A was completed and the parcel was tendered to the City of San Francisco. A time-critical removal action (TCRA) was implemented to address the contaminated soil sites and Parcels C and D. A removal action to excavate, and dispose of off-site, low-level radioactive soil and debris

from three Parcel E buildings and one Parcel D building progressed. A 14-acre interim cap was installed at the Parcel E industrial landfill.

In FY02, the installation completed TCRA closeout reports for Parcels C and D. A Parcel D draft feasibility study (FS) was completed. The cost of completing environmental restoration at this installation changed significantly due to regulatory issues. The Navy has completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The Parcel A draft final FOST was prepared and will be finalized following completion of the historical radiological assessment (HRA). The installation has also completed the Parcel B risk management review (RMR). The installation has successfully completed innovative groundwater cleanup technology under TSs for the plumes and data gap sampling for Parcel C and E in FY03. The installation is continuing the radiological investigations and HRA for Parcel D. The cost of completing environmental restoration at this installation has changed significantly due to estimation criteria issues.

The Parcel C draft final FS was put on hold to incorporate the Parcel B RMR process. The Parcel D FS and propose plan (PP) was delayed to allow completion of removal action.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Hunters Point Annex – Treasure Island are grouped below according to program category.

IRP

- Convey Parcel A and complete the HRA report in FY05.
- Complete Parcel B PP and Parcel B ROD amendment in FY04.
- Complete Parcel C FS and PP and begin TCRA for soil in FY04.
- Complete Parcel D FS and PP in FY04.
- Complete one Parcel D removal action and three Parcel E remedial actions for soil in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|--|
| FFID: | MD317002410900 | Contaminants cont'd: | low-level radioactive material, TCE, and industrial wastewater |
| Size: | 3,423 acres (923 acres at Stump Neck Annex) | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: | Provide services in energetics through engineering, operational support, manufacturing technology, and production, and conduct research, development, and testing of energetic and ordnance devices | Funding to Date: | \$24.3 million |
| HRS Score: | 50.00; placed on NPL in February 1995 | Estimated Cost to Completion (Completion Year): | \$62.9 million (FY2016) |
| IAG Status: | Signed federal facility agreement | Final RIP/RC Date for IRP Sites: | FY2014 |
| Contaminants: | Waste propellants, explosives, acids, paints, solvents, heavy metals, | Final RIP/RC Date for MMRP Sites: | FY2016 |
| | | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

The 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. The installation prepared a community relations plan and established an information repository. In FY98, the administrative record was converted to an electronic format. A federal facilities agreement (FFA) was completed in FY01. The Indian Head Installation Restoration partnering team meets approximately ten times a year and has been highly successful in facilitating agreements between the Navy and regulators. The site management plan and electronic administrative record were updated.

The installation has identified 88 sites. Draft Records of Decision (RODs) have been completed for Sites 12, 41, and 44. To date, the installation has signed a no further action (NFA) ROD for Site 44. The cleanup progress at Indian Head NSWC for FY99 through FY02 is detailed below.

In FY99, a removal action was completed at Site 57. Remedial investigation (RI) fieldwork was completed at Site 47. The final report for Sites 12, 41, 42, and 44 was completed, and a feasibility study (FS) was initiated.

In FY00, the installation completed work plans for the RI fieldwork at Sites 15, 16, 49, and 53. The RI fieldwork at Sites 11, 13, 17, 21, and 25 was completed. Draft proposed plans and RODs were completed for Sites 12, 41, and 44. The remedial action construction contractor completed the constructability and implementability analysis for Sites 12 and 42.

In FY01, the installation reached an FFA with EPA. The remedial design (RD) for Site 12 was completed and the removal action initiated, through extensive partnering with regulators. The 65 percent RD for Site 41 was completed. Fieldwork for the Mattawoman Creek baseline risk assessment was completed. A rapid sediment screening technique was implemented to assist with workplan development, and a toxicity identification evaluation demonstration was conducted to gather toxicity data on discharges to the creek.

Navy

In FY02, the installation completed the desktop audit of 28 FFA areas of concern (AOCs). A decision document (DD) recommended no action for 17 AOCs. The relative-risk of Site 28 was re-evaluated following sampling, and it was moved to the high-risk category. An RI was initiated. Removal actions were initiated for Sites 12 and 41. The no action ROD for Site 44 was signed. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed the removal actions for Site 12. The NFA documents were signed at Sites 32, 34, 51, 52. In addition, the pilot study using hydrogen-reducing compounds was implemented at Site 57. The lessons learned for Site 12 were compiled and include information on erosion control measures and selection of fill material.

Long-term monitoring at Site 12 was delayed due to technical issues. A stop work is in effect at Site 41 due to technical problems. The FS for Sites 15, 16, 49, 50, 53, 54, 55 (combined as "Lab Area") was delayed due to regulatory issues and the need for a baseline environmental risk assessment (BERA). The RIs for Sites 6, 28, 39, 45, and 47 were delayed due to regulatory and technical issues. The RD for Site 42 was delayed due to a decision for clean closure versus capping.

FY03 MMRP Progress

The installation developed a range inventory and 24 new MMRP sites were created. Preliminary assessments (PAs) for all MMRP sites were initiated.

Plan of Action

Plan of action items for Indian Head NWSC are grouped below according to program category.

IRP

- Complete the RIs for Sites 6, 11, 13, 17, 21, 25, 28, 39, and 45 in early FY04.
- Complete the NFA proposed plans for Sites 13 and 25, a DD for Site 5, and a NFA DD for Site 45 in FY04.

- Complete the Mattawoman Creek ERA in FY04.
- Complete a BERA and removal action at Sites 17, 47, and the Lab Area in FY05.

MMRP

- Complete PAs for MMRP sites in FY04.

| | | | |
|----------------------|---|--|---|
| FFID: | IN517002349900 | Contaminants cont'd: | pesticides, wastewater, heavy metals, acids, POLs, PCBs, and VOCs |
| Size: | 185 acres | Media Affected: | Groundwater and soil |
| Mission: | Conduct research, development, engineering, and limited manufacturing of aviation electronics and of missile, space-borne, undersea, and surface weapons systems, and related equipment | Funding to Date: | \$1.7 million |
| HRS Score: | N/A | Estimated Cost to Completion (Completion Year): | \$0 million (FY2003) |
| IAG Status: | None | Final RIP/RC Date for IRP Sites: | FY2001 |
| Contaminants: | Solvents, degreasers, alcohol, chemical laboratory waste, | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

Indianapolis Naval Air Warfare Center, Aircraft Division (NAWCAD) was commissioned in 1942 as a naval ordnance plant. Its mission was later redefined to add space, undersea, and surface weapons. Typical operations conducted at the facility included machining; electroplating; degreasing of metal parts; carpentry; painting; operation of photographic laboratories; testing and evaluation; destruction of documents; and storage of supplies, materials, and fuels. In July 1995, the BRAC Commission recommended closure of NAWCAD. A Restoration Advisory Board was formed in FY96. The installation also established an information repository and completed a community relations plan. A BRAC cleanup team was formed in FY96.

The installation has completed a finding of suitability to transfer (FOST) for Parcels 1A and 2A. The FOST for Parcel 2A covers 19.9 acres. The installation has also completed a FOST for Parcel 1B. The cleanup progress at Indianapolis NAWCAD for FY99 through FY02 is detailed below.

In FY99, polychlorinated biphenyls (PCBs) were found in construction materials at Building 1000. The environmental assessment was completed. An engineering evaluation and cost analysis (EE/CA) was completed, and an interim remedial action (IRA) was conducted. Decision documents for Group 1 and a remedial investigation (RI) report were finalized.

In FY00, the installation prepared an EE/CA action memorandum. The final Phase II RI report and a FOST for Parcel 1A were completed. A remedial action was conducted for Site 1. A final feasibility study and proposed plan were completed. A government radioactive materials survey was also completed. The BRAC cleanup plan was revised. Initial transfer of property was completed.

In FY01, the installation completed the first round of groundwater sampling and the work plan for PCB decontamination. The FOST was completed for Parcel 2A, which consists of 19.9 acres. The IRAs for AOC 10 and 17 were completed.

In FY02, the installation completed PCB cleanup of Building 1000. The Navy has completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed the FOST for Parcel 1B. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

FOST for Parcel 2B was delayed due to technical issues.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Indianapolis Naval Warfare Center are grouped below according to program category.

IRP

- Complete FOST for Parcel 2B in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--|--|--|---|
| FFID: IA721382044500 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 19,011.42 acres | Funding to Date: | \$72.0 million | |
| Mission: Load, assemble, and pack munitions | Estimated Cost to Completion (Completion Year): | \$68.9 million (FY2039) | |
| HRS Score: 29.73; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2012 | |
| IAG Status: IAG signed in December 1990 | Five-Year Review Status: | Planned | |
| Contaminants: Explosives, heavy metals, Rad, and VOCs | | | |

Progress to Date

In 1941, the Army constructed the Iowa Army Ammunition Plant (AAP) to load, assemble, and pack various conventional ammunition and fusing systems. During operations, industrial process wastewater and by-products were disposed of 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): a soil OU (OU 1), a groundwater OU (OU 3), and an overall OU (OU 4). 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 installation formed a Restoration Advisory Board (RAB) in FY97.

Environmental studies have identified 51 sites at the installation. Of those sites, 41 require further action. To date, the installation has completed one interim Record of Decision (ROD) and one final ROD to address soil contamination. The Army excavated and incinerated pesticide-contaminated soil off-site and excavated explosives-contaminated sumps. It also removed contaminated soil and capped five landfill cells. The installation funded a project connecting local residences to a public water supply because of off-post environmental impacts. The cleanup progress at Iowa AAP for FY00 through FY02 is detailed below.

In FY00, the installation completed the cap extension at the inert disposal area and final removal of soil from around production buildings at Lines 5A/5B.

In FY01, the installation completed soil removal at the west burn pads. It also successfully implemented a study of off-post groundwater and remedial investigation (RI) activities for the Line 800 pink water lagoon. Treatment of explosives-contaminated soil from the west burn pads area was completed; metals treatment for the same soil was initiated. Evaluations related to past Atomic Energy Commission (AEC) activities began. Various sites were reviewed for possible inclusion in the Formerly Utilized Sites Remedial Action Program (FUSRAP). The installation's RAB received training on radiological contaminants, reviewed project activities, and helped establish project priorities.

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 AEC industrial activities. Funds were provided to conduct an aerial radiological survey. The Army continued to study off-post groundwater and prepared the RI activities for the Line 800 pink water lagoon. The Army completed the metals treatment for soil from the west burn pads area.

FY03 IRP Progress

The installation continued the off-post groundwater characterization and completed a supplemental soil removal at the fire-training pit. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

Regulatory issues delayed the supplemental RI for the incendiary disposal area, the possible demo site, the old fly ash waste pile, and the 3A pond. Technical issues delayed groundwater modeling at numerous sites.

FY03 MMRP Progress

The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

Plan of Action

Plan of action items for Iowa AAP are grouped below according to program category.

IRP

- Initiate a performance-based contract to address the entire Installation Restoration Program (IRP) effort at Iowa AAP in FY04.
- Resolve the formal scheduling dispute with EPA in FY04.

MMRP

- Complete the CTT ranges and sites inventory in FY04.

| | | | |
|----------------------|---|--|---|
| FFID: | FL417002441200 | Contaminants cont'd: | pesticides, phenols, and radioisotopes |
| Size: | 3,820 acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: | Maintain and operate facilities; provide services and materials to support aviation activities and aircraft overhaul operations | Funding to Date: | \$82.2 million |
| HRS Score: | 31.02; placed on NPL in November 1989 | Estimated Cost to Completion (Completion Year): | \$24.8 million (FY2017) |
| IAG Status: | Federal facility agreement signed in October 1990 | Final RIP/RC Date for IRP Sites: | FY2014 |
| Contaminants: | Waste solvents, acids and caustics, cyanide, heavy metals, POLs, low-level radioactive wastes, oil, paint, PCBs, | Five-Year Review Status: | The installation completed a 5-year review and the remedy remains protective. |



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. 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. The installation was placed on the NPL in November 1989 and signed a federal facility agreement in October 1990. In FY91, the installation completed its community relations plan and established an administrative record and an information repository. In FY01, the installation completed a 5-year review.

The installation contains 49 CERCLA sites, 24 underground storage tank (UST) sites, and 5 RCRA solid waste management units (SWMUs). Jacksonville NAS has identified 78 sites. The installation has completed Records of Decision (RODs) for Operable Unit (OU) 2, OU 3, point source of contamination (PSC) 16, and PSC 21. In addition, an interim ROD has been completed for one site. The installation has also completed no further action designation for UST 13 and Area A at UST 17. The cleanup progress at Jacksonville NAS for FY99 through FY02 is detailed below.

In FY99, a full ecological risk assessment was conducted. The remedial investigation/feasibility study (RI/FS) for PSC 51 and Hangar 1000 began. The ROD for OU 2 was signed. A site assessment report (SAR) and a remedial action plan (RAP) were approved for UST 15.

In FY00, the RI/FS and RODs were completed for OU 3, PSC 16, and PSC 21. A remedial system was implemented at UST 4. Work plans began on the SAR and RAP for UST 14.

In FY01, the installation continued efforts to obtain a RCRA closure permit for Hangar 1000 and the T-56 wash area. The RI/FS for Hangar 1000, PSC 46, PSC 47, and PSC 51 was underway. The remedial designs for three sites were completed. The installation initiated an investigation at UST 14. Monitoring at T-56, the plating shop, and SWMU 1 was underway. Operations and maintenance began at the

UST 15 remedial system. The installation completed a 5-year review as planned.

In FY02, the installation completed a 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 cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy has completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed SARs at the petroleum contaminated areas (PCAs) 5, 18, 19, 22I, and 23 and completed soil excavation at PCAs 5 and 14. The installation is continuing the RA for PSCs 11 (Building 180), 11 (Area B), 15 (Area G) and 48, PCAs 4, 14, and 16, and USTs 14 and 15. The RI/FS for PSCs, 46, and 51 were completed. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The interim remedial action for PSC 46 was not completed due to regulatory issues. The RI/FS for PSCs 11 (Area A and E), 47 and 52 were not completed due to technical issues.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Jacksonville NAS are grouped below according to program category.

IRP

- Complete RI/FS for PSCs 52, 47, and 11 (Areas A and E) in FY04.
- Complete ROD for PSCs 11 (Areas A and E), 46, 47, 51, and 52 in FY04.
- Complete the treatability studies at PCAs 4, 14, and 16 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|------------------------|
| FFID: | IN521382045400 | Media Affected: | Groundwater and soil |
| Size: | 55,270 acres | Funding to Date: | \$26.5 million |
| Mission: | Performed production acceptance testing of ammunition, weapons, and their components | Estimated Cost to Completion (Completion Year): | \$1.1 million (FY2005) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2005 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY2003 |
| Contaminants: | Solvents, petroleum products, VOCs, PCBs, heavy metals, depleted uranium, and UXO | Five-Year Review Status: | N/A |



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, although 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 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 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 RAB received a technical assistance for public participation (TAPP) contract in FY99.

The Army has transferred 1,200 acres to date. The cleanup progress at Jefferson Proving Ground for FY99 through FY02 is detailed below.

In FY99, the installation prepared a finding of suitability to transfer (FOST) for approximately 1,200 acres and submitted two additional FOSTs for public review. The TAPP contractor provided its review of the installation's Phase II RI in support of the RAB. The Army approved the installation's UXO statement of clearance for the airfield area, and the installation completed the UXO clearance fieldwork for the eastern parcel. The installation was also able to complete the Phase II of the engineering evaluation and cost analysis for UXO clearance on the western parcel.

In FY00, the installation received regulatory concurrence from EPA Region 5 on the closure of the open burning unit. The installation continued to prepare technical memoranda for selected sites slated for future closure.

In FY01, the installation signed the FOST and sent the deed to Army headquarters for signature for the transfer of the Defense Reutilization and Marketing Office (DRMO) area. The Army completed the transfer of the

central cantonment area (approximately 1,200 acres). The installation continued to work with competing local interests to resolve the transfer of a 300-acre western parcel. Additional RI fieldwork continued at selected sites. In FY02, the installation completed the RI of the area south of the firing line and submitted the final document to the regulators. The installation forwarded a revised FOST for the airfield area through channels 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 RAB held quarterly meetings and the community TAPP provider reviewed the draft final RI. 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.

FY03 IRP Progress

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. A draft FOST for the Western Wooded parcel was issued for public review. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Regulatory issues delayed the transfer of the Airfield parcel, which is awaiting signature.

The RAB held quarterly meetings and the community TAPP provider reviewed the draft FS.

FY03 MMRP Progress

The Army completed the inventory of CTT ranges and sites and identified 15 Military Munitions Response Program (MMRP) sites.

Plan of Action

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

IRP

- Transfer Airfield parcel in FY04.

- Transfer Northeast parcel in FY04.
- Transfer Western Wooded parcel in FY04.
- Obtain Nuclear Regulatory Commission indefinite duration possession only license amendment for the installation's depleted uranium license in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------|
| FFID: | CA99799F546700 | Media Affected: | Groundwater |
| Size: | 176 acres | Funding to Date: | \$0.6 million |
| Mission: | Conduct research and develop aeronautics, rocketry, and space exploration technology | Estimated Cost to Completion (Completion Year): | \$0.04 million (FY2004) |
| HRS Score: | 50.00; placed on NPL in October 1992 | Final RIP/RC Date for IRP Sites: | FY2000 |
| IAG Status: | IAG between NASA and EPA signed in 1992 | Five-Year Review Status: | N/A |
| Contaminants: | VOCs and various inorganic chemicals | | |



Progress to Date

The California Institute of Technology Jet Propulsion Laboratory—which developed aeronautics, rocketry, and space exploration technologies—was placed on the NPL in October 1992. An interagency agreement was signed between NASA and EPA in 1992. Samples from drinking water wells for the city of Pasadena were found to be contaminated with volatile organic compounds (VOCs), including trichloroethane, trichloroethylene (TCE), and tetrachloroethylene.

The laboratory property was divided into three operable units (OUs): on-site groundwater contamination (OU 1), on-site contamination sources (OU 2), and off-site groundwater contamination (OU 3). A Record of Decision (ROD) for OU 2 has been signed. The cleanup progress at the Jet Propulsion Laboratory for FY99 through FY02 is detailed below.

In FY99, the groundwater hydrology modeling of Raymond Basin was completed. In addition, NASA and the Jet Propulsion Laboratory completed the final remedial investigations (RIs) for OU 1, OU 2, and OU 3.

In FY00, two feasibility study (FS) perchlorate pilot studies were completed. NASA transferred Superfund cleanup oversight for the Jet Propulsion Laboratory property to the Navy and its contractors.

In FY01, the Navy completed the proposed plan and public meetings were held for OU 2. The Navy completed a draft ROD. NASA, U.S. Army Corps of Engineers (USACE), the Department of Justice, and the California Institute of Technology signed the final confidentiality agreement. Cost-sharing negotiations were ongoing. The Navy performed sampling, analysis, and fieldwork in support of the RI/FS for OU 1 and OU 3. The Navy also completed pilot studies for removal of perchlorate and VOCs from groundwater at OU 1, including a pilot study to remove perchlorate through a fluidized bed reactor. The soil vapor extraction (SVE) pilot study at OU 2 was underway with the potential for expansion to a remedial action (RA) as part of the final remedy.

In FY02, the Navy completed the ROD and draft remedial design (RD) for OU 2. Preparation work for OU 2 RA began with the installation of three new SVE wells. Phase I of the SVE pilot test was completed. The Navy completed a draft engineering evaluation and cost analysis (EE/CA) for the RA design in OU 3. Further ex situ perchlorate pilot testing was performed for OU 1. The Navy began work on the OU 1 and OU 3 FS and completed an expanded groundwater model for OU 1 and OU 3.

FY03 IRP Progress

NASA completed a final draft of the EE/CA for the RA at OU 3. The RD for OU 2 was finalized and the RA for OU 2 was installed and implemented. Additional ex situ perchlorate pilot testing was completed and an in situ perchlorate pilot test continued at OU 1. The cost of completing environmental restoration at this property has changed significantly due to technical issues.

Regulatory issues delayed the final EE/CA, start of RA, and draft FS for OU 3. The completion of a draft FS for OU 1 was delayed due to implementation of the expanded treatability study.

FY03 MMRP Progress

USACE has identified no previous Military Munitions Response Program (MMRP) work at this property.

Plan of Action

Plan of action items for the Jet Propulsion Lab are grouped below according to program category.

IRP

- Complete a draft FS for OU 1 in FY04.
- Complete final EE/CA and begin RA for OU 3 in FY04.
- Complete draft FS for OU 3 in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------|
| FFID: | IL521382046000 | Media Affected: | Groundwater and soil |
| Size: | 23,544 acres (presently 4,677 acres) | Funding to Date: | \$69.3 million |
| Mission: | Manufacture, load, assemble, and pack munitions and explosives | Estimated Cost to Completion (Completion Year): | \$64.8 million (FY2032) |
| HRS Score: | 35.23 (Loading, Assembling, and Packing Area); placed on NPL in March 1989; 32.08 (Manufacturing Area); placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2009 |
| IAG Status: | IAG signed in June 1989 | Final RIP/RC Date for MMRP Sites: | FY2018 |
| Contaminants: | Explosives, heavy metals, VOCs, and PCBs | Five-Year Review Status: | Planned |



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 14,385-acre LAP Area and the 9,159-acre Manufacturing Area on the NPL in July 1987. 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 in June 1989. In FY95, the installation formed a Restoration Advisory Board.

Environmental studies conducted between FY78 and FY88 identified 53 sites at Joliet AAP. The Army has transferred over 18,000 acres, including 15,000 acres to the U.S. Forest Service in compliance with congressional legislation. The Army also completed an installationwide Record of Decision (ROD). The cleanup progress at Joliet AAP for FY99 through FY02 is detailed below.

In FY99, Joliet completed the installationwide ROD and approved the associated remedial design and remedial action work plans. It also completed remediation of all but one polychlorinated biphenyl (PCB)-contaminated site, finished excavation of the tetryl production area, and initiated a groundwater remedy.

In FY00, the Army built a bioremediation facility and excavated approximately 50,000 cubic yards of explosives-contaminated soil. The Army also made significant progress on the 3-year project to excavate contaminated soil in the TNT production area. Groundwater monitoring continued, and the Army recommended two sites for closure. A risk analysis study concerning the ecosystem was completed. The installation conveyed 2,013 acres to the State of Illinois for industrial park reuse.

In FY01, the installation completed bioremediation of 35,000 tons of explosives-contaminated soil. It reduced bioremediation costs by using innovative technologies. The groundwater remedy was underway, as were management group work and actions to facilitate preparation of the final ROD for the future U.S. Department of Agriculture (USDA) lands. The installation conveyed 218 acres of remediated property to the State of Illinois for partial industrial reuse.

In FY02, the installation completed bioremediation of an additional 36,000 tons of explosives-contaminated soil. Four hundred fifty five acres were conveyed to Will County, Illinois. The Army initiated the ROD for future USDA lands. The Army initiated an inventory of closed, transferred and transferring ranges and sites with unexploded ordnance (UXO), discarded military munitions, or munitions constituents. Military Munitions Response Program (MMRP) sites were identified at this installation. Two sites were cleared of UXO. The excavation of explosives-contaminated soil from the TNT production area resumed; over 40,000 tons were excavated. In addition, prior to the last tenant leaving the installation, they swept their function test area and removed UXO debris prior to acceptance of the property by Joliet AAP.

FY03 IRP Progress

The installation excavated an additional 40,000 tons of explosive-contaminated soil from the TNT production area and bioremediated 36,000 tons of soil. The third land transfer to State of Illinois for Island City Industrial Park was completed. The 5-year review is on schedule.

A multi-agency group, including the Army, EPA, Illinois EPA, USDA, the Forest Service, U.S. Fish and Wildlife Service, and the Illinois Department of Natural Resources, reached agreement on the cleanup goals for Joliet AAP land transferring to USDA.

FY03 MMRP Progress

The Army initiated a site inspection for four MMRP sites.

Plan of Action

Plan of action items for Joliet AAP are grouped below according to program category.

IRP

- Complete 5-year review for groundwater OU in FY04.
- Complete a feasibility study, proposed plan, and ROD for lands transferring to USDA in FY04.
- Excavate and bioremediate an additional 36,000 tons of explosives-contaminated soil in FY04.
- Transfer remaining balance of land to State for Island City Industrial Park in FY04.

MMRP

- Complete site inspection phase for MMRP sites in FY04.

| | | | |
|----------------------|---|--|-------------------------|
| FFID: | MI557002476000 | Media Affected: | Groundwater and soil |
| Size: | 4,964 acres | Funding to Date: | \$52.2 million |
| Mission: | Conducted long-range bombardment and air refueling operations | Estimated Cost to Completion (Completion Year): | \$25.7 million (FY2051) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | None | Five-Year Review Status: | Planned FY2004 |
| Contaminants: | Petroleum, pesticides, heavy metals, and solvents | | |



Progress to Date

In July 1993, the BRAC Commission recommended closure of K.I. Sawyer Air Force Base, 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 areas, underground storage tanks (USTs), aboveground storage tank (AST) spill sites, drainage pits, and a drainage pond. The primary contaminants affecting soil and groundwater are petroleum hydrocarbons, trichloroethylene (TCE), tetrachloroethylene, vinyl chloride, and heavy metals. Interim remedial actions have included removal of USTs, removal and cleanup of contaminated soil, installation of 14 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, and installation of bioventing systems. In FY94, a Restoration Advisory Board was formed and the installation received a technical assistance for public participation (TAPP) grant for work performed in FY99. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Twenty-seven 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 for FY99 through FY02 is detailed below.

In FY99, remedial action (RA) at the explosive ordnance disposal range included the installation of a permeable membrane cover, clean cover material, topsoil, and vegetation. An upgraded contaminant capture system was installed at the leading edge of the ST-04 contaminant plume. The final RA plan (RAP) was completed for Landfill 01 (LF-01) and a draft RAP was completed for ST-04. In addition, RA was completed at LF-01. TAPP funding was used for the technical review of documents for ST-04, FT-06, and LF-01.

In FY00, long-term operations of the DP-02 pump and treat system continued. Eight large ASTs and associated underground product piping for Wells Bulk Fuel Terminal were removed. Long-term management of landfill caps was also initiated.

In FY01, a soil vapor extraction system was installed to remediate solvent- and fuel-contaminated soil at FT-06. Operation of treatment systems and groundwater monitoring continued. At OT-13 (Wells Terminal), soil was tested to better define areas of contamination, and a draft screening-of-remedial-alternatives document was completed.

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 remedial action construction (RA-C) began for the removal of contaminated soil and the installation of a soil venting system at OT-13. RD was also completed and RA-C was initiated for the alteration and upgrade of the fuel recovery trench at ST-04. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues.

FY03 IRP Progress

The installation completed drafting the planning document for removal action at the Site 28 Defense Reutilization Marketing Office site and the H1 landfill groundwater slurry wall trench. The installation continued progress with the remedial investigations and feasibility studies 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.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Restoration Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for K.I. Sawyer are grouped below according to program category.

IRP

- Complete final basewide master RAP in FY04.
- Complete modification of ST-04 interceptor trench in FY04.
- Complete final RAP for Wells Terminal in FY04.
- Complete RA-C at Wells Terminal in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

Kaho'olawe Island

Former Navy Bombing/Military Training Range

Kaho'olawe, Hawaii

| | | | |
|----------------------|---|--|--|
| FFID: | NA | Media Affected: | Sediment and soil. |
| Size: | 28,800 acres | Funding to Date: | \$460 million (FY1994–FY2004) |
| Mission: | The island and surrounding waters of Kaho'olawe Island were an active naval gunfire and air-to-surface target and military training range for 50 years. | Estimated Cost to Completion (Completion Year): | Kaho'olawe cleanup has been completed. A portion of the funds appropriated to date has been retained to address newly discovered, previously undetected UXO. |
| HRS Score: | Not scored. | Final RIP/RC Date for IRP Sites: | N/A |
| IAG Status: | N/A | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | UXO and UXO remnants, target vehicles, tires, heavy metals, petroleum, oil, and lubricants. | Five-Year Review Status: | N/A |



Progress to Date

Kaho'olawe Island, previously used as ranch lands, was an active military training and target range for 50 years with the full spectrum of conventional ordnance expended. At its farthest points, Kaho'olawe is 11 miles long and 7 miles wide, and covers approximately 28,800 acres. The entire island of Kaho'olawe is on the National Register of Historic Places and portions of the island have been designated as critical habitat for a moth and a plant pursuant to the Endangered Species Act.

Title X of the Department of Defense Appropriations Act for Fiscal Year 1994 directed that the United States convey Kaho'olawe to the State of Hawaii, and enter into a Memorandum of Understanding (MOU) with the state governing the terms and conditions of a cleanup sufficient to assure meaningful, safe use of the island for cultural, historical, archaeological, and educational purposes as determined by the State of Hawaii. In May 1994, the property was transferred to the State of Hawaii by quitclaim deed and the required MOU was recorded. While the deed reserved to the United States the perpetual right to access the island for ordnance clearance, removal, or environmental restoration activities, the Navy's right to control access to the island will expire on November 11, 2003.

By two provisions of special non-Defense Environmental Restoration Account (DERA) legislation, Congress authorized up to \$460 million of non-DERA funding for clearance/cleanup work; \$400 million in one fund, of which 11% was passed to the State of Hawaii as directed by Title X, and \$60 million in another fund, both specifically for cleanup work on Kaho'olawe. Under the Commander, Navy Region Hawaii, the Naval Facilities Engineering Command, Pacific Division, served as the execution agent for the clearance/cleanup work, which was performed by a contractor. The Kaho'olawe Island Reserve Commission, a seven-member volunteer board appointed by the Governor of the State of Hawaii, was designated as the State's representative to the Navy for the Kaho'olawe cleanup.

As of FY03, a total of 20,352 acres had been surface cleared (items removed include: unexploded ordnance (UXO), small arms, targets, tires, miscellaneous solid waste, UXO remnants, fragments, and casings) and resolved of environmental concerns. Of those acres, 2,625 were further cleared subsurface to a four-foot depth. A total of approximately 11.4 million pounds of UXO fragments, remnants and targets have been collected, of which 3.8 million pounds have been thermally processed, and 7.6 million pounds shipped off-island for

recycling or disposal. Approximately 14,000 tires (3,510 cubic yards) have been collected and shipped off-island. The Navy believes it has accomplished the original Title X goal to provide reasonably safe and meaningful use of the island, as several thousand visits by the public have already been recorded.

All response action to date has been undertaken pursuant to the Department of Defense Appropriations Act for Fiscal Year 1994 using non-DERA funds. The \$460 million authorized were appropriated over ten years.

Plan of Action

- Complete demobilization in FY04.
- Clear surface UXO from an additional 1,224 acres in FY04.

In October 2003, the Navy and the State of Hawaii signed an agreement that provides for the Navy to respond to newly discovered, previously undetected ordnance. A prompt response will be provided when ordnance is found in an area where human access occurs regularly; a deferred response will be provided when a sufficient number and types of ordnance have been located to warrant the mobilization of a team for a 5-day level of effort. This protocol addresses human safety while maximizing both parties' interest in having a minimal number of Navy visits to the island.

| | | |
|--|---|---|
| FFID: TX657172433300 | Media Affected: Groundwater and soil |  |
| Size: 3,997 acres | Funding to Date: \$193.5 million | |
| Mission: Provide depot-level aircraft and engine repair | Estimated Cost to Completion (Completion Year): \$197.9 million (FY2020) | |
| HRS Score: N/A | Final RIP/RC Date for IRP Sites: FY2004 | |
| IAG Status: None | Five-Year Review Status: Planned FY2004 | |
| Contaminants: Metals, VOCs, and SVOCs | | |

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 in 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 FY96, a BRAC cleanup team was formed and the first BRAC cleanup plan was issued. The installation received technical assistance for public participation (TAPP) funding in FY99.

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 portion of this installation and two former range sites. Sites were separated into five zones. The cleanup progress at Kelly AFB for FY99 through FY02 is detailed below.

In FY99, stormwater reroutes were completed for cross-connections within the base. Delineation and characterization were completed for Zone 3, and sampling was conducted in the off-base area. Remedial actions (RAs) were conducted for Zones 2 and 3. A slurry wall was installed for the former metal plating shop. A project was initiated to remove radioactive sources at RD-1. Bioaugmentation was implemented at a chlorinated solvent spill site in the industrial area of the base. A TAPP grant allowed the base RAB to review the basewide groundwater assessment and the Agency for Toxic Substances and Disease Registry (ATSDR) public health assessment.

In FY00, the Zone 1 and Zone 5 corrective measures study (CMS) reports were completed, as was the interim RA (IRA) for Site S-1. Construction on the Quintana Road stormwater culvert project, which prevents further migration of contaminated groundwater, continued. The IRA for Zone 4 groundwater was completed and is operational. Zone 2 and Zone 3 IRP projects and several RCRA solid waste management unit closure projects were combined into a single comprehensive project.

In FY01 the base was closed and realigned. Seventeen IRP sites were realigned to Lackland AFB in Zone 1 and parts of Zone 5 were

transferred. The installation removed an inactive electroplating facility suspected of being a major source of groundwater contamination for Zone 3. The Site S-4 IRA groundwater cleanup system was completed. The draft final Zone 4 soil and off-base shallow groundwater plume remedial investigation were submitted for regulatory review. Input from the community and the San Antonio City Council regarding a community-based solution for off-base shallow groundwater contamination was received.

In FY02, inactive portions of the former industrial wastewater treatment plant (IWTP) were removed. 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 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 another groundwater containment trench begun 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 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 review proposed cleanup plans for two sites and an ATSDR public health assessment. Several other partnerships have been established with the community and regulatory agencies to address public health issues.

FY03 IRP Progress

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 closed. Ten no further action determinations were approved for radiological sites. The installation decontaminated and demolished building and interior sewer lines for 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 local redevelopment authority.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Kelly AFB are grouped below according to program category.

IRP

- Install Zones 4 and 5 off-base shallow groundwater remedies in FY04.
- Complete demolition, cleanup, and closure of former IWTP in FY04.
- Install final IRP groundwater and soil cleanup systems in FY04.
- Conduct remediation and closure of various non-IRP solid waste management units in industrial area in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|--|---|---|
| FFID: WA017002341900 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 340 acres | Funding to Date: | \$31.7 million | |
| Mission: Test, prove, overhaul, and issue torpedoes | Estimated Cost to Completion (Completion Year): | \$16.5 million (FY2031) | |
| HRS Score: 32.61; placed on NPL in October 1989 | Final RIP/RC Date for IRP Sites: | FY2007 | |
| IAG Status: Federal facility agreement signed in 1990 | Five-Year Review Status: | The installation completed a 5-year review and the remedy remains protective. | |
| Contaminants: VOCs, heavy metals, petroleum hydrocarbons, herbicides, fuel, PCBs, and pesticides | | | |

Progress to Date

In September 1995, the BRAC Commission recommended realignment of this installation. 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. The installation was placed on the NPL in October 1989 and signed a federal facility agreement in 1990. A community relations plan was completed in FY90 and updated in FY00. In FY00, the installation completed a 5-year review.

Environmental investigations identified 13 sites at this installation. The installation has completed a Record of Decision (ROD) for operable unit (OU) 1 and OU 2. The cleanup progress at Keyport Naval Undersea Warfare Center for FY99 through FY22 is detailed below.

In FY99, the Navy completed the remedial design and remedial action (RA) for sediment removal and started planning for phytoremediation and the tide gate upgrade for OU 1. Total petroleum hydrocarbon-contaminated soil from Site 8 was treated and then made available for reuse in highway maintenance projects.

In FY00, the installation finalized an institutional control plan and began implementation. Long-term management (LTM) work plans were finalized and monitoring began for OU 1. The 5-year review was completed. RA was completed at Site 8, and a final closure report was submitted. The time-critical removal action (TCRA) to remove buried drums and associated contaminated soil at Site 23 was completed.

In FY01, the installation finalized the Site 23 TCRA report. Operations and maintenance continued at OU 1. LTM conducted at OU 1 and OU 2 identified sediment issues that required resolution with regulators.

In FY02, the installation continued RA-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 the state regulators began for the contingency actions for off-base domestic wells. LTM sampling was performed for OUs 1 and 2. The cost of completing environmental restoration at this installation changed significantly due to

estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

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 OU 1 and OU 2.

FY03 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 FY04–FY05.
- Continue LTM at OU 1 and OU 2 in FY04–FY05.
- Resolve sediment issues at OU 2 in FY04–FY05.
- Complete 5-year review in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------|
| FFID: | MO721382048900 | Media Affected: | Groundwater and soil |
| Size: | 3,935 acres | Funding to Date: | \$87.9 million |
| Mission: | Manufacture, store, and test small-arms munitions | Estimated Cost to Completion (Completion Year): | \$92.0 million (FY2032) |
| HRS Score: | 33.62; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2009 |
| IAG Status: | IAG signed in September 1989 | Five-Year Review Status: | N/A |
| Contaminants: | Explosives, heavy metals, solvents, VOCs, and POLs | | |



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. Lake City AAP was placed on the NPL in July 1987, and an interagency agreement was signed in September 1989. The installation formed a Restoration Advisory Board (RAB) in FY97.

Environmental studies have identified 73 sites at the installation, which have been consolidated into 35 sites for further investigation. Two Records of Decision (RODs) have been completed by the installation. The cleanup progress at Lake City AAP for FY99 through FY02 is detailed below.

In FY99, the installation completed the ROD for Area 18.

In FY00, the installation completed the construction of the permeable reactive wall portion of the interim remedial action in the Northeast Corner Operable Unit (NECOU).

In FY01, the installation awarded the contract for remediation of lead-contaminated soil in the Area 18 Operable Unit (OU). The Army completed a design for a removal action at NECOU Area 16 abandoned landfill, which involved a landfill cover and leachate collection trench. Additional data collection and treatability studies were underway for a complete installationwide OU interim action remedial investigation and feasibility study, proposed plan, and ROD.

In FY02, the Army completed an environmental database for all of the OUs, resulting in improved work planning, reduction in cost, and better management decisions. The cost of completing environmental restoration at this installation increased significantly due to estimating criteria issues.

FY03 IRP Progress

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 of the remaining 35 wells and the soil sampling is underway. Second quarter sampling of Area 18 monitoring wells was completed. The installation continued pump and treat operations to contain contaminated groundwater. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The installation delayed identification of alternatives to augment the permeable reactive wall to achieve remedial goals in order to coordinate with remedy selection. While testing the effectiveness of the wall, the contractor found a new western plume that may require a different remedy.

Four RAB meetings were held during the year.

FY03 MMRP Progress

The Army initiated an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

Plan of Action

Plan of action items for Lake City AAP are grouped below according to program category.

IRP

- Continue operation of the pump and treat system to contain contaminated groundwater in FY04.
- Execute transition plan from total environmental restoration contract to performance-based contract in FY04.
- Complete fieldwork, which includes formulating a groundwater management strategy, in Area 18 and NECOU and begin RI/FS in IWOU in FY04.
- Complete Area 16 abandoned landfill cover repair and leachate collection system in FY04.

MMRP

- Complete the ranges and sites inventory in FY04.

| | |
|--|--|
| FFID: NJ217002727400 | Media Affected: Groundwater and soil |
| Size: 7,382 acres | Funding to Date: \$48.3 million |
| Mission: Perform technology development and engineering | Estimated Cost to Completion (Completion Year): \$56.9 million (FY2046) |
| HRS Score: 50.53; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: FY2000 |
| IAG Status: Federal facility agreement signed in October 1989 | Final RIP/RC Date for MMRP Sites: FY2014 |
| Contaminants: Fuels, PCBs, solvents, TCE, and waste oils | Five-Year Review Status: The installation completed a 5-year review and the existing groundwater treatment is capable of remediating contamination. |



Progress to Date

Historical operations at Lakehurst Naval Air Engineering Station involved handling, storage, and onsite disposal of hazardous substances. The installation was placed on the NPL in July 1987 and signed a federal facility agreement in October 1989. In FY01, the installation completed a 5-year review.

Forty-five potentially contaminated sites were identified. As of FY99, the installation completed Records of Decision (RODs) for all of its sites. The cleanup progress at Lakehurst Naval Air Engineering Station for FY99 through FY02 is detailed below.

In FY99, a 3-year pilot project for natural restoration in Areas I and J was completed. By the end of FY99, the installation had final RODs in place for all sites. Contaminated soil at Site 42 was excavated and removed for off-site recycling.

In FY00, monitoring at Site 1 and the removal of free product and contaminated soil from Site 42 were completed.

In FY01, a treatability study of bimetallic nanoscale particle (BNP) technology was completed to determine its effectiveness for treating Area I and J groundwater. The effectiveness of the technology for use in Area I and J must be proved before the NPL delisting process can begin. This treatment is in addition to the ongoing natural restoration. The installation completed the 5-year review report addressing soil at Sites 13, 16, 17, 28, 31, and 32 and groundwater at Areas A-E and H-K. A new soil vapor extraction (SVE) well was added to the Site 13 SVE system. Oxygen release compound (ORC) was injected at Sites 13, 16, 17, and 32 to accelerate remediation of groundwater in these areas.

In FY02, the evaluation of 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. Additional injection may be necessary based on the upcoming ORC performance report. The NPL delisting process continued. Work was ongoing to treat areas of higher level groundwater contamination in Areas I and J. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

FY03 IRP Progress

The installation continued operation and maintenance (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. The installation also began using BNP to treat areas of higher level groundwater contamination in Areas I and J.

Technical issues have delayed the use of nanoscale particles for treatment of the higher areas of groundwater contamination in Areas I and J. The project is designed to demonstrate that the remedy is operating properly and successfully so Lakehurst can continue the NPL delisting process. The no further action (NFA) determination for Site 28 was delayed due to regulatory issues.

FY03 MMRP Progress

The installation submitted a list of ranges at Lakehurst to be addressed under the MMRP. A preliminary site survey, conceptual models, and draft preliminary assessments (PAs) have been completed for these ranges.

Plan of Action

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

IRP

- Obtain NFA determination for Site 28 in FY04.
- Complete 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 continue with the NPL delisting process in FY04–FY05.
- Continue 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 in FY04–FY05.

MMRP

- Complete final PAs and site investigations for ranges under the MMRP in FY04–FY05.

| | | | |
|----------------------|---|--|--|
| FFID: | VA357212447700 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 3,152 acres | Funding to Date: | \$59.0 million |
| Mission: | Air Combat Command Headquarters, 1st Fighter Wing, 74th Tactical Control Facility, 480th Reconnaissance Technical Group, and NASA Langley Research Center | Estimated Cost to Completion (Completion Year): | \$32.1 million (FY2015) |
| HRS Score: | 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2014 |
| IAG Status: | Federal facility agreement under negotiation | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | Petroleum products, chlordane, PCBs, heavy metals, and solvents | Five-Year Review Status: | Planned FY2004 |



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. 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 had formed a Restoration Advisory Board. A 5-year review was completed in FY01. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Fifty-five sites have been identified at the installation as of FY01. To date, seven Records of Decision (RODs) have been signed. The cleanup progress at Langley AFB for FY99 through FY02 is detailed below.

In FY99, three RODs, six decision documents (DDs), and two no further action (NFA) letters were signed. The installation closed out eight sites. Eighty-five monitoring wells were also closed. Free product removal was conducted at 13 petroleum/oil/lubricant (POL) sites. The installation developed an interim groundwater approach, including RODs, for two sites. Three additional POL sites were closed. The installation developed an ecological summary report for all sites.

In FY00, RODs for Sites OT-06 and LF-13 were signed. The installation finalized remedial investigations (RIs) for 14 sites, and drafted proposed plans (PPs) were submitted for 8 sites.

In FY01, the DD for NFA on Site SS-24 was signed. RIs were completed for seven sites. Feasibility studies (FSs) were completed for 13 sites. PPs were completed for 14 sites, and 5 sites were closed. The 5-year review was completed. A comprehensive range inventory was also initiated. This inventory was designed to be an annual, iterative effort. To supply data for the inventory, a detailed questionnaire was completed that collected data on the types of munitions used, the range's environmental status, and the type and level of external stakeholder interest.

In FY02, the installation completed remedial designs for seven sites. The installation also completed an RI for Site SS-63 and a PP for Site OT-55. All FY02 annual requirements were met to prepare for the 5-year

review at SS-61. The WP-02 and WP-14 FSs were completed. Dispute resolution was invoked concerning the institutional control (IC) language used for Langley Environmental Restoration Progress sites. Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed a site inspection (SI) for Area of Concern (AOC) 66, AOC-67, and AOC-68 and an FS for LF-17, OT-55 and SS-63. Remedial actions for LF-05, LF-07, LF-12 and LF-18 as well as remedial designs for WP-02 and WP-14 were also completed. In addition, the Air Force closed Site OT-55 and met all FY03 annual requirements to prepare for the 5-year review at SS-61. A no further remedial action planned determination was initiated for OT-55 as recommended by the RI/FS.

Regulatory issues delayed the completion of IC implementation plans and finalizing RODs.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

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

IRP

- Complete 5-year review on Site SS-61 in FY04.
- Complete SIs for three AOCs and an FS for three sites in FY04–FY05.
- Draft RODs for four sites and complete remedial action (RA) construction for four sites in FY04–FY05.
- Complete RA at two AOCs in FY05.

MMRP

- Complete a preliminary assessment for three MMRP sites in FY05.

| | | | |
|----------------------|---|--|--|
| FFID: | PA321382050300 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 18,683 acres | Funding to Date: | \$110.5 million |
| Mission: | Store, maintain, and decommission ammunition; rebuild and store tracked and wheeled vehicles; rebuild, store, and maintain missiles | Estimated Cost to Completion (Completion Year): | \$13.8 million (FY2010) |
| HRS Score: | 34.21 (Southeastern Area); placed on NPL in July 1987; 37.51 (Property Disposal Office); placed on NPL in March 1989 | Final RIP/RC Date for IRP Sites: | FY2010 |
| IAG Status: | IAG signed in February 1989 | Five-Year Review Status: | Completed FY2002/Underway |
| Contaminants: | VOCs, POLs, PCBs, heavy metals, explosives, and asbestos | | |



Progress to Date

Letterkenny Army Depot 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 1987 and the Property Disposal Office (PDO) in 1989. Both sites are in the southern part of the installation. The Army and EPA signed an interagency agreement in 1989. The installation has concentrated its remedial efforts on source removal, 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.

The installation has signed four Records of Decision (RODs) to date. The cleanup progress at Letterkenny for FY99 through FY02 is detailed below.

In FY99, long-term management began at PDO Operable Units (OUs) 2, 4A, and 4B. The installation also completed a finding of suitability to transfer for Phase I BRAC parcels.

In FY00, the installation developed remedial investigation and feasibility study (RI/FS) and remedial action reports for sites LEAD-110, 114, and 126. The Army completed a draft focused FS (FFS) for the SE OU 10 and submitted it to the regulators. PCB removal at the Defense Reutilization and Marketing Office (DRMO) scrap yard was completed. The Army submitted a draft RI and risk assessment to the regulators for SE OU 5.

In FY01, the enhanced biodegradation project at Building 37 continued. The installation completed the draft RI and risk assessments for SE OUs 2 and 4. Soil removal at the truck open storage area was completed. The Army completed the Phase II limited depth transfer proposed plan

(PP) and ROD. The installation awarded the PDO scrap yard soil removal contract and completed the emergency soil removal at SE OU 9 Landfill J.

In FY02, the installation completed a Phase II limited depth transfer. Decontamination of Buildings 651/652 was completed. The Army completed the SE area 5-year review. The installation completed the soil removal action for PDO OU 5 and the DRMO scrap yard PCBs. The installation initiated the FFS, PP, and ROD for SE area OU 11 and SE area 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.

FY03 IRP Progress

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 was signed.

Failure to complete the technical workplan delayed the Fieldwork at SE OU 12-security landfill G.

The installation conducted a tour of the installation sites for the RAB. Letterkenny Army Depot was announced as the 2002 winner of the Secretary of the Army's Environmental Award for Environmental Restoration.

FY03 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

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

IRP

- Complete the Phase III BRAC property transfer in FY04.
- Initiate removal of lead contaminated soil at Old PDO Scrapyard in FY04.

- Sign ROD for SE OU 10 in FY04-FY05.
- Continue groundwater sampling and initiate ROD for PDO OU 2 in FY04-FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|--|
| FFID: | KY421382050900 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 780 acres | Funding to Date: | \$27.9 million |
| Mission: | Conducted light industrial operations, including paint stripping, metal plating, etching, and anodizing | Estimated Cost to Completion (Completion Year): | \$2.4 million (FY2004) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | None | Five-Year Review Status: | Planned |
| Contaminants: | VOCs, SVOCs, heavy metals, PCBs, pesticides, herbicides, and asbestos | | |



Progress to Date

In December 1988, the BRAC Commission recommended closure of the Lexington Facility, Lexington-Bluegrass Army Depot (LBAD). The Army leased the installation to the Commonwealth of Kentucky in FY94 and the installation closed as scheduled in FY95. The Army divided LBAD into two parcels, the 210-acre public benefit conveyance (PBC) and the 570-acre economic development conveyance (EDC). The Army is performing cleanup under a 1994 RCRA corrective action order. Site types include: landfills (new, old, and industrial and sanitary waste disposal), industrial waste lagoons, industrial wastewater treatment plants, and groundwater. In FY94, the installation formed a BRAC cleanup team. EPA and the Kentucky Department of Environmental Protection (KDEP) concurred on the Phase I RCRA facility investigation and corrective measures study (RFI/CMS) documents in FY97. 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.

Studies have identified 64 sites requiring further investigation at this installation. A RCRA facility assessment identified 30 solid waste management units (SWMUs) and 2 areas of concern (AOCs). The cleanup progress at LBAD for FY99 through FY02 is detailed below.

In FY99, the Army provided a draft RCRA statement of basis to the KDEP and EPA on the three landfill sites and the Group II sites. The Army also provided a statement of basis to KDEP and EPA concerning institutional control sites (Buildings 3, 9, 42, and 46), Buildings 19 and 43, the golf course ponds, and Area A. The installation completed interim remedial actions at Buildings 63, 130, 135, and 154; the new wastewater treatment plant; and the old wastewater treatment plant. It also completed version 3 of the BRAC cleanup plan.

In FY00, the installation issued statements of basis for 10 buildings; Areas A and C; the transformer spill near Building 223; the landing field; the calcium hydrate storage area; Vehicle Washrack II; and the golf course ponds. It submitted the Phase II RFI for soil and groundwater to the regulators and the Army Environmental Center. A management plan concerning lead cleanup standards was submitted to KDEP for review.

In FY01, the Army completed the Phase IIB transfer of five buildings and railroad infrastructure to the Commonwealth of Kentucky. LBAD and KDEP agreed on cleanup standards for lead. The installation completed

a statement of basis for the Vehicle Washrack I site, soil adjacent to Building 27, and the underground emergency holding tank site.

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 (FOST) for the PBC 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.

FY03 IRP Progress

Regulatory issues delayed the completion of the Phase II RFI/CMS for soil and groundwater. The EDC transfer was not completed due to delays in the completion of the Phase II RFI/CMS. Statements of basis with state approval for six sites were completed, but regulatory issues delayed the completion of the remaining SWMUs and AOCs. Regulatory issues delayed the PBC transfer. The Army completed the groundwater conceptual model for the PBC and EDC. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

The Army has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Lexington-Bluegrass Army Depot are grouped below according to program category.

IRP

- Submit the final Phase II RFI/CMS to EPA and KDEP in FY04.
- Submit the deed of transfer for the PBC to the Commonwealth of Kentucky in FY04.
- Complete the statements of basis for the remaining SWMUs in FY04.
- Complete the EDC FOST and the transfer of the 560-acre EDC parcel in FY04.

- Complete the LUCIP in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|----------------------|---|--|------------------------|---|
| FFID: | TX621382183100 | Media Affected: | Groundwater and soil |  |
| Size: | 15,546 acres | Funding to Date: | \$24.2 million | |
| Mission: | Load, assemble, and pack ammunition | Estimated Cost to Completion (Completion Year): | \$2.7 million (FY2005) | |
| HRS Score: | 31.85; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2005 | |
| IAG Status: | IAG signed in September 1990 | Five-Year Review Status: | Planned | |
| Contaminants: | VOCs, petroleum, heavy metals, and explosives | | | |

Progress to Date

The Lone Star Army Ammunition Plant (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 July 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 in 1990. In FY98, the installation solicited interest in forming a Restoration Advisory Board, but interest was insufficient.

The ODA is the only CERCLA site at the installation. One Record of Decision (ROD) has been signed to date. The cleanup progress at Lone Star AAP for FY99 through FY02 is detailed below.

In FY99, all parties (EPA, the state, and the Army) signed the ROD for the ODA, and the Army completed the Phase I RCRA facility investigation (RFI) activities.

In FY00, the installation began RFI activities at 2 sites and Phase II RFI activities at 11 sites. The RFI activities at the G and O Ponds were completed, and the remedial design (RD) for the ODA began. Groundwater monitoring, required by an agreed order, was performed at two sites.

In FY01, the Army began construction of the soil cover and erosion controls at the NPL site. The installation awarded the RD contract for Site 33 (G Ponds). The affected-property assessment report for the western inactive sanitary landfill was completed. The installation completed all fieldwork for RFIs.

In FY02, the Army completed construction of the soil cover erosion controls at Site 17 (the NPL site) and initiated the 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 was determined to be under the Installation Restoration Program (IRP) already.

FY03 IRP Progress

The installation continued groundwater monitoring at Sites 2, 17, and 34. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

Due to the discovery of additional contamination, the installation extended the remedial investigation (RI) at Site 20 to further delineate the additional contamination. The RI extension delayed the remedial design. Regulatory issues delayed the RA at Site 16. Technical issues delayed the remedial actions at Sites 9 and 24.

FY03 MMRP Progress

No work was performed on Military Munitions Response Program (MMRP) sites at this installation in FY03.

Plan of Action

Plan of action items for Lone Star AAP are grouped below according to program category.

IRP

- Complete RD and begin soil removal action at Site 20 in FY04.
- Continue LTM at Sites 2, 17, 24, 33, and 34 in FY04.
- Complete the RI of Sites 6, 9 & 101 in FY04-FY05.
- Complete RA for Site 16 in FY04-FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|--------------------|---|--|--|---|
| FFID: | CA917002727200, CA917002755400, CA917002319000, and CA917002726700 | Contaminants: | Solvents, acids, blasting grit, paint, heavy metals, and industrial liquid waste |  |
| Size: | 1,563 acres | Media Affected: | Groundwater, surface water, sediment, and soil | |
| Mission: | Provide logistics support; perform work in connection with construction, alteration, dry docking, and outfitting of ships and craft assigned; perform manufacturing, research, development, and test work | Funding to Date: | \$60.8 million | |
| HRS Score: | N/A | Estimated Cost to Completion (Completion Year): | \$16.4 million (FY2014) | |
| IAG Status: | None | Final RIP/RC Date for BRAC Sites: | FY2014 | |
| | | Five-Year Review Status: | The installation has not completed a 5-year review. | |

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 Naval Complex provides 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, and 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. The primary sites of concern are disposal pits into which a variety of wastes were deposited. In FY94, the installation formed a BRAC cleanup team, which completed a BRAC cleanup plan. In addition, the joint NS and NSY technical review committee was converted to a Restoration Advisory Board (RAB). The RAB reviewed Installation Restoration Program (IRP) documents and attended bimonthly meetings.

The installation finalized Records of Decision (RODs) for Sites 3, 4, 5, and 6A. In addition, the installation completed a ROD for Sites 1 and 2. The cleanup progress at Long Beach Naval Complex for FY99 through FY02 is detailed below.

In FY00, the installation completed a ROD for Sites 1 and 2 and began remedial design and remedial action (RA) for the sites. A site management plan was drafted and sent to the regulatory agencies for review. All underground storage tanks (USTs) were removed. Cleanup was underway at the two remaining UST sites. A federal facilities site remediation agreement was executed between the Department of the Navy and the California Department of Toxic Substances Control.

In FY01, the installation completed long-term operations (LTO) and long-term management (LTM) for the year at Sites 1 and 2. The interim RA at Site 14 was completed ahead of schedule.

In FY02, the installation was working toward completing the Site 14 LTO/LTM. The feasibility studies (FSs) and proposed plans (PPs) for Sites 8, 10 and 11 were completed. The Sites 9, 12, and 13 FS was

completed. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria and regulatory issues. The Navy completed an inventory of Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

RA 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.

The PP and ROD for Site 7 were not completed as planned due to technical and legal issues within the FS. The Site 16 SI was not completed due to technical issues.

FY03 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 the Sites 8 and 10 ROD in FY04.
- Complete the FS, and begin the PP and ROD for Site 7 in FY04.
- Complete PPs for Sites 9, 12, and 13 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|--|--|---|
| FFID: TX621382052900 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 8,493 acres | Funding to Date: | \$81.8 million | |
| Mission: Loaded, assembled, and packed pyrotechnic and illuminating signal munitions | Estimated Cost to Completion (Completion Year): | \$37.7 million (FY2032) | |
| HRS Score: 39.83; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2008 | |
| IAG Status: IAG signed in October 1991 | Final RIP/RC Date for MMRP Sites: | FY2018 | |
| Contaminants: Explosives, heavy metals, VOCs, and perchlorate | Five-Year Review Status: | Completed FY2002/Planned | |

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. Identified sites included storage areas, landfills, open burning grounds, industrial areas, burial pits, sumps, and wastewater treatment plants. During FY98, the installation commander attempted to form a Restoration Advisory Board, but interest was not sufficient to sustain the effort. Technical assistance for public participation (TAPP) funding was awarded in FY99. A 5-year review was completed in FY02 for Sites 12, 16, 18, and 24. The installation updated the community relations plan (CRP) in FY03.

Environmental studies identified 50 sites at the plant. Eighteen of these sites 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 RODs have been completed to date. The cleanup progress at Longhorn AAP for FY99 through FY02 is detailed below.

In FY99, the installation completed the capping of Landfill 16 and the fieldwork for the Group 2 and 4 remedial investigation (RI) and feasibility studies (FSs). The Army completed the accelerated RI fieldwork for Site 16. Perchlorate was detected in groundwater, surface water, soil, and sediment at the installation. The Army awarded a TAPP contract to determine the effects of on-post contamination on surface water entering Caddo Lake.

In FY00, the installation completed the bench-scale treatability study for treatment of perchlorate in the groundwater effluent from the groundwater treatment plant. Perchlorate investigations through Phase II fieldwork were completed. The Army completed the RI and the human health risk assessment reports for Site 16. Groundwater-to-surface-water modeling was completed for all watersheds at the plant.

In FY01, the installation continued collection and treatment of groundwater from the burning ground. A fluidized bed reactor was added for treatment of perchlorate. The Army awarded a contract to continue additional investigations, in accordance with a dispute resolution agreement with EPA and the state. The installation completed RI reports for Group 2s and 4 sites and the Site 16 ecological risk assessment (ERA).

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 RI reports, including risk assessments, for Groups 2 and 4. The Site 16 FS was also completed. 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 three Military Munitions Response Program (MMRP) sites at this installation.

FY03 IRP Progress

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. Work plans for the background study and ERA were also completed. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Regulatory issues delayed the ERA fieldwork, and completion of the Groups 2 and 4 FSs.

The Army held a public meeting, compiled community surveys, and updated the CRP.

FY03 MMRP Progress

The Army performed no work on MMRP sites at this installation in FY03.

Plan of Action

Plan of action items for Longhorn AAP are grouped below according to program category.

IRP

- Complete ERA through Phase I fieldwork and Step 3 ERA in FY04 and complete ERA in FY05.
- Prepare five Groups 2 or 4 FSs in FY04.
- Complete two Group 2 sites (including Site 12) through ROD in FY04.
- Complete proposed plans and RODs for Groups 2 and 4 in FY05.

- Complete remedial designs for Groups 2 and 4 in FY05.
- Implement performance-based contracting in FY05.

MMRP

- Begin an MMRP site inspection in FY04.

| | | | |
|----------------------|---|--|---------------------------------|
| FFID: | ME157002452200 | Media Affected: | Groundwater and soil |
| Size: | 9,477 acres | Funding to Date: | \$126.6 million |
| Mission: | Support B-52 bombers and KC-135 tankers | Estimated Cost to Completion (Completion Year): | \$104.7 million (FY2299) |
| HRS Score: | 34.49; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2000 |
| IAG Status: | Federal facility agreement signed in April 1991; revision signed in 1994 | Five-Year Review Status: | Completed FY2000/Planned FY2005 |
| Contaminants: | VOCs, waste fuels, oils, spent solvents, PCBs, pesticides, and heavy metals | | |



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. In July 1991, the BRAC Commission recommended closure of the base. The installation was placed on the NPL in February 1990 and signed a federal facility agreement in April 1991, which was revised in 1994. The flightline and nose dock areas, where industrial shops and maintenance hangars were located, are the primary areas where wastes were released into soil and groundwater. Sites identified include spill areas, landfills, fire training areas, underground storage tanks, aboveground storage tanks, and low-level radioactive waste areas. Interim remedial actions (RAs) were initiated in FY93 and include 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 (EBS) was completed. The installation formed both a BRAC cleanup team (BCT) and a Restoration Advisory Board in FY94. In FY98, the BCT published and updated the BRAC cleanup plan. A 5-year review was completed in FY00.

Sites were grouped into 13 operable units (OUs). To date, 12 Records of Decision (RODs) have been signed. The cleanup progress at Loring AFB for FY99 through FY02 is detailed below.

In FY99, the installation completed characterization of the quarry. Also, the last two installation RODs for the remaining 10 source control sites and the basewide groundwater OU were completed. A long-term groundwater monitoring plan was implemented, a wetland mitigation project was constructed, and a supplemental EBS and a finding of suitability to transfer (FOST) were drafted. Fuel spill cleanup along the 180-mile pipeline was initiated.

In FY00, the installation completed its last RA with the construction of Landfill 3. The first 5-year review was completed, and the remedies were certified as protective. Numerous sites were documented as suitable for unrestricted and unlimited access. An explanation of significant differences was developed for the quarry plume when long-term management identified contamination in a compliance boundary well. Two sites along the pipeline from Loring to Searsport were cleaned up. The Air Force also performed a removal action covering 40 acres at the installation. The removal action included small arms, 50-caliber, and starter cartridges, as well as grenades.

In FY01, the installation transferred 2,500 acres of airfield, business, and commercial property by deed to the local redevelopment authority. The treatment system for the Argyle pump station spill site was installed. An institutional control management plan (ICMP) was initiated. The State initiated a pilot study at the base quarry to evaluate an innovative technology for remediation of dense nonaqueous phase liquid in bedrock. Groundwater monitoring continued and active soil cleanup systems were operated as planned.

In FY02, a cleanup plan for Mattawamkeag pump station was drafted and submitted to the Maine Department of Environmental Protection (DEP). The action plan for recently identified polychlorinated biphenyls (PCBs) contamination near the east branch of Greenlaw Brook was developed. Support was provided to the State and EPA in their pilot study effort at the former quarry. Groundwater monitoring and the operation of soil cleanup systems continued. Several systems were optimized based on reviews of FY01 progress.

FY03 IRP Progress

The installation submitted the ICMP and received comments from Maine DEP. Groundwater monitoring and systems operations continued. A FOST was coordinated for the 200-mile pipeline from Loring AFB to Searsport.

The BCT delayed operating properly and successfully (OP&S) documentation until groundwater trends were clarified.

FY03 MMRP Progress

The installation completed the action memo and initiated a time-critical removal action at the Marine Corps Firing Range. Offshore munitions surveys were initiated for the production and manufacturing area and south shore areas. Onshore sites are scheduled for validation following prior removals. Remedial investigations and feasibility studies are anticipated to determine further response actions for these onshore sites. The installation completed drafting the planning documents for a removal action to operate the open burning/open detonation range for disposal of recovered munitions.

Plan of Action

Plan of action items for Loring AFB are grouped below according to program category.

IRP

- Develop OP&S documents for remaining property in FY04.
- Continue to monitor groundwater and operate active soil cleanup systems in FY04.
- Complete property transfer documents and deed property in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | LA621382053300 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 14,974 acres | Funding to Date: | \$54.7 million |
| Mission: | Manufacture ammunition metal parts and maintain ammunition production facilities | Estimated Cost to Completion: | \$15.0 million (FY2017) |
| HRS Score: | 30.26; placed on NPL in March 1989 | Final RIP/RC Date for IRPSites: | FY2006 |
| IAG Status: | IAG signed in 1989 | Final RIP/RC Date for MMRP Sites: | FY2017 |
| Contaminants: | Oils, grease, degreasers, phosphates, solvents, metal plating sludges, acids, fly ash, TNT, RDX, and HMX | Five-Year Review Status: | Completed FY1994 and FY2000/ Planned |



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 the installation signed an interagency agreement 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 were contaminated 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 that still continues. Five-year reviews were conducted for the interim remedial action (IRA) at the Area P lagoons, one in FY94 that confirmed that the source of the contamination had been removed, and one in FY00.

The Army identified seven sites during a preliminary assessment and site inspection 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 installation has completed one Record of Decision (ROD) and one No Further Action (NFA) ROD. The cleanup progress at Louisiana AAP for FY99 through FY02 is detailed below.

In FY99, the Army completed a natural attenuation study to aid in completion of the feasibility study (FS) for the groundwater OU.

In FY00, the installation completed remedial investigation (RI) fieldwork for soil (Site 9) and installationwide groundwater (Site 10). It also completed a NFA ROD for soil at the Y-line etching facility. The installation conducted a second 5-year review of the interim remedial actions at the Area P lagoons, and received EPA approval.

In FY01, the installation worked with regulators to resolve their concerns related to the ecological risk assessment (ERA) that had delayed the RI/FS and ROD for the installationwide groundwater operable unit.

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.

FY03 IRP Progress

The installation completed a draft 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 ERA for these sites. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

The Army completed the Military Munitions Response Program (MMRP) CTT ranges and sites inventory. Two MMRP sites were identified at this installation.

Plan of Action

Plan of action items for Louisiana AAP are grouped below according to program category.

IRP

- Complete RI/FS and risk assessments for Sites 9 and 10 in FY04.
- Award performance-based contract for remaining ER sites in FY04.

MMRP

- Initiate an MMRP site inspection in FY04.

| | | | |
|----------------------|---|--|---|
| FFID: | KY417002417500 | Contaminants cont'd: | POLs and POLs sludge, plating waste, and PCBs |
| Size: | 142 acres | Media Affected: | Groundwater, sediment, and soil |
| Mission: | Overhaul, repair, and manufacture weapon systems and components used on naval vessels | Funding to Date: | \$19.2 million |
| HRS Score: | N/A | Estimated Cost to Completion (Completion Year): | \$2.7 million (FY2007) |
| IAG Status: | None | Final RIP/RC Date for IRP Sites: | FY2007 |
| Contaminants: | Asbestos, chlorinated solvents, chemical agents, heavy metals, industrial liquid waste, industrial sludge, non-chlorinated solvents, paint, pesticides, | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

In July 1995, the BRAC Commission recommended closure of the Louisville Naval Surface Warfare Center. 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. A Restoration Advisory Board meets monthly. 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.

The installation has identified nine sites. Eighty-five percent of the property is leased to the Louisville/Jefferson County Redevelopment Authority as the Navy's first private-in-place installation. The cleanup progress at Louisville Naval Surface Warfare Center for FY99 through FY02 is detailed below.

In FY99, the installation completed asbestos abatement, lead-based paint abatement, operational closure of sumps and pits, sewer system repairs, cleaning of various machines and equipment, removal and repair of oil-water separators, removal and remediation of underground and aboveground tanks, interim removal actions at nine hot-spot locations with soil contamination, and field sampling.

In FY00, all draft RCRA facility investigation (RFI) reports were completed. The human health risk assessment work plan was approved, and risk assessments were completed for the entire facility. Based on the risk assessments, interim removal actions were identified and initiated. A corrective measures study (CMS) work plan was submitted and approved. An environmental baseline survey for transfer was completed and approved. A screening-level ecological risk assessment was completed.

In FY01, interim removal actions, including 121 surface and subsurface soil removals, were completed. EPA Region 4 and the Commonwealth of Kentucky approved all eight volumes of the RFI report. The Volume 2 (groundwater) CMS report was drafted and reviewed by the regulators.

The corrective measure at solid waste management unit (SWMU) 70 will be completed as an interim measure. A draft finding of suitability for early transfer (FOSET) was completed and reviewed by the public.

In FY02, the installation submitted Volume 3 through 8 CMS reports, and received regulatory approval except for Volume 4. The SWMU 70 interim measure was completed and a FOSET was submitted for approval. Negotiations were initiated with the Louisville/Jefferson County Redevelopment Authority on an Environmental Services Cooperative Agreement. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. 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.

FY03 IRP Progress

Efforts to complete the early property transfer continued. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

A RCRA permit modification and associated statements of basis to include selected final remedies were submitted to the state; however, regulatory issues delayed the processing of the documents. As a result, the planned corrective measure investigations were unable to begin. The Navy was proactive and initiated the proposed final remedies as interim actions.

FY03 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

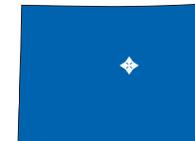
- Complete all statements of basis and required RCRA permit modifications incorporating selected corrective measures in FY04.
- Continue effort to complete early transfer to the Louisville/Jefferson County Redevelopment Authority by FY04.

- Initiate long-term monitoring of natural attenuation and land use controls in FY04.
- Complete the early property transfer in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------------|
| FFID: | CO857002413000 | Media Affected: | Groundwater and soil |
| Size: | 1,866 acres | Funding to Date: | \$68.2 million |
| Mission: | Housed the 3400th Technical Training Wing; served as a technical training center | Estimated Cost to Completion (Completion Year): | \$22.0 million (FY2030) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | IAG under negotiation | Five-Year Review Status: | No review has been completed. |
| Contaminants: | Waste oil, general refuse, fly ash, coal, metals, fuels, VOCs, solvents, TCE, and petroleum hydrocarbons | | |



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 acres at Lowry. It was recommended that the 1001st Space Systems Squadron, the Defense Finance and Accounting Service, and the Air Force Reserve Personnel Center remain at Lowry in cantonment areas. Sites at the installation include fire training areas, landfills, a fly ash disposal area, coal storage yards, and underground storage tanks (USTs). Interim remedial actions (RAs) have included removal of petroleum vessels, closure of off-base wells, operation of in situ bioventing systems, construction of an aboveground bioremediation land-treatment area, and operation of a pump and treat system and a dual-phase vapor extraction system. The installation closed in September 1994. In FY95, an environmental baseline survey was completed. Also in FY95, the installation converted its technical review committee into a Restoration Advisory Board (RAB) and formed a BRAC cleanup team. The installation's RAB received technical assistance for public participation (TAPP) funding in FY99. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

The cleanup progress at Lowry AFB for FY99 through FY02 is detailed below.

In FY99, the draft remedial investigation (RI) for basewide groundwater was completed. Long-term operations and maintenance began for the auto hobby shop and for basewide groundwater at the source area reduction and boundary area hydraulic containment systems. A TAPP contract was awarded to the RAB for review of Operable Unit 5 (OU 5) documentation.

In FY00, the RA for Coal Storage Zone West was completed. RAs for the UST, aboveground storage tank, and oil-water separator sites were completed, as was delineation of fire training zone hot spots.

In FY01, the RA for the Coal Storage Zone East was completed. The Air Force Base Conversion Agency, the local redevelopment authority, and regulatory agencies made progress on all documents necessary for the privatization agreement. The initial characterization of groundwater-derived volatile organic compound (VOC) contamination in off-base residential indoor air was completed. The final basewide groundwater RI was completed with Air Force acknowledged data gaps.

In FY02, the delineation of the fire training zone dioxin contamination was completed. The environmental services cooperative agreement was finalized, and privatization of OUs 2 and 5 was initiated. Groundwater pilot studies were conducted, and design continued on two permeable reactive iron filings walls. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 IRP Progress

RAs were completed at two newly discovered tank sites; Building 1432 soils portion-groundwater contamination will be addressed under the privatization agreement) and Fifth & Trenton. The installation completed two of five investigations and RAs on remaining contaminated soils sites.

Funding and technical issues delayed completion of the remaining three investigations and RAs for contaminated soils sites. The 5-year review was not required since regulators determined that the trigger site (Fly-Ash Disposal Site, OT-005) was closed with no waste left in place over an unrestricted reuse scenario.

Regulatory compliance issues related to asbestos in soil have increased scope and delayed property transfer.

FY03 MMRP Progress

The installation completed RA and no further action (NFA) documentation for the skeet range.

Technical issues delayed the completion of the outdoor firing range investigation, engineering evaluation and cost analysis, and RA fieldwork.

Plan of Action

Plan of action items for Lowry AFB are grouped below according to program category.

IRP

- Complete RA and NFA documentation for the Fire Training Zone and Building 402 in FY04.
- Complete abandonment of two deep wells and begin long-term management (LTM) of landfill radioactive disposal area in FY04.
- Complete all investigations and RAs on remaining contaminated soil sites in FY04.

- Continue LTM at Building 606 and payments for privatization cooperative agreement in FY04–FY05.

MMRP

- Complete RA and NFA documentation for the outdoor firing range in FY04.

| | | |
|--|--|---|
| FFID: CA957212452700 | Media Affected: Groundwater and soil |  |
| Size: 6,545 acres | Funding to Date: \$142.2 million | |
| Mission: Maintain, repair, and refuel aircraft | Estimated Cost to Completion (Completion Year): \$24.6 million (FY2021) | |
| HRS Score: 31.94; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: FY2005 | |
| IAG Status: Federal facility agreement signed in September 1990 | Five-Year Review Status: Completed FY2000/Planned FY2005 | |
| Contaminants: VOCs, POLs, and PCBs | | |

Progress to Date

March Air Force Base (AFB) was placed on the NPL in November 1989. The installation signed a federal facility agreement the following year. In July 1993, the BRAC Commission recommended that March AFB undergo realignment. It was recommended that the installation serve as an Air Reserve Base once realignment was completed. Base realignment occurred in April 1996. A preliminary assessment and site inspection identified fire training areas, inactive landfills, underground storage tanks, 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 to support cleanup efforts.

To date, 47 sites have been identified at March AFB and grouped into three operable units (OUs). A Record of Decision (ROD) has been signed for OU 1. The cleanup progress at March AFB for FY99 through FY02 is detailed below.

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.

In FY00, field activities were completed in support of the basewide remedial investigation and feasibility study (RI/FS).

In FY01, the remedial action (RA) design was modified for the complete capture of the OU 1 plume. The modified RA construction began, which will eventually lead to operating properly and successfully (OP&S) approval. The base continued to optimize the long-term monitoring and maintenance operations. A removal action work plan was completed for Site 43. Another site with methyl tertiary-butyl ether (MTBE) contamination also entered remediation. A draft 5-year review was completed.

In FY02, groundwater pump and treat was initiated and soil vapor extraction continued at Building 550. The basewide RI/FS continued and the Site 43 underground storage tank 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 RA entered service allowing the OP&S determination efforts to resume. The

cost of completing environmental restoration at this installation has changed significantly due to technical issues.

FY03 IRP Progress

The Air Force closed the groundwater portion of Site 43 and continued RA operation activities at landfills, Building 550, and the groundwater monitoring program. The installation also conducted mercury characterizations and research and determined that an RA was not required.

Regulatory issues delayed the finalization of the OU 2 ROD, basewide RI/FS, and OP&S documents.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for March AFB are grouped below according to program category.

IRP

- Finalize the OU 2 ROD in FY04.
- Continue RA operations activities at landfills, Building 550, and the groundwater monitoring in FY04.
- Finalize basewide RI/FS, proposed plan, and ROD in FY04.
- Complete Weapon Storage Area preliminary assessment and site inspection (newly identified 91B material radiation issue) in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|--|---|---|
| FFID: CA917002477500 | Contaminants cont'd: lead oxides, and UXO |  |
| Size: 5,293 acres | Media Affected: Groundwater, surface water, sediment, and soil | |
| Mission: Maintained and repaired ships and provided logistical support for assigned ship and service craft | Funding to Date: \$159.4 million | |
| HRS Score: N/A | Estimated Cost to Completion (Completion Year): \$48.4 million (FY2011) | |
| IAG Status: Federal facility site remediation agreement signed in September 1992, and a new FFSRA was renegotiated to address early transfers and signed in July 2002 | Final RIP/RC Date for IRP Sites: FY2008 | |
| Contaminants: Heavy metals, VOCs, PCBs, pesticides, petroleum hydrocarbons. | Final RIP/RC Date for MMRP Sites: FY2007 | |
| | Five-Year Review Status: The installation has not completed a 5-year review. | |

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 April 1996. An administrative record and an information repository were established in FY90. Investigations of chemical and munitions contamination were initiated in FY80. 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 RAB received technical assistance for public participation grants in FY99, FY02, and FY03. 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 in September 1992, which was renegotiated in July 2002.

The installation has identified 44 sites and completed the transfer of approximately 3,500 acres. A no further action (NFA) Record of Decision (ROD) was issued for Installation Restoration (IR) 22. The cleanup progress at Mare Island Naval Shipyard for FY99 through FY02 is detailed below.

In FY99, removal actions at IR 13, 16-B4, and 17 and solid waste management units (SWMUs) 52 and 54 were completed, and all underground storage tanks were removed or closed in place. The installation substantially completed the polychlorinated biphenyl (PCB) remediation program and field sampling for 20 SWMUs.

In FY00, the transition of the cleanup team from Engineering Field Activity West to Southwest Division was completed. The installation issued the NFA remedial investigation (RI) for IR 08. The early transfer of most of Mare Island to private developers was under negotiation. The installation received three cost proposals from the local redevelopment authority (LRA) for early transfer for a total of 3,800 acres.

In FY01, an NFA ROD was issued for IR 22. The eastern and western early transfer parcels' findings of suitability for early transfer were signed, and the Environmental Services Cooperative Agreements (ESCA) to complete remaining cleanups for these 3,500 acres were executed in advance of the property transfers with termination clauses

in the event the properties did not transfer. After-action reports for munitions sites were submitted to the Naval Ordnance Safety and Security Activity and regulatory agencies. RI reports were submitted for the dredge ponds.

In FY02, the eastern and western early transfer parcels were conveyed to the LRA and state, respectively, and these transfers put the accompanying ESCAs into full effect. One ESCA includes 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/feasibility studies (RI/FSs) at areas A1, A2, F1, F2, H1, the production and manufacturing area, and south shore. The cleanup effort of the stormwater lines was completed and site investigation began. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria changes and to address insurance costs included in the ESCAs. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

FY03 IRP Progress

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.

FY03 MMRP Progress

The installation completed the action memo (AM) and initiated a time-critical removal action at the Marine Corps Firing Range. Offshore munitions surveys were initiated for the production and manufacturing and south shore areas. Onshore sites are scheduled for validation following prior removals. RI/FSs are anticipated to determine further response actions for these onshore sites. The installation completed drafting the planning documents for a removal action to operate the open burning/open detonation (OB/OD) range for disposal of recovered munitions.

Plan of Action

Plan of action items for Mare Island Naval Shipyard are grouped below according to program category.

IRP

- Complete RI/FSs for A1, A2, F1, F2, and H1 in FY04.
- Commence negotiations with LRA for ESCAs for potential early transfer parcels in FY04.

MMRP

- Complete removal actions at the Marine Corps Firing Range and H1 groundwater trench, and complete AMs for the DRMO site and OB/OD range in FY04.

| | | | |
|--|--|--|---|
| FFID: MA157282448700 | Contaminants (cont.): | Waste solvents, VOCs, pesticides, and metals |  |
| Size: 22,000 acres | Media Affected: | Groundwater, surface water, and soil | |
| Mission: Provide Army and Air National Guard training and support the East Coast Air Defense and Coast Guard Air and Sea Rescue Units | Funding to Date: | \$308.3 million | |
| HRS Score: 45.93; placed on NPL in November 1989 | Estimated Cost to Completion (Completion Year): | \$301.1 million (FY2035) | |
| IAG Status: Federal facility agreement signed in July 1991; last amended in June 2002 | Final RIP/RC Date for IRP Sites: | FY2009 | |
| Contaminants: Petroleum fuel related compounds (including ethylene dibromide) | Five-Year Review Status: | Completed FY2002/Planned FY2007 | |

Progress to Date Testing

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. The installation was placed on the NPL in November 1989 and signed a federal facility agreement 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. A 5-year review has been completed at this installation. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Studies have identified 85 sites at the installation. To date, Records of Decision (RODs) have been signed for FS-1, CS-4, CS-20, CS-21, FS-13, FS-28, and FS-29. The cleanup progress at MMR for FY99 through FY02 is detailed below.

In FY99, extraction, treatment, and reinjection systems were constructed for the CS-10, LF-1, and Ashumet Valley groundwater plumes. Two pilot projects were constructed in two river systems where cranberry bogs were affected by plumes. Recirculation wells were installed at two locations in the Town of Mashpee.

In FY00, RODs were issued for the FS-1, CS-4, CS-20, CS-21, and FS-13 groundwater plumes, and well field design began. Agreements were signed with the Bourne Water District and the Town of Falmouth for over 250 private-well conversions to municipal water. Remedial groundwater systems were installed for the SD-5 South and CS-10 Leading Edge plumes.

In FY01, the installation issued RODs for the FS-28 and FS-29 plumes. Under the MMR Source Areas program, soil removal operations at 25 source areas commenced, and 10 sites attained response complete status. Phosphorus inactivation compounds were added to Ashumet Pond to reduce nutrient loading.

In FY02, the MMR Source Areas program completed remediation at 14 sites, installed 4 soil vapor extraction (SVE) systems, and utilized advanced excavation planning to reduce overall program costs. Work continued on CS-4, CS-20, CS-21, and FS-29 treatment system designs. The second MMR 5-year review process was initiated. Community involvement efforts in FY02 included 26 news releases, 14

advisory team meetings, 41 neighborhood notices, and numerous meetings, tours, and fact sheets. The installation completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges, and did not identify any MMRP sites.

FY03 IRP Progress

The installation completed construction of the FS-1 groundwater treatment system and finalized the 5-year review. Remedial investigation began on the CS-23 groundwater plume and pre-design data was gathered for sites CS-18 and CS-19. The installation also continued operation of eight groundwater treatment systems and four SVE systems. Two SVE systems achieved cleanup goals and were decommissioned.

Regulatory issues delayed completion of well field designs for groundwater treatment systems at CS-21 and FS-29. The well field design for the CS-4 and CS-20 plumes was delayed due to lack of access to private properties.

The base continued aggressive community involvement efforts.

FY03 MMRP Progress

In FY03, the MMRP inventory was updated and no MMRP sites were identified at this installation.

Plan of Action

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

IRP

- Obtain easements for approximately 45 private properties and complete construction design for CS-4, CS-20, CS-21, and FS-29 groundwater treatment systems (located off-base) in FY04.
- Submit action memorandums for soil removals at CS-18 and CS-19 in FY04.
- Complete a final ROD for CS-10 in FY04.
- Continue operation and optimization of eight groundwater treatment systems and two SVE systems in FY04–FY05.
- Complete source area remediation at CS-18 and CS-19 in FY05.

MMRP

- There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---------------------------------|
| FFID: | CA957002474300 | Media Affected: | Groundwater and soil |
| Size: | 5,716 acres | Funding to Date: | \$164.1 million |
| Mission: | Provided navigation and electronic warfare officer training; housed SAC Bombing and Refueling Squadron | Estimated Cost to Completion (Completion Year): | \$107.4 million (FY2072) |
| HRS Score: | 28.90; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | IAG signed in 1989 | Five-Year Review Status: | Completed FY2000/Planned FY2005 |
| Contaminants: | Solvents, jet fuel, petroleum hydrocarbons, and lead | | |



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 the following year. Before becoming inactive in FY93, the installation housed the 323rd Flying Training Wing, a 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 from soil by vapor extraction, and excavating pesticide contamination from drainage ditches. In FY94, a Restoration Advisory Board (RAB) and a BRAC cleanup team were formed. A 5-year review was completed in FY99. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Studies have identified 89 sites at the installation, which were grouped into six operable units (OUs): OU 1, aircraft control and warning system; 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 OU 1, OU 2, OU 3, OU 4, and OU 5. The cleanup progress at Mather AFB from FY99 through FY02 is detailed below.

In FY99, a finding of suitability for early transfer was approved for part of the economic development conveyance parcel. The waste pit at Site 7 was filled and capped. A removal action memorandum was issued for Sites 80 and 88. Phase II of the Main Base/SAC plumes treatment system was expanded off site, and Phase III expansion augmented capture on-site areas. Remediation of gun range Sites 86 and 87 was completed. A CERCLA 5-year review was also completed.

In FY00, the base cleanup plan was updated. A focused feasibility study and a proposed plan were completed for OU 6, and the ROD was initiated. Remedial action reports (RARs) were completed for three sites. Soil vapor extraction systems at Sites 18, 23, and 59 were constructed and operational.

In FY01, groundwater monitoring wells for the Phase IV remediation project were installed at 12 of 15 locations. Removal actions at Sites 80, 85, 88, and 89 were completed except for reclamation and reporting. The draft remedial action (RA) work plan and preliminary engineering report for Phase IV groundwater remediation was issued. The RAR for Site 62 and the draft RAR for Site 15 were completed.

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, 60, and 56, as well as facilities 2595 and 18015 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 Installation Restoration Program sites and five UST sites. The installation also underwent the performance and protectiveness review and remedial process optimization (RPO) evaluation.

FY03 IRP Progress

The installation began two performance and protectiveness review/RPO evaluations, one for groundwater monitoring, and one for groundwater remediation. RARs were completed for sites 69 and 86. Remediation of groundwater at Site 7 was interrupted by off-base aqueduct construction. Additional buried debris and fuel contamination were found at Site 10C/68.

Regulatory issues delayed the OU 6 ROD and finalization of the off-base water supply contingency plan. Resource limitations delayed RARs for Sites 3-6 and Site 20.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Mather AFB are grouped below according to program category.

IRP

- Complete RARs for Sites 3-6, 12, and 20 in FY04.
- Complete institutional control management plan in FY04.
- Complete 5-year review of RAs in FY04.
- Resume groundwater remediation at Site 7 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--------------------|--|--|--|
| FFID: | WA057182420000 | Contaminants: | VOCs, SVOCs, metals, chlorinated solvents, petroleum hydrocarbons, pesticides, and radioactive waste |
| Size: | 4,616 acres | Media Affected: | Groundwater and soil |
| Mission: | Provide airlift services for troops, cargo, equipment, passengers, and mail | Funding to Date: | \$22.5 million |
| HRS Score: | 31.94 (Area D/American Lake Garden Tract); placed on NPL in September 1984; 42.24 (Washrack/Treatment Area); placed on NPL in July 1987; delisted from NPL in September 1996 | Estimated Cost to Completion (Completion Year): | \$12.6 million (FY2015) |
| IAG Status: | Federal facility agreement signed in August 1989; consent decree with State of Washington signed in February 1992 | Final RIP/RC Date for IRP Sites: | FY2005 |
| | | Final RIP/RC Date for MMRP Sites: | N/A |
| | | Five-Year Review Status: | Completed FY2000/Planned FY2009 |



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) and the Washrack/Treatment Area (WTA). The sites were placed on the NPL in September 1984 and July 1987, respectively. WTA was delisted in September 1996. McChord AFB assessed the local community's interest in forming a Restoration Advisory Board (RAB) in FY95, FY96, FY98, and FY99. It found very little interest in forming a RAB, due to the maturity of the program and community trust in the installation. A 5-year review was completed in FY99 for the ALGT and WTA sites.

Beginning in 1982, 65 sites have been identified at this installation. All 65 sites were classified as remedy in place by FY96. To date, a Record of Decision was signed for the WTA site. The cleanup progress at McChord AFB for FY99 through FY02 is detailed below.

In FY99, the installation continued operating the ALGT groundwater treatment system and continued the long-term management (LTM) program. The installation, EPA, and the State of Washington performed a 5-year review of the ALGT NPL site and the WTA former NPL site.

In FY00, operating costs were reduced at the installation by placing one of the three extraction wells in the AGLT groundwater treatment system on standby and decreasing the number of wells sampled in the LTM program.

In FY01, the installation initiated a remedial investigation and feasibility study (RI/FS) in response to the identification of trichloroethylene (TCE) in groundwater in the northern segment of Site SS-34. TCE was also detected in monitoring wells installed in a residential neighborhood adjacent to the installation. This site, in the residential area, was designated SS-34N and comprises approximately 350 acres. Private residential wells in the subdivision were decommissioned by the installation and the residences connected to the municipal water supply. A comprehensive range inventory was initiated. This inventory was designed to be an annual, iterative effort. To supply data for the inventory, a detailed questionnaire was completed that collected data on the types of munitions used, the range's environmental status, and the type and level of external stakeholder interest.

In FY02, the installation completed an RI/FS and submitted the draft 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 and assistance with permitting requirements. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. The draft McChord AFB Range Inventory Report was issued.

FY03 IRP Progress

The installation completed a field pilot test and obtained information necessary for 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. RD for Site SS-34N received funding and a contract was awarded.

Regulatory issues delayed the 5-year review.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

Plan of action items for McChord AFB are grouped below according to program category.

IRP

- Complete 5-year review of McChord sites in FY04.
- Perform RD for cleanup action selected for Site SS-34N in FY04.
- Distribute survey to local area residents to solicit input and reevaluate interest in formation of a RAB in FY04.
- Implement the selected cleanup action and begin long-term monitoring both on- and off-base and repeat if necessary in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|--|--|---|
| FFID: CA957172433700 | Contaminants (cont'd): spent acids and bases, PCBs, VOCs, TCE, and radioactive material |  |
| Size: 3,452 acres | Media Affected: Groundwater and soil | |
| Mission: Provide logistics support for aircraft, missile, space, and electronics programs | Funding to Date: \$471.9 million | |
| HRS Score: 57.93; placed on NPL in July 1987 | Estimated Cost to Completion (Completion Year): \$685.8 million (FY2032) | |
| IAG Status: IAG signed in 1989 | Final RIP/RC Date for IRP Sites: FY2015 | |
| Contaminants: Solvents, metal plating wastes, caustic cleaners and degreasers, paints, lubricants, photochemicals, phenols, chloroform, | Five-Year Review Status: Completed FY2000/Planned FY2004 | |

Progress to Date

The mission of McClellan Air Force Base (AFB) is to provide support for aircraft, missile, space, and electronics programs. The installation was placed on the NPL in 1987 and signed an interagency agreement in July 1987. Environmental contamination at McClellan AFB has resulted from pumps near industrial operations, landfills, leaks near 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. 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. A 5-year review has been completed and a second is underway. The cost of completing environmental restoration at this installation has changed significantly due to regulatory and technical issues.

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. Sites at the installation were grouped into 11 operable units (OUs), including an installationwide groundwater OU. To date, interim Records of Decision (RODs) have been signed for OU B1 and the groundwater OU. In addition, two no action RODs have been signed. The cleanup progress at McClellan AFB for FY99 through FY02 is detailed below.

In FY99, installation of the Phase II groundwater system was completed. Three soil vapor extraction (SVE) systems were installed, and SVE well installations at another 12 sites were completed. Twelve SVE engineering evaluation and cost analyses (EE/CAs) were completed.

In FY00, five SVE systems were installed, and seven SVE sites were connected to the systems. The BCT completed six environmental baseline surveys and findings of suitability to lease, encompassing over 380 facilities. EE/CA removal actions at two radionuclide sites were initiated.

In FY01, all environmental baseline reports were completed. All groundwater and soil vapor treatment systems continued to work effectively. In addition, a time-critical removal action (TCRA) was initiated at CS-10 due to new radiological issues. The restructured RAB was active.

In FY02, all groundwater and 14 soil vapor treatment systems covering 19 areas operated effectively. These treatment systems have removed 1,082,430 lbs of volatile organic compounds (VOCs) to date. The TCRA at the large radiological CS-10 site continued. A removal action at PRL S-33 was completed. Extensive work was completed on the initial parcel feasibility study, initial parcel finding of suitability for early transfer (FOSET), and no action ROD. Two finding of suitability for transfer documents were completed, which allowed 208 acres to be deed transferred. A TCRA memorandum was signed and a corrective action was initiated to fix hexavalent chromium issues at the groundwater treatment plant. The cost of completing environmental restoration at this installation changed significantly due to technical issues. The RAB continued to meet successfully.

FY03 IRP Progress

The installation completed the TCRA for the hexavalent treatment system and the six-site no action ROD. The TCRA at the large radiological site excavated over 51,000 cubic yards of contaminated soil, with approximately one third of the excavated soil remaining safely on site until disposal dollars are available. Operation of groundwater and soil vapor treatment systems continued.

Regulatory issues delayed the initial parcel FOSET and ROD. The second 5-year review was initiated, but not completed due to regulatory issues.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Reponse Program (MMRP) sites were identified or reported.

Plan of Action

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

IRP

- Complete the Local Redevelopment Authority (LRA) initial parcel FOSET in FY04.

- Complete the LRA initial parcel #1 ROD and basewide VOC groundwater ROD in FY04.
- Complete the interim ROD groundwater phase III off-base design and begin the interim ROD groundwater phase III on-base design in FY04.
- Complete the second 5-year review in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---------------------------------|
| FFID: | NJ257182401800 | Media Affected: | Groundwater, soil, and sediment |
| Size: | 3,500 acres | Funding to Date: | \$35.5 million |
| Mission: | Provide quick-response airlift capabilities for placing military forces into combat situations | Estimated Cost to Completion (Completion Year): | \$195.2 million (FY2060) |
| HRS Score: | 47.20; placed on NPL in October 1999 | Final RIP/RC Date for IRP Sites: | FY2039 |
| IAG Status: | Federal facility agreement under negotiation | Five-Year Review Status: | N/A |
| Contaminants: | VOCs, SVOCs, PAHs, BTEX, TPH, metals, PCBs, TCE, and pesticides | | |



Progress to Date

McGuire Air Force Base (AFB) provides quick-response airlift capabilities for placing military forces into combat situations. The installation was placed on the NPL in October 1999. Sites include landfills, waste piles, fire training areas, hazardous waste storage areas, and spill sites. The installation formed a Restoration Advisory Board (RAB). The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria, regulatory, and technical issues.

Twenty-four sites have been identified at the installation as of FY01. Six sites were identified at the BOMARC facility, a remote location under McGuire AFB jurisdiction. The cleanup progress at McGuire AFB for FY99 through FY02 is detailed below.

In FY99, an interim remedial action (IRA) was completed at the Defense Reutilization and Marketing Office yard and surface soil containing polychlorinated biphenyls (PCBs) was removed. The basewide background study and the ecological assessment (EA) began.

In FY00, reports evaluating natural attenuation of a trichloroethylene (TCE) groundwater plume and colloidal transport of radionuclides in groundwater at the BOMARC missile accident site were conducted. Two technical review committee meetings were held to discuss the development of a federal facility agreement.

In FY01, the basewide background study and EA continued, as did the remedial investigation (RI) and feasibility study of the TCE groundwater plume. Partnering among contractors, service agents, action officers, and base personnel began, but required regulator participation to be effective. Two RAB meetings were held after issues concerning the BOMARC project were resolved.

In FY02, the free product recovery equipment began operation at the Bulk Fuel Storage Area. The RI phase to delineate the extent of the TCE groundwater plume 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 began. About 50 percent of the contaminated soil and debris was removed and shipped to Envirocare for disposal. The cost of completing environmental restoration at this installation changed significantly due to regulatory issues. 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. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed operation of the free product recovery equipment at pilot scale for the bulk fuel storage area. The basewide background study was also completed and is awaiting regulatory review.

Technical issues delayed the RI study for TCE groundwater delineation. Discovery of additional contaminated soil delayed cleanup of the BOMARC missile accident site.

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

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for McGuire AFB are grouped below according to program category.

IRP

- Complete the RI study for the TCE groundwater plume delineation and source investigation in FY04.
- Complete cleanup of the BOMARC missile site accident in FY04.
- Complete IRA at FT03, Fire Training Area in FY04.
- Complete RI study at LF03 and SS24 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | PA317002210400 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 824 acres | Funding to Date: | \$27.0 million |
| Mission: | Provide inventory management and supply support for weapons systems | Estimated Cost to Completion (Completion Year): | \$15.9 million (FY2015) |
| HRS Score: | 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2010 |
| IAG Status: | Federal facility agreement under negotiation | Final RIP/RC Date for MMRP Sites: | FY2011 |
| Contaminants: | PCBs, heavy metals, pesticides, VOCs, SVOCs, and dioxin | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

Mechanicsburg Naval Inventory Control Point provides inventory management and supply support for weapons systems. Historical defense industrial and inventory disposal operations have caused contamination at this installation. The installation was placed on the NPL in May 1994. 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 plans in FY99. A federal facility agreement is currently under negotiation.

Environmental investigations conducted at the installation have identified 15 CERCLA sites. The installation has completed a Record of Decision (ROD) for Site 1 and Site 3. In addition, no further action (NFA) documents have been completed for Sites 2, 4, 7, 8, 12, 13, and 14, as well as areas of concern (AOC) 22, 48 and a 28-site AOC. The cleanup progress at Mechanicsburg for FY99 through FY02 is detailed below.

In FY99, the work plan and fieldwork for the Site 9 ecological risk assessment (ERA) were completed. The site investigation (SI) for Sites 12 to 15, a basewide quality assurance protection plan, and a basewide background report for soil were finalized. The Site 3 soil removal and closeout report and the Site 15 action memorandum (AM) were also completed.

In FY00, the installation completed the focused feasibility study (FS) and the ROD for soil at Site 3. An AM and soil removal were completed for Site 15.

In FY01, the installation completed ERA fieldwork for Site 9 and soil removal at Site 14. An AM and soil removal at Site 15 were completed, as was SI fieldwork for four AOCs. An NFA report for Site 7 was also finished. NFA documents for Sites 12, 13, and 14 and a 28-site AOC NFA document were completed.

In FY02, the installation finalized NFA documents for Sites 2, 4, and Site 8 soil. AOC 21 underwent an expanded SI and NFA decision documents (DDs) were completed for AOC 22 and 48. A groundwater remedial investigation was completed for Site 3. The basewide ERA was completed. The SI was completed for four AOCs. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

FY03 IRP Progress

The installation completed the groundwater FS for Site 9. The final groundwater FS for Site 3 was completed. The installation completed the soil removal at AOC 38. The cost of estimating environmental restoration at this installation has changed due to estimating criteria issues.

The installation completed a draft of the 5-year review; however, regulatory issues delayed completion of the final report.

FY03 MMRP Progress

No work was performed on the MMRP site at this installation.

Plan of Action

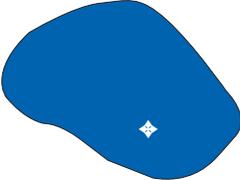
Plan of action items for Mechanicsburg are grouped below according to program category.

IRP

- Complete the final 5-year review in FY04.
- Complete the Site 3 ROD in FY04.
- Complete the AOC 38 NFA DD in FY04.
- Complete the Site 3 pilot study in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|--|--|---|
| FFID: MQ917002758400 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 1,535 acres | Funding to Date: | \$22.0 million | |
| Mission: Provided aviation support services | Estimated Cost to Completion (Completion Year): | \$0 million (FY2004) | |
| HRS Score: N/A | Final RIP/RC Date for IRP Sites: | FY2004 | |
| IAG Status: None | Five-Year Review Status: | The installation completed a 5-year review. | |
| Contaminants: Heavy metals, pesticides, PCBs, and POLs | | | |

Progress to Date

In 1940, a naval station was established at Midway Island. In 1978, the station was redesignated as the Naval Air Facility Midway Island. The Navy operated and maintained the facility and provided services and materials to support aviation activities. Environmental sites at the installation include: landfills, disposal and storage areas, a former power plant, a rifle range, and pesticide spill areas. In FY93, the BRAC Commission recommended closure of Midway as an active naval air facility. A Midway Island BRAC cleanup team (BCT) was formed to accelerate the cleanup and transfer of Midway Island. Also, in an effort to facilitate the transfer process, an information repository was established at the University of Hawaii at Manoa in FY95. The BCT finalized the BRAC cleanup plan in FY96. In FY03, the installation completed a 5-year review.

Environmental studies at the facility have identified 39 sites. An executive order transferring legal enforcement authority to the U.S. Fish and Wildlife Service (USFWS) was signed in 1996. In May 1996, jurisdiction and control of Midway Island was transferred from the Navy to the USFWS. The cleanup progress at Midway Naval Air Facility for FY99 through FY02 is detailed below.

In FY99, long-term monitoring revealed polychlorinated biphenyls (PCBs) around a beached tug and barge adjacent to Site 1. In addition, beach erosion exposed two underground storage tanks (USTs) on Eastern Island. Both USTs were removed.

In FY00, assessment of the site characterization identified the tug and barge as the probable source of PCB contamination. The BCT agreed on a removal action for the tug and barge and follow-up monitoring.

In FY01, the installation removed and disposed of the abandoned boiler, landing craft mechanized, and the tug and barge. All petroleum hydrocarbon-impacted soil associated with two previously removed USTs was disposed of. Sampling confirmed that the tug and barge were the sources of PCB contamination. The installation completed additional work to confirm closure of abandoned petroleum pipelines and construction of a cutoff wall to address an oil sheening problem observed at the Cargo Pier, Sand Island.

In FY02, the 5-year review was conducted for Midway Atoll. A no further action (NFA) Record of Decision (ROD) was pursued for Site 1, but denied by regulators due to their insistence of fish tissue monitoring

for confirmation. The 5-year review discovered that RODs were needed to document remedies at the other 18 sites on Midway for closeout. The Navy has completed an inventory of all Military Munitions Response Program (MMRP) sites. The installation determined that the rifle range and skeet range on Midway require NFA.

FY03 IRP Progress

In FY03, the installation completed the 5-year review report addressing BCT concerns. The 5-year review report was signed by the installation Commanding Officer on Sept. 20, 2003. The final 5-year review report required additional consultation and research into the project record to ensure appropriate resolution of BCT concerns. To streamline and simplify the review process, the sitewide proposed plan was split into two distinct categories, land use control sites and NFA sites. Midway Atoll is not on the NPL, therefore, the sitewide ROD document was changed to a sitewide decision document (DD). The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The installation began closeout by documenting remedies of 19 sites with a DD; however, it was not completed. Additional time was needed to research files for the documentation of the remedies required and conduct interviews of the people involved with the cleanup.

FY03 MMRP Progress

No work was performed on the MMRP site at this installation.

Plan of Action

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

IRP

- Complete closeout documenting remedies of 19 sites on Midway Atoll with a DD in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|---|---|---|
| FFID: TN421382058200 | Media Affected: Groundwater and soil |  |
| Size: 22,357 acres | Funding to Date: \$127.0 million | |
| Mission: Load, assemble, pack, ship, and demilitarize explosive ordnance | Estimated Cost to Completion (Completion Year): \$131.2 million (FY2028) | |
| HRS Score: 58.15; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: FY2007 | |
| IAG Status: IAG signed in 1989 | Five-Year Review Status: Completed FY2001/ Planned | |
| Contaminants: Munitions-related wastes | | |

Progress to Date

The Milan Army Ammunition Plant (AAP) handles explosive ordnance. The installation was placed on the NPL in July 1987 and an interagency agreement was signed 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 a 5-year review in FY01.

Preliminary assessment and site inspection activities conducted at Milan AAP in FY87 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 five Records of Decision (RODs), including one in FY92 for the construction of the OU 1 groundwater treatment plant and one in FY93, to extend a cap over the former O-Line Ponds soil to prevent further leaching of explosive contaminants into groundwater. The cleanup progress at Milan AAP for FY99 through FY02 is detailed below.

In FY99, the installation completed construction for the OU 3 groundwater treatment facility. The installation submitted two final remedial investigations to the regulators for OU 4 Regions 2 and 3 and OU 5. The Army completed construction of a bioremediation facility and commenced treatment of contaminated soil.

In FY00, the Army and regulators signed a ROD for construction of a groundwater treatment facility for the Western Boundary Area (OU 4 Region 1) of the installation. RDX-contaminated groundwater from sumps and ditches within Line X (OU 4 Region 1) had migrated from its source and extended more than 6,000 feet laterally within the City of Milan.

In FY01, the Army used an explanation of significant differences (ESD) to modify the existing ROD for OU 3 and OU 4 soil, which allowed land application of treated explosives-contaminated soil. The ESD discontinued the land filling of this soil, now disposed of at the plant's ammunition destruction area. The Army completed the 5-year review. The final proposed plan was approved, and the draft ROD was submitted for OU 5. The installation completed bioremediation of

explosives-contaminated soil at Lines C, E, and F. The draft feasibility study (FS) for the City of Milan (OU 4 Regions 2 and 3) was approved. The Army implemented recommendations provided by a Groundwater Extraction and Treatment Effectiveness Review Team.

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 Z and H and Area M and N. The draft FS for overall groundwater contamination was approved. The Army submitted the draft ROD for the City of Milan (OU 4 Regions 2 and 3) to the regulators. Remediation of the Y-103 rail classification yard was completed. The installation continued operation of the OU 1 and OU 3 groundwater treatment plants.

FY03 IRP Progress

The installation continued operation of the OU 1, OU 3, and OU 4 groundwater treatment plants. The composting of Line X proceeded on schedule. The installation began two studies for examining groundwater quality. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

The installation did not complete three final RODs for OU 4 Regions 2 and 3, OU 5, and all contaminated groundwater plumes existing on post as scheduled. The first two RODs were delayed due to regulatory and legal issues. The installation will not begin action for the third ROD until the first two RODs are approved. The scheduled remedial design (RD) will not begin until the ROD is approved.

Four RAB meetings were held.

FY03 MMRP Progress

The Army completed an inventory of the closed, transferring, and transferred 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 it was classified as having medium explosives safety risk.

Plan of Action

Plan of action items for Milan AAP are grouped below according to program category.

IRP

- Award performance-based contract to address remaining sites at Milan AAP in FY04.
- Complete final RODs for OU 4 Regions 2 and 3, OU 5, and all contaminated groundwater plumes existing on post in FY04.
- Complete the RD for OU 4 Regions 2 and 3 in FY04.
- Complete the composting of Line X in FY04.
- Initiate additional groundwater studies at Lines C, D, Z, O, and the open burning grounds in FY04.
- Continue operation of the OU 1, OU 3, and OU 4 groundwater treatment plants in FY04-FY05.

MMRP

There are no Military Munitions Response Program (MMRP) actions scheduled in FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | CA921372067600 | Media Affected: | Groundwater and soil |
| Size: | 3,097 acres | Funding to Date: | \$122.3 million |
| Mission: | Housed 7th Infantry Division (Light); supports the Defense Language Institute Foreign Language Center, currently at the Presidio of Monterey, California | Estimated Cost to Completion (Completion Year): | \$84.8 million (FY2032) |
| HRS Score: | 42.24; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2007 |
| IAG Status: | Federal facility agreement signed in July 1990 | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | VOCs, petroleum hydrocarbons, heavy metals, and pesticides | | |



Progress to Date

The installation housed the 7th Infantry Division (Light) and supports the Defense Language Institute Foreign Language Center. In July 1991, the BRAC Commission recommended closure of Moffett Field Naval Air Station. The installation was closed on July 1, 1994, and was transferred to NASA. A portion of the installation was placed on the NPL in February 1990 and a federal facility agreement (FFA) was signed in July 1990. Sites at the installation include landfills, underground storage tanks (USTs), a burn pit, ditches, holding ponds, 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 (BCT) 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 a 5-year review.

Environmental studies have identified 34 sites at the installation. The Naval Air Manor property was transferred to a neighboring city. In addition, the installation has completed several no further action (NFA) Record of Decisions (RODs). The installation has also completed RODs at two additional sites and OU 1 and Site 22. The installation has completed closure of 35 petroleum sites. The cleanup progress at Moffett Field Naval Air Station for FY99 through FY02 is detailed below.

In FY99, the installation completed landfill consolidation and construction of a cap, and finished construction of a remedial action (RA) at the west-side aquifer plume. Preliminary remedial design (RD) efforts began on the Site 22 landfill. The basewide feasibility study (FS) was completed, and the basewide ROD went into development.

In FY00, closure reports were completed for numerous UST sites. Field investigation of Northern Channel (Site 27) was completed. Monitoring of ecological areas (Site 25) continued.

In FY01, the FFA was revised to provide a detailed closure schedule, to refine the clean-up strategy, and to accelerate the remediation of Moffett Field in order to get the installation delisted from the NPL. Support of the

NASA-Navy memorandum of agreement (MOA) continued. The proposed plan (PP) was completed for the Site 22 landfill, and negotiations toward the ROD began with regulatory agencies.

In FY02, the installation completed closure of 35 petroleum sites. The ROD and RD for Site 22 were completed as well as the PP and ROD for the NFA sites. Five-year review reports for OU 1, Sites 1 & 2, were submitted to agencies. Progress continued on the site management plan for delisting Moffett Field from the NPL. Support of the NASA-Navy MOA continued. An optimization study for Sites 26 & 28 pump and treat systems began. A human health risk assessment (HHRA) on Moffett Community Housing (MCH) started due to groundwater contamination. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed a 5-year review report for both the west-side aquifers treatment system and the east-site aquifers treatment system in FY03. The PP for Site 25 was completed. A time-critical removal action (TCRA) was initiated at the new source area, Hangar 1. The FS for Site 27 and the RA for Site 22 were completed. The HHRA at MCH was completed, although additional studies are needed to supplement HHRA. An additional seven petroleum sites were closed. The installation continued the site management plan for delisting Moffett Field from the NPL, support of the NASA-Navy MOA, and completed optimization study for Sites 26 and 28 PT systems.

The ROD and RD for Site 25 were delayed due to technical issues.

The installation continued facilitating the BCT and RAB meetings.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

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

IRP

- Complete revised FS for Site 25 and complete TCRA at Hangar 1 in FY04.
- Complete additional work for MCH HHRA and close additional petroleum sites in FY04.
- Complete PP, ROD, and RD for Site 27 in FY04–FY05.
- Continue the site management plan for delisting Moffett Field from the NPL, continue support of the NASA-Navy MOA, continue facilitating the BCT and RAB meetings, and conduct a public site tour in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|------------------------|
| FFID: | WA09799F331700 | Media Affected: | Groundwater and soil |
| Size: | 9,607 acres | Funding to Date: | \$14.5 million |
| Mission: | Served as tactical air command, air transport, and strategic air command base; provided pilot training | Estimated Cost to Completion (Completion Year): | \$1.6 million (FY2007) |
| HRS Score: | 50.00; placed on NPL in October 1992 | Final RIP/RC Date for IRP Sites: | FY2007 |
| IAG Status: | IAG for RI/FS signed in March 1999 | Five-Year Review Status: | N/A |
| Contaminants: | VOCs (specifically TCE) | | |



Progress to Date

Larson Air Force Base (AFB) served as a Tactical Air Command base, then as a military air transport facility, and later as a Strategic Air Command base. The property was sold to the Port of Moses Lake in 1966 and is now operated by the Grant County Airport. Much of the former Larson AFB property serves as a regional aviation, industrial, and educational facility. Environmental assessments, beginning in FY87, identified four sites that required further investigation: 11 underground storage tanks (USTs) and associated potentially contaminated soil; a trichloroethylene (TCE)-contaminated groundwater plume; an area potentially containing low-level radioactive waste; and two disposal areas potentially containing tetraethyl lead. The Army and the EPA signed an interagency agreement in March 1999 and EPA placed the property on the NPL in 1999. U.S. Army Corps of Engineers (USACE) established a Restoration Advisory Board (RAB) at this property.

USACE identified four projects at this property. The cleanup progress for Moses Lake for FY99 through FY02 is detailed below.

In FY99, Army and EPA signed an interagency agreement for the remedial investigation/feasibility study (RI/FS) work and RI/FS work began to determine the extent of the TCE plume for Skyline. U.S. Army Corps of Engineers (USACE) constructed 47 groundwater monitoring wells and installed several piezometers. Real estate rights-of-entry were obtained for 70 local residences. Under directive from EPA, USACE designed a potable-water pipeline for the community of Skyline, leading from the water distribution system of the City of Moses Lake to Skyline.

In FY00, EPA subsequently directed the USACE to drill a new well. USACE completed several interim remedial actions (IRAs), including UST closures at the former eight-bay hangar facility, disposal of more than 100 55-gallon drums, and disposal of over 18,000 gallons of TCE-contaminated water in tanks. The Army performed additional sampling for domestic water wells, increasing the number of homes requiring service on the bottled-water contract.

In FY01, USACE completed an IRA at the former liquid oxygen generating plant site. Two sumps containing TCE-contaminated water and sludge, as well as the associated piping and contaminated soil, were removed and disposed of properly. USACE initiated RI work for the draft RI report. USACE continued work for completing well construction and the draft FS.

In FY02, USACE initiated the IRA to construct and provide a replacement well for the community of Skyline. The supplemental RI work was scoped, awarded, and coordinated. USACE published a draft RI report, but there proved to be several field sites requiring more investigation.

FY03 IRP Progress

USACE completed the Skyline Well Replacement Project; the well was handed over to the owner in August 2003. The final RI report was completed. USACE began a long-term monitoring program for domestic well owners on the southern edge of the plume. The cost of completing environmental restoration at this property has changed significantly due to estimating criteria issues.

Technical issues delayed the completion of the FS.

The RAB meets on a bimonthly basis. EPA continues to be an active participant and partner with USACE and the public during all phases of the project.

FY03 MMRP Progress

USACE has identified no previous Military Munitions Response Program (MMRP) work at this property.

Plan of Action

Plan of action items for Moses Lake are grouped below according to program category.

IRP

- Continue the surface soil operable unit (OU) FS in FY04.
- Continue the groundwater TCE OU FS in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|--|--|---|
| FFID: ID057212455700 | Media Affected: Groundwater and soil |  |
| Size: 6,000 acres | Funding to Date: \$9.4 million | |
| Mission: Provide composite combat air power worldwide | Estimated Cost to Completion (Completion Year): \$15.5 million (FY2012) | |
| HRS Score: NA | Final RIP/RC Date for IRP Sites: FY2012 | |
| IAG Status: Federal facility agreement signed in January 1992 | Five-Year Review Status: Completed FY2001/Planned FY2006 | |
| Contaminants: VOCs, POLs, and heavy metals | | |

Progress to Date

The mission of Mountain Home Air Force Base (AFB) is to provide composite combat air power worldwide. The installation was placed on the NPL in August 1990 and signed a federal facility agreement in January 1992. 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 (USTs), 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 (RAB). In FY02, the installation completed a 5-year review. The cost of completing environmental restoration at this installation has changed significantly due to regulatory and technical issues.

Environmental studies conducted since FY83 have identified 32 sites at Mountain Home AFB. To improve and accelerate site characterization, the installation grouped the sites into operable units (OUs). To date, a no further action Record of Decision (ROD) has been signed for OU 2 and OU 4. RODs have also been signed for OUs 1, 3, 5, and 6; the lagoon landfill; and Fire Training Area 8. The cleanup progress at Mountain Home AFB for FY99 through FY02 is detailed below.

In FY99, the installation continued to monitor regional groundwater for the groundwater transport model and as part of a 5-year monitoring plan. The perched water at Site ST-11 was also monitored as part of a 5-year monitoring plan. The installation continued to pursue deletion from the NPL by performing the actions required in the ROD. A contract for updating the community relations plan was awarded.

In FY00, the installation continued to monitor regional groundwater and the perched water at Site ST-11. The installation updated the community relations plan and continued to pursue deletion of the installation from the NPL.

In FY01, the installation continued to monitor regional groundwater and the perched water at ST-11. The 5-year review was completed and, as a result, additional sampling will be accomplished for ST-11 and the regional groundwater. Three new areas of concern (AOCs) will be addressed by a site inspection (SI). Because of the identification of the new potential sites and the plan for additional sampling and analysis at ST-11, deletion from the NPL will not be revisited until the next 5-year review.

In FY02, the installation installed five wells to assist in monitoring regional groundwater, and three additional wells with vapor ports to assist in monitoring perched groundwater and volatile organic compounds (VOCs) at Site ST-11. The 5-year review was completed and 17 sites that were recommended for additional institutional controls were sampled. The cost of completing environmental restoration at this installation changed significantly due to regulatory issues. The installation began an SI for three AOCs to determine whether the AOCs qualify as sites. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation evaluated the results of the SI for the three AOCs and determined that no further action 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 ST-13. Samples analyzed from two regional aquifer monitoring wells indicated isolated values for benzene and trichloroethylene (TCE), which exceeded maximum contaminant levels.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for Mountain Home AFB are grouped below according to program category.

IRP

- Conduct remedial design and initiate construction of remediation system for ST-11 in FY04.
- Monitor vapor ports and continue to monitor perched and regional groundwater in FY04–FY05.
- Initiate hot spot removal of selected sites in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|-------------------------------|
| FFID: | SC457002482100 | Media Affected: | Groundwater and soil |
| Size: | 3,937 acres | Funding to Date: | \$45.9 million |
| Mission: | Housed tactical fighter wing | Estimated Cost to Completion (Completion Year): | \$18.8 million (FY2029) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2004 |
| IAG Status: | None | Five-Year Review Status: | No review has been completed. |
| Contaminants: | Spent solvents, fuel, waste oil, VOCs, metals, asbestos, paints, POLs, and thinners | | |



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 (FTAs), 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, heavy metals, and volatile organic compounds (VOCs). A joint management team assumed the role of a BRAC cleanup team (BCT) in FY93. The installation also formed a Restoration Advisory Board in FY94 and the BCT updated the BRAC cleanup plan in FY96. The cleanup progress at Myrtle AFB for FY99 through FY02 is detailed below.

In FY99, the design and the work plan for the groundwater remediation system at an off-base site were submitted for approval. Remedial design was completed for two FTAs and the petroleum/oil/lubricants (POLs) site. The RCRA facility investigation work plan and fieldwork were completed for four areas.

In FY00, the installation completed the review of interim corrective measure (ICM) construction reports for the old entomology shop, the new entomology shop, and the armament shop. The installation began a corrective measures study (CMS) for eight sites, ICM soil removal at FT11 (the weathering pit), natural attenuation at two FTAs, and a corrective action plan at the POL site.

In FY01, the installation completed a pilot study and ICM at the vehicle maintenance area and revised the ICM at B575. CMSs for nine sites were completed, and CMSs for three sites were drafted. Statements of basis for 10 sites were submitted. Two fuel sites were closed, and remediation continued at four fuel sites. Groundwater monitoring and operation of existing systems continued. Installation of a soil cover on the 10-acre construction rubble site was completed. Also in FY01, remediation was completed at two sites thought to contain unexploded ordnance (UXO); there was no UXO present. An inventory for UXO was completed and no ordnance was found.

In FY02, remediation at four fuel sites, groundwater monitoring, and operation of existing systems continued. One pilot study was completed. Drafts were developed for five site CMSs and five site statements of basis (SOBs).

FY03 IRP Progress

The installation began investigations at a new groundwater site and initiated corrective measure implementations (CMI) at four sites. Fourteen CMSs and SOBs 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. The Air Force reached a consent agreement with the State regarding land use control issues, which allowed the installation to proceed with postponed documents.

Regulatory issues delayed seven DDs.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified.

Plan of Action

Plan of action items for Myrtle AFB are grouped below according to program category.

IRP

- Complete 4 CMIs, 4 SOBs, and 10 DDs in FY04.
- Initiate remedial actions at three sites in FY04.
- Obtain operating properly and successfully determinations at two sites in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|--|---|---|
| FFID: WI59799F244900 | Media Affected: Groundwater and soil |  |
| Size: 320 acres | Funding to Date: \$3.2 million | |
| Mission: Manufacture ordnance | Estimated Cost to Completion (Completion Year): \$0 (FY1990) | |
| HRS Score: 43.7; placed on NPL in June 1986 | Final RIP/RC Date for IRP Sites: FY1990 | |
| IAG Status: None | Five-Year Review Status: N/A | |
| Contaminants: VOCs, including TCE | | |

Progress to Date

Between 1981 and 1985, EPA and the Wisconsin Department of Natural Resources conducted groundwater studies in the general area west of the National Presto Industries (NPI) site (formerly Eau Claire Ordnance Plant No. 1), which manufacture ordnance. Volatile organic compounds (VOCs) were detected in groundwater samples. EPA issued an administrative order on consent requiring NPI to design and install an on-site groundwater treatment facility. EPA placed NPI on the NPL in 1986. A 5-year review was completed in FY03.

To date, studies identified contamination in four plumes emanating from five source areas. EPA signed a Record of Decision (ROD) and the U.S. Army Corps of Engineers (USACE) conducted source removals and installed groundwater treatment systems. The cleanup progress at NPI for FY99 through FY02 is detailed below.

In FY99, USACE completed closure of Lagoon No. 1.

In FY00, the property continued monitoring and operating the soil vapor extraction (SVE) and groundwater systems. The Army issued the final payment under the 1996 grant agreement.

In FY01, the monitoring and operating of SVE and groundwater systems continued. USACE reviewed the monitoring reports submitted by the property. USACE requested EPA's approval to cease operating the Plume 1/2 system in favor of natural attenuation (NA).

In FY02, USACE continued to monitor and operate the SVE and groundwater treatment systems and continued to review monitoring reports submitted by the property. USACE also continued to work toward a consensus on ceasing to operate the Plume 1/2 system in favor of NA.

FY03 IRP Progress

The property continued to monitor and operate the SVE and groundwater treatment systems. USACE reviewed monitoring reports submitted to them. The property reviewed the use of NA in place of the present Plume 1/2 system. NA was eliminated as an option since contaminants of concern were still above action levels. The Army completed a 5-year review.

FY03 MMRP Progress

USACE has identified no previous Military Munitions Response Program (MMRP) work at this property.

Plan of Action

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

IRP

- Continue to operate groundwater treatment and SVE systems as prescribed in the ROD in FY04.
- Install monitoring wells and delineate the area of contamination in southwest corner of site in FY04.
- Develop, review, and propose plan of action to remediate the residual contamination at the southwest corner in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | VA317002248200 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 2,147 acres | Funding to Date: | \$19.6 million |
| Mission: | Provide logistics facilities and support services to meet the amphibious warfare training requirements of the Armed Forces | Estimated Cost to Completion (Completion Year): | \$30.9 million (FY2016) |
| HRS Score: | 50; placed on NPL in May 1999 | Final RIP/RC Date for IRP Sites: | FY2011 |
| IAG Status: | Federal facility agreement negotiations underway | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Mixed municipal wastes, VOCs, SVOCs, and heavy metals | | |



Progress to Date

Naval Amphibious Base 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. The installation was placed on the NPL in FY99 because of the potential for contaminants in soil and groundwater to migrate to potential receptors. A Restoration Advisory Board was established in 1994 and a community relations plan (CRP) was completed in FY02. The installation is currently negotiating a federal facility agreement (FFA).

The cleanup progress at Naval Amphibious Base Little Creek for FY99 through FY02 is detailed below.

In FY99, the base was placed on the NPL. EPA reevaluated all sites upon this listing. PCP-contaminated soil was removed from Site 13. Site investigations (SIs) for Site 8 and solid waste management unit (SWMU) 3 were completed.

In FY00, the installation completed a draft base background study and updated the site management plan. Ecological investigations continued at multiple sites, and long-term management continued at Sites 7, 9, and 10. A draft FFA was prepared. The engineering evaluation/cost analysis (EE/CA) was completed for SWMU 8, and the associated removal action work plan was finalized. The draft SI for SWMUs 7 and 8 was completed. A draft remedial investigation (RI) was completed for Sites 9 and 10, and an RI was completed for Site 12.

In FY01, a draft work plan for the SWMU 3 RI was completed. A draft RI was completed for Sites 5, 11, and 13. The final base background report and a draft FFA were submitted for regulatory comment. The interim remedial action (IRA), a draft EE/CA, and a draft RI work plan were completed at SWMU 8. A final ecological risk assessment was completed for Sites 5 and 13.

In FY02, the installation completed the CRP. The Site 8 IRA and draft RI were completed. The pilot study at Site 13 using Oxygen Release Compound to successfully reduce groundwater contamination was completed. The pilot study at Site 11 using cyclodextrin to significantly reduce groundwater contamination was completed. Sites 5, 15, and 16

and SWMU 2 were closed. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

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 H, I, J, and Site 14. The installation has also completed a no further action closeout for Site 4.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Naval Amphibious Base Little Creek are grouped below according to program category.

IRP

- Sign FFA in FY04.
- Sign ROD for Sites 9 and 10 in FY04.
- Complete the IRA for Site 7 FY04.
- Complete the Site 13 pilot study in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|--------------------|---|--|--|---|
| FFID: | CA917002757500 | Contaminants: | Petroleum products, solvents, refuse, ordnance, and incinerator wastes |  |
| Size: | 1,527 acres | Media Affected: | Groundwater and soil | |
| Mission: | Served as an auxiliary airfield for operations from Moffett Field and other Navy facilities in the area; used for practice operations by the Navy, Air Force, Army, and Coast Guard during the 1970s and 1980s and as a research and development site by NASA | Funding to Date: | \$21.0 million | |
| HRS Score: | N/A | Estimated Cost to Completion (Completion Year): | \$13.8 million (FY2016) | |
| IAG Status: | N/A | Final RIP/RC Date for IRP Sites: | FY2008 | |
| | | Five-Year Review Status: | The installation has not completed a 5-year review. | |

Progress to Date

The Naval Auxiliary Land 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, the installation formed a BRAC cleanup team (BCT) and completed a BRAC cleanup plan, which was updated in FY97. Regulatory oversight agencies have concurred on no further action (NFA) status for six of the eight Installation Restoration Program (IRP) sites in October 1999.

In October 1999, Congress authorized NASA to transfer the facility to Stanislaus County. The cleanup progress at NALF Crows Landing for FY99 through FY02 is detailed below.

In FY00, management of the installation's environmental restoration program was transferred from Engineering Field Activity West to Southwest Division. Corrective actions at underground storage tank (UST) sites were implemented. Routine groundwater monitoring activities were also conducted, and additional chemicals were identified in the groundwater.

In FY01, feasibility studies (FSs) for IRP Sites 11 (disposal pits) and 17 (demolished hangar area and administration area plume) were revised, and site verification activities were conducted at IRP Site 11A (former and current sewer systems). Corrective actions continued at the UST sites. Two time-critical removal actions (TCRAs) were implemented for groundwater extraction at source areas in the administration area plume, routine groundwater monitoring activities were conducted, the environmental business plan was updated, a community relations plan (CRP) addendum was published and BCT meetings were conducted bimonthly.

In FY02, groundwater extraction and monitoring activities continued at two source areas at the Site 17 administration area plume. The installation continued to provide for community involvement, published four fact sheets, updated the CRP, and maintained the local information repository in Patterson, California. The installation completed corrective actions at UST Cluster 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. BCT meetings were conducted

bimonthly. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

FY03 IRP Progress

The Navy continued groundwater extraction activities and removed more than 280 pounds of contaminant mass (primarily acetone and gasoline) from the administration area plume. The installation completed closure reports for UST CL-40 and UST CL-7, and the regulatory closure of those sites. Information was collected for the revised FSs 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-40 and UST CL-7. Approximately 19,000 tons of waste and construction debris were removed from IRP Site 11A (Sewer Systems) during a TCRA. A draft engineering evaluation/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 community relations program mailing list. The BCT meetings were conducted bimonthly.

FY03 MMRP Progress

NALF Crows Landing performed no MMRP actions in FY03.

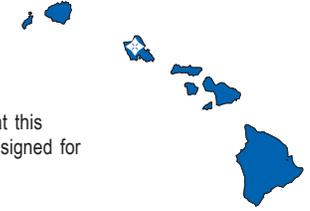
Plan of Action

Plan of action items for NALF Crows Landing are grouped below according to program category.

IRP

- Complete response actions at IRP Site 11A (sewer systems) in FY04.
- Continue iSOC treatment and groundwater extraction at the Administration Area Plume in FY04.
- Complete revised FS for IRP Sites 11 and 17 in FY04.
- Complete investigation and begin removal of buried ordnance, waste, and construction debris at IRP Site 11 in FY04.

| | | | |
|----------------------|---|--|--|
| FFID: | HI917002438800 | Media Affected: | Soil |
| Size: | 2,400 acres | Funding to Date: | \$17.5 million |
| Mission: | Operate and maintain communications facilities and equipment for naval shore installations and fleet units in the eastern Pacific | Estimated Cost to Completion (Completion Year): | \$44.9 million (FY2019) |
| HRS Score: | 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2014 |
| IAG Status: | Draft federal facility agreement was cancelled | Five-Year Review Status: | A 5-year review is not required at this installation since no RODs were signed for any of the sites. |
| Contaminants: | PCBs, metals, and petroleum hydrocarbons | | |



Progress to Date

The Naval Computer and Telecommunications Area Master Station (NACTAMS), 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 consists 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 a no further action for Site 14 and UST Site 6. The cleanup progress at NCTAMS, Pacific for FY99 through FY02 is detailed below.

In FY99, the investigation of a potential UST tank site, UST Site 8, was completed with no tank located.

In FY00, the installation completed removal actions at Sites 17, 18, and 20. Removal site evaluation fieldwork and reporting were initiated for a portion of Site 18. An engineering evaluation/cost analysis and an action memo were completed and a removal action began for Sites 17, 18, and 20 to treat or dispose of contaminated soil excavated in the previous removal action. Tank removal and over-excavation were completed at UST 5.

In FY01, the removal action at Sites 17, 18, and 20 continued, consisting of treatment of PCB-contaminated soil by thermal desorption. A UST site (UST 9) was identified during demolition of Building 63, NCTAMS Wahiawa.

In FY02, the installation completed the draft remedial investigation (RI) planning documents for Sites 6 and 24. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all

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

FY03 IRP Progress

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 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. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The fieldwork at Sites 14 and 15 was delayed due to regulatory issues.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for NCTAMS, Pacific are grouped below according to program category.

IRP

- Complete removal action at Sites 17, 18 and 20 in FY04.
- Complete Step 3a of ecological risk assessment for Sites 1, 2, 5, and 22 in FY04.
- Complete second round of groundwater sampling and begin draft RI report for Sites 6 and 24 in FY04.
- Complete verification sampling fieldwork to confirm Eureka laboratory results at Sites 14 and 15 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | PR217003172000 | Contaminants cont'd: | and waste oil. |
| Size: | 22,687 acres (Includes both facilities) | Media Affected: | Groundwater, surface water, sediment, and soil. |
| 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. | Funding to Date: | \$12 million |
| HRS Score: | Not scored. Governor has requested listing on NPL | Estimated Cost to Complete (Completion Year): | \$30 million (FY2014) |
| IAG Status: | Federal facility agreement drafted. Expect signature in 2004. | Final RIP/RC Date IRP Sites: | FY2007 for NASD; FY2014 for VNTR |
| Contaminants: | Explosives, metals, VOCs, SVOCs, pesticides, PCBs, gasoline, | Final RIP/RC Date MMRP Sites: | FY2007 |
| | | Five-Year Review Status: | N/A |



Progress to Date

The Naval Facilities on Vieques consist of the former Naval Ammunition Support Detachment (NASD) on the western end of the island and the Vieques Naval Training Range (VNTR) on the eastern half. In FY03, the Governor of Puerto Rico requested EPA to list VNTR and NASD on the NPL. Sites types at Vieques include underground storage tanks (UST), open burning/open detonation (OB/OD) and military munitions. A technical review committee (TRC) was formed with community members and regulators in FY01. Quarterly TRC meetings are conducted at the facilities on Vieques to discuss the progress of activities and to hear community concerns. The community suggested that the TRC be converted to a Restoration Advisory Board (RAB), which is expected to take place in FY04.

The Navy has identified 17 potentially contaminated sites at NASD, including a 200-acre site with discarded military munitions. In addition, at VNTR the Navy has identified 12 RCRA sites and 62 potential Military Munitions Response Program (MMRP) sites. To date, the Navy has transferred 8,114 acres of NASD to the Department of Interior (DOI), the Municipality of Vieques, and the Puerto Rico Conservation Trust, 4,000 acres of which DOI owns, operates, and manages as a National Wildlife Refuge. The Navy has also transferred an additional 14,573 acres of VNTR to DOI to be operated and managed as a National Wildlife Refuge. The cleanup progress at the Naval Facilities on Vieques for FY00 through FY02 is detailed below.

In FY00, the Navy completed the environmental baseline survey (EBS) and finding of suitability to transfer for 17 sites at NASD.

In FY01, the Navy completed the preliminary assessment/site investigation for 17 sites at NASD. In addition, the community relations work plan, draft TRC "Community Relations Charter", and site management plan were completed. The Navy also completed the munitions investigation report for Green Beach and the engineered safety controls for the OB/OD site.

In FY02, the Navy completed the final report on background contamination for NASD.

FY03 IRP Progress

The Navy completed a draft no further action (NFA) document for nine of the 17 sites at NASD and the remedial investigation/feasibility study

(RI/FS) at four sites at NASD. In addition, the Navy completed the RI/FS field investigation and innovative technology pilot test for petroleum removal at the former waste oil UST (Area of Concern E). The RCRA facility investigation work plans for 12 sites at VNTR were completed and received regulator approval. The Navy also completed the final baseline groundwater work plan and the draft community relations work plan for VNTR. Additionally, the Navy completed the EBS for VNTR.

FY03 MMRP Progress

The Navy completed the preliminary range assessment and archive research at VNTR. In addition, the Navy completed the munitions investigation and report for Red and Blue Beach, and placed warning signs in restricted areas throughout VNTR.

Plan of Action

Plan of action items for the Naval Facilities on Vieques are grouped below according to program category.

IRP

- Conduct Phase I remedial facilities investigation for 12 sites on VNTR in FY04.
- Conduct baseline groundwater investigation/report and soil background investigation/report for VNTR (per RCRA consent order) in FY04.
- Complete environmental RI/FS reports for four sites at former NASD in FY04.
- Conduct RI/FS investigations for two additional sites at NASD in FY04.
- Finalize NFA document for nine sites on NASD in FY04.
- Convert the TRC to a RAB in FY04.

MMRP

- Prepare RI report and conduct non-time critical removal action at OB/OD site (solid waste management unit 4) on NASD in FY04.
- Prepare RCRA OB/OD closure plan and conduct removal action for Subpart X permitted OB/OD site on VNTR in FY04.
- Conduct additional range assessment investigations and prepare draft and final MMRP site strategic plan and range assessment report for East Vieques VNTR in FY04.

- Finalize federal facilities agreement with EPA, DOI, and the Puerto Rico Environmental Quality Board in FY04.

| | | | |
|----------------------|---|--|---|
| FFID: | CA917002756300 | Media Affected: | Groundwater and soil |
| Size: | 416 acres | Funding to Date: | \$29.0 million |
| Mission: | Supply and provide bulk storage of various grades of petroleum fuel product for fleet | Estimated Cost to Completion (Completion Year): | \$10.2 million (FY2007) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2006 |
| IAG Status: | None | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Petroleum products, VOCs, and SVOCs | | |



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. There are 13 disposal areas at Point Molate.

Nine of these disposal areas (1, 2, 4, 6, 7, 8, 9, 11, 12), consisting of 364 acres, were transferred to the City of Richmond on September 23, 2003. One Record of Decision (ROD) has been signed to date. The cleanup progress at NFD, Point Molate for FY99 through FY02 is detailed below.

In FY99, over 10,000 linear feet of the shoreline piping system was removed at the Shoreline/Drum Lot 1 Areas to reduce potential sources of contamination. Results from the aquatic ecological risk assessment (ERA) indicate that the shoreline sediments have not been adversely impacted. About 20,000 cubic yards of waste were disposed of at installation restoration (IR) Site 1. Waste discarded at IR Site 1 was primarily construction debris. Some oily waste, thought to be petroleum sludge from tank bottoms or petroleum-contaminated soil from valve box removals, also has been observed. In addition to waste, historical fuel leaks and spills from the underground storage tank (UST) system at NFD Point Molate have affected soil and groundwater within and down gradient of IR Site 1. Contaminants of concern include total petroleum hydrocarbons and polycyclic aromatic hydrocarbons (PAHs) in soil and groundwater. A Phase I environmental baseline survey (EBS) was completed and a Phase II EBS began in 1999. Area 5, which is the Drum Lot 2/Building 87 solid waste management unit, required closure activities.

In FY00, the BRAC cleanup team approved and signed a ROD for no further action for the Sandblast Grit Areas. The installation removed an additional 36,000 feet of fuel pipeline from the Shoreline/Drum Lot 1 Areas. It also completed and received concurrence on an engineering evaluation and cost analysis (EE/CA) for Site 1. Remedial investigation reports for the four sites were completed.

In FY01, the installation completed the action memorandum (AM) and design documents for the Site 1 landfill cap, and construction began. Fieldwork for Site 3 was completed, and the EE/CA was initiated. The

fieldwork for Site 4 was completed, and the ERA and human health risk assessment (HHRA) were underway. The installation completed fieldwork and pilot studies for the firing range and Building 87 sites. Mobile free product removal systems were installed at two large USTs and one former valve box. The installation continued extraction-trench groundwater treatment under the existing national pollution discharge elimination system (NPDES) permit. A final Phase II EBS summary report was being prepared.

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 NPDES permit. The Phase II EBS summary report and corrective action plan for USTs and fuel pipelines were completed. The installation completed construction of the Site 1 landfill cap. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The installation initiated an EE/CA for Site 3. The Navy has completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed an HHRA/ERA 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 IR Sites 1, 3, and 4, and investigated the pipes and tanks on the pier. The semiannual basewide groundwater monitoring continued, and a community involvement plan was revised. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The installation did not complete the Site 3 EE/CA as more information was necessary to ultimately gain closure of Site 3. While revising the environmental closure strategies, a decision was made (and agreed to by the BRAC Cleanup Team) to stop the Site 3 EE/CA and AM and to proceed with developing an FS, proposed plan (PP), and ROD for Site 3. Remedial action will begin once the ROD is completed.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Point Molate are grouped below according to program category.

IRP

- Complete the FSs and PPs for IR Sites 1, 3, 4 in FY04.
- Complete treatment ponds removal in FY04.
- Complete environmental and structural closure of the USTs, pipelines, and valve boxes in FY05.
- Remove USTs on the Chevron property in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | WA017002756800 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 2,716 acres | Funding to Date: | \$8.9 million |
| Mission: | Receive, store, maintain, and issue ordnance | Estimated Cost to Completion (Completion Year): | \$2.8 million (FY2031) |
| HRS Score: | 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | IAG signed in August 1996 | Final RIP/RC Date for MMRP Sites: | FY2011 |
| Contaminants: | TNT, RDX, heavy metals, PCBs, and VOCs | Five-Year Review Status: | The installation plans to complete a 5-year review in FY05. |



Progress to Date

The Naval Magazine Indian Island's history includes receiving, storing, maintaining, and issuing ordnance. The primary sources of contamination at the installation are landfills and ordnance disposal and transfer sites. Investigations have focused on cleaning up existing, and preventing future, contamination of shellfish beds near the installation. Investigations found trace metals (including lead), organics, and petroleum hydrocarbons in shellfish near the north-end landfill. A community relations plan was developed in FY92 and revised in FY96. The installation was placed on the NPL in May 1994. The installation's technical review committee was converted to a Restoration Advisory Board in FY95. Naval Magazine Indian Island signed a federal facility agreement in August 1996. In FY00, the installation completed a 5-year review.

Since FY84, investigations at this installation have identified 18 sites. Two Records of Decision have been signed to date. The cleanup progress at Naval Magazine Indian Island for FY99 through FY02 is detailed below.

In FY99, the Navy completed the risk analysis of sediment and shellfish at Site 10.

In FY00, the installation completed site investigations at Sites 33 and 36. An engineering evaluation and cost analysis (EE/CA) and an action memorandum were prepared for a removal action at Site 36. A 5-year review was completed. A draft closeout report was prepared, and discussions continued with EPA concerning deleting the installation from the NPL. Institutional controls were placed on Sites 10 and 36 to regulate site access and usage. Seventeen resource protection wells were closed. Residue from the burning of incendiary bombs at Site 11 was discovered during well-closure activities.

In FY01, the installation completed a removal action for petroleum- and polycyclic aromatic hydrocarbon-contaminated soil at Site 36. The EE/CA and the removal action for lead-contaminated soil at Site 33 were completed. The State of Washington's Department of Ecology determined that Sites 33 and 36 require no further action. Long-term operations and maintenance (LTOM) at Site 10 continued with groundwater sampling and landfill cap and shoreline maintenance activities. Investigation and closure were completed at the ordnance burning and disposal site. The first 5-year review was completed with no deficiencies identified.

In FY02, the installation continued LTOM at Site 10 (north-end landfill). The Navy initiated, modified, and reduced groundwater monitoring requirements. The reduced requirements produced a savings to the Navy of approximately 85 percent per year in LTOM costs. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

FY03 IRP Progress

The installation continued the LTOM at the north-end landfill (Site 10). In addition, the installation conducted extensive repairs to the landfill's shoreline protection system. The cost of completing environmental restoration at this installation has changed significantly due to technical and estimating criteria issues.

FY03 MMRP Progress

No work was performed on MMRP sites at this installation in FY03.

Plan of Action

Plan of action items for Naval Magazine Indian Island are grouped below according to program category.

IRP

- Continue LTOM at the north-end landfill (Site 10) in FY04–FY05.

MMRP

- Commence a planned preliminary assessment at Crane Point (EO101) in FY04.

| | | |
|---|--|---|
| FFID: RI117002424300 | Media Affected: Groundwater, surface water, sediment, and soil |  |
| Size: 1,400 acres | Funding to Date: \$77.1 million | |
| Mission: Provide logistical support and serve as a training center | Estimated Cost to Completion (Completion Year): \$44.3 million (FY2016) | |
| HRS Score: 32.25; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: FY2012 | |
| IAG Status: Federal facility agreement signed in March 1992 | Final RIP/RC Date for MMRP Sites: FY2013 | |
| Contaminants: PCBs, POLs, VOCs, and SVOCs | Five-Year Review Status: The final 5-year review is due in December 2004. | |

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 (POLs) 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 in March 1992. 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, and the installation established an ecological advisory board. In FY99, the installation completed a 5-year review.

The installation has completed Record of Decision (ROD) documents for the Landfill cap and the Site 1 offshore area. The installation has also submitted an interim ROD for Tank Farm No. 5. The installation completed one 5-year review. The cleanup progress at Naval Station Newport for FY99 through FY02 is detailed below.

In FY99, the feasibility study (FS) and the proposed remedial action plan (PRAP) were completed, and a ROD was submitted, for the Site 1 offshore area. The Site 9 offshore ecological risk assessment, an onshore removal action, and an offshore FS for Site 19 were completed. A 5-year review was completed for Site 01 McAllister Point Landfill and Site 13 Tank Farm No. 5. EPA concurred with the 5-year review.

In FY00, the installation completed the remedial design and initiated a Phase I remedial action (RA) for the Site 1 offshore area. Fieldwork for the Site 17 study area screening evaluation (SASE) was completed. The RA at Site 2 was completed.

In FY01, the installation finalized reports for the Site 17 SASE and Site 2 closure. The remedial investigation (RI) was completed and the FS was started for Site 9. The Phase I RA for the Site 1 offshore area was completed. Long-term management (LTM) continued for the Site 1 onshore RCRA cap.

In FY02, the installation completed the Phase II RA for Site 1 offshore area. The draft final FS for Site 9 was completed. The draft PRAP was submitted to regulators for Site 9. The operations and maintenance

(O&M) plan for offshore area of Site 1 was initiated. LTM continued for 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.

FY03 IRP Progress

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 ppm and 8,632 tons of TPH contaminated soils with concentration less than 5,000 parts per million. 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 RI work plan for the field investigation at Site 17 to regulatory agencies. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The installation was unable to complete the O&M plan for the offshore area at Site 9 due to regulatory and technical issues. In addition, the PRAP and draft ROD for Site 9 was not completed due to technical issues. The site investigations for Tank Farms 1, 2, 3, and 4 were not initiated due to technical and regulatory issues.

The Navy held a public meeting on July 16, 2003 for an onshore soil removal action.

FY03 MMRP Progress

The Navy began the preliminary assessment (PA) study for potential MMRP sites at the installation. The PA report is in the draft stage, the Navy has identified UXO 000001 Carr Point Skeet 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 is under the FUDS program.

Plan of Action

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

IRP

- Initiate the pre-design investigation for soil removal action at Site 9 in FY04.
- Initiate the Phase 1 soil mound removal action for Site 9 in FY04.
- Draft long term monitoring plan for sediments at Site 9 in FY04.
- Initiate "hot spot" removal action and do additional fieldwork investigation at Site 8 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---------------------------------|
| FFID: | WA09799F345500 | Media Affected: | Groundwater, sediment, and soil |
| Size: | 191 acres | Funding to Date: | \$0.3 million |
| Mission: | Served as shipbuilding facility and reserve shipyard | Estimated Cost to Completion (Completion Year): | \$0.08 million (FY2005) |
| HRS Score: | Unknown | Final RIP/RC Date for BRAC-ER Sites: | FY2005 |
| IAG Status: | None | Five-Year Review Status: | N/A |
| Contaminants: | VOCs, PNAs, PCBs, and heavy metals, including arsenic, lead, and mercury | | |



Progress to Date

The former 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, owned at that time by Seattle-Tacoma Shipbuilding Corporation (later called Todd Pacific Shipyards Inc., Tacoma Division), was rapidly developed to support the Navy 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 8.33 acres, and the remaining property was conveyed to the Port of Tacoma in January, 1960.

The cleanup progress for Naval Station Todd - Tacoma for FY00 through FY02 is detailed below.

In FY00, U.S. Army Corps of Engineers (USACE) completed the site ownership/operational history, and initiated preliminary discussions with other potentially responsible parties (PRPs), regulators, and stakeholders to apportion liability for addressing contamination and natural resources injuries.

In FY01, the need for additional field data to confirm or counter allegations of liability was reviewed. Discussions continued with other PRPs, regulators, and stakeholders. USACE, Seattle District, assisted the Office of Counsel and Department of Justice (DOJ) with a response to the EPA special notice letter, as well as with settlement negotiations.

In FY02, USACE continued to assist the Office of Counsel and DOJ with the ongoing settlement negotiations. National Resources Damages Assessment (NRDA) Trustees have proposed a method for assessing NRDA damages, and have solicited and received comments on the methodology.

FY03 IRP Progress

A Consent Decree was signed by a US District Judge, which included DoD along with other Federal agencies. USACE continued to assist the Office of Counsel and DOJ with settlement negotiations. The cost of completing environmental restoration at this property has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

No Military Munitions Response Program (MMRP) actions were performed in FY03.

Plan of Action

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

IRP

- Continue to assist with ongoing negotiations in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | |
|---|--|
| FFID: NE79799F041800 | Media Affected: Groundwater and soil |
| Size: 17,214 acres | Funding to Date: \$73.6 million |
| Mission: Performed ordnance storage and manufacturing activities | Estimated Cost to Completion (Completion Year): \$56.9 million (FY2039) |
| HRS Score: 31.94; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: FY2006 |
| IAG Status: IAG signed in September 1991 | Final RIP/RC Date for MMRP Sites: FY1997 |
| Contaminants: Explosives, VOCs, TCE, and PCBs | Five-Year Review Status: Underway FY2003 |



Progress to Date

From 1942 to 1956, the Nebraska Ordnance Plant 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. Most of the property is now owned by the University of Nebraska. Other parts of the property are owned by the Nebraska National Guard and private entities. The U.S. Army Corps of Engineers (USACE) has 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 1990 and signed an interagency agreement in 1991. In FY97, USACE converted the property's technical review committee to a Restoration Advisory Board (RAB).

To date, USACE has signed a Record of Decision (ROD) for Operable Unit (OU) 1 and incinerated over 16,000 tons of contaminated soil at the site. It has also installed groundwater treatment and containment systems. The cleanup progress at Nebraska Ordnance Plant for FY99 through FY02 is detailed below.

In FY99, USACE completed the demolition of four load line buildings. USACE completed the OU 2 contaminant removal action and began operating the system. USACE also completed the remedial design for OU 2 and additional characterization fieldwork for OU 3. USACE completed a memorandum of understanding with the Lower Platte National Resource District concerning beneficial reuse of treated groundwater.

In FY00, USACE initiated OU 2 remedial action (RA) construction of containment wells and a treatment plant. A pilot study was conducted to investigate the effectiveness of groundwater circulation wells (GCWs). Regulators approved the draft-final OU 3 remedial investigation addendum report and revised risk assessment. USACE submitted the draft OU 3 feasibility study (FS) report to the regulators.

In FY01, the OU 2 groundwater RA construction progressed. The groundwater monitoring program continued, completing four rounds of sampling. USACE continued operations and maintenance of the OU 2 containment interim RA. The draft-final groundwater circulation pilot study report was completed, with the restoration parties deciding to implement GCWs for focused remediation in lieu of high-capacity

extraction wells. USACE prepared a draft explanation of significant differences (ESD), and hosted a public availability session to document the GCW decision. The regulators approved the draft-final OU 2 Phase II GCW RD and the draft-final OU 3 FS report. USACE submitted the draft OU 3 proposed plan (PP) for review. The estimate for funding of a future Military Munitions Response Program (MMRP) project was updated and an engineering evaluation and cost analysis (EE/CA) was scheduled for approximately FY13.

In FY02, USACE completed the OU 2 containment construction that is currently in the operations and maintenance phase. The District Commander signed the OU 2 ESD and submitted it to EPA Region 7. USACE initiated a 5-year review of the ordnance and explosives EE/CA removal action. EPA Region 7, the Nebraska Department of Environmental Quality, and USACE continued to address issues with monthly project managers meetings.

FY03 IRP Progress

USACE performed further investigation of the recently discovered trichloroethylene (TCE) groundwater contamination plume south of Load Line No. 1. The investigation determined the horizontal and vertical extent of the contamination plume, which allowed the work plans for the pre-design analysis and RA to be completed. At the request of EPA and the Department of Justice, USACE initiated additional investigation activities to document and verify disposal of potential hazardous waste materials reported by the present landowner. The cost of completing environmental restoration at this property has changed significantly due to technical issues.

Regulatory issues delayed the start of the OU 2 Phase II RA as well as the OU 3 PP and ROD. Also, EPA Region 7 signatures were not obtained for the OU 2 ESD due to regulatory issues.

Quarterly RAB meetings were held and a site tour was conducted. In addition, both the Kansas City and Omaha Districts of the USACE worked with the City of Omaha Municipal Utilities District and the EPA regarding the selected location for their new municipal water well field.

FY03 MMRP Progress

The 5-year review of the munitions and explosives of concern EE/CA removal action plan was under review for approval.

Plan of Action

Plan of action items for Nebraska Ordnance Plant are grouped below according to program category.

IRP

- Complete pre-design review and design analysis for additional containment wells, connection into the current pipeline and treatment plant facility, and additional groundwater monitoring wells in FY04.
- Design and construct containment wells, connection to existing treatment plant facility, and additional groundwater monitoring wells in FY04-FY05.
- Install the Phase II GCWs pending approval of the ESD in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---------------|
| FFID: | NC49799F483500 | Media Affected: | Groundwater |
| Size: | 4 acres | Funding to Date: | \$1.5 million |
| Mission: | Served as World War II bomber command and Vietnam-era aerospace defense command | Estimated Cost to Completion (Completion Year): | \$0 (FY2003) |
| HRS Score: | 39.39; placed on NPL in March 1989 | Final RIP/RC Date for BRAC-ER Sites: | FY2003 |
| IAG Status: | None | Five-Year Review Status: | N/A |
| Contaminants: | VOCs and SVOCs | | |



Progress to Date

New Hanover County Airport served as a World War II bomber command and Vietnam-era air defense command. 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 site 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 site include 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. The property was placed on the NPL in March 1989.

To date, the potentially responsible parties have signed a Record of Decision (ROD) for property cleanup. The cleanup progress at New Hanover County Airport for FY99 through FY02 is detailed below.

In FY99, the PRPs installed additional wells and piezometers to aid in remedial design (RD). They completed the air sparging (AS) pilot treatability study report. EPA began amending the ROD after a feasibility study amendment recommended listing AS as the cleanup treatment of choice.

In FY00, the RD was revised and finalized.

In FY01, EPA approved the AS ROD amendment. The PRPs completed the 60 percent RD document, and submitted the 90 percent RD document for use of AS to EPA. At the State's request, additional monitoring wells were installed to determine the lateral continuity of the confining unit. The U.S. Army Corps of Engineers (USACE) and the Department of Justice will evaluate possible settlement of DoD liability when the RD is completed and removal action costs are established.

In FY02, the 90 percent RD and final RD for the use of AS were both approved. USACE conducted a public comment meeting.

FY03 IRP Progress

A contractor installed the AS system on behalf of the PRP group. The cost of completing environmental restoration at this property has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

USACE has identified no previous Military Munitions Response Program (MMRP) work at this property.

Plan of Action

Plan of action items for New Hanover County Airport are grouped below according to program category.

IRP

- Finalize settlement negotiations between the PRPs and the Department of Justice in FY04.
- Closeout project following settlement in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|--|
| FFID: | CT117002202000 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 547 acres | Funding to Date: | \$56.5 million |
| Mission: | Maintain and repair submarines; conduct submarine training and submarine medical research; provide a home port for submarines | Estimated Cost to Completion (Completion Year): | \$24.9 million (FY2020) |
| HRS Score: | 36.53; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2012 |
| IAG Status: | Federal facility agreement signed in January 1995 | Five-Year Review Status: | The installation completed a 5-year review. |
| Contaminants: | Dredge spoils, incinerator ash, POLs, PCBs, spent acids, pesticides, solvents, construction debris, metals, and VOCs | | |



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 installation was placed on the NPL in August 1990 because of polychlorinated biphenyl (PCB) contamination at Site 2. 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 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 two UST sites. The installation has completed Record of Decision (ROD) documents for Sites 2, 3, 6, 8, and 20. In addition, the installation has signed no further action RODs for Site 4 and Site 15. The cleanup progress at New London Naval Submarine Base for FY99 through FY02 is detailed below.

In FY99, the remedial investigation (RI) was completed at the lower base. A proposed remedial action plan (PRAP) was completed and a ROD was signed for Site 8.

In FY00, the installation completed the feasibility study (FS), PRAP, and ROD for Site 20. A draft final FS was completed for the lower base sites. Remedial design (RD) and remedial action (RA) at Site 3 and RD at Site 8 were completed. Fieldwork was completed for the basewide groundwater operable unit (OU) RI.

In FY01, the RAs at Sites 8 and 20 were completed. Groundwater monitoring continued at Sites 2 and 6. The RI for the basewide groundwater OU was completed. The 5-year review was completed as planned. The draft FS was completed for the lower base.

In FY02, groundwater monitoring at Sites 2, 6, and 8 continued. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed the FS for the basewide groundwater OU. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The FS for the lower base was not completed in order to allow the Navy to perform additional fieldwork in the adjacent Thames River. This data will be included in the FS for the lower base sites.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

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

IRP

- Complete PRAP and ROD for the basewide groundwater OU in FY04.
- Complete Thames River Study and lower base FS in FY04.
- Complete RD for basewide groundwater OU in FY05.
- Complete PRAP and ROD for lower base sites in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|------------------------|
| FFID: | OH557002465000 | Media Affected: | Groundwater and soil |
| Size: | 70 acres | Funding to Date: | \$5.4 million |
| Mission: | Provided depot-level maintenance for Air Force and DoD missile, navigation, and guidance systems. | Estimated Cost to Completion (Completion Year): | \$0.5 million (FY2005) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2002 |
| IAG Status: | None | Five-Year Review Status: | Planned FY2004 |
| Contaminants: | VOCs, SVOCs, BCEE, and TCE | | |



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. Past waste management activities related to solvents such as freon 113 and trichloroethylene (TCE) have affected groundwater at the installation. In FY93, the BRAC Commission recommended that Newark be closed. An environmental baseline survey was completed in June 1994. In FY94, the installation formed a BRAC cleanup team (BCT) and a Restoration Advisory Board to support cleanup efforts. The base closed on September 30, 1996. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Through investigations, the installation has identified seven sites. No further action decision documents (DD) have been prepared for five sites. Upon closure, 56 of 70 acres comprising Newark AFB were transferred to the Heath-Newark-Licking County Port Authority, and the base mission was privatized to the Boeing Corporation and other contractors. In FY03, an additional 13 acres were transferred. The cleanup progress at Newark AFB from FY99 through FY02 is detailed below.

In FY99, construction and activation of the city water line was completed. Quarterly sampling of monitoring wells at the hazardous waste storage area (FF87) continued, and the revised Amended Post Closure Plan was submitted and approved. The feasibility study (FS) at FF87 began.

In FY00, three drinking water wells were closed, and Stage I of the Landfill 02 (LF02) remedial investigation (RI) was completed. The FS for the FF87 pump and treat system was completed, and the original remedial action (RA) construction project was awarded. The BCT reviewed draft plans and the draft technical memorandum for Stage I of the LF02 RI.

In FY02, enhanced in-situ bioremediation was initiated as the RA at FF87. FF87 later attained remedy-in-place (RIP) status.

In FY02, a focused supplementary RI concluded that bis-dichloroethylether (BCEE) in groundwater was due to an "up-gradient, off-site source." An FS recommended institutional controls as the RA for BCEE. A DD was signed and the last RIP (LRIP) for LF02 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 FF87 were completed. The 5-year review was rescheduled to FY04 based on the 1999 achievement of LRIP for the 56-acre parcel. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues.

FY03 IRP Progress

The Air Force transferred LF02, totaling 13 acres, to the Licking County Regional Airport Authority. An amended post closure plan for FF87 and the hazardous waste storage area was under regulatory review.

Regulatory issues delayed achieving operating properly and successfully (OP&S) for FF87 and the hazardous waste storage area. Transfer of FF87 to the Heath-Newark-Licking County Port Authority was also delayed pending the completion of the amended post closure plan.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

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

IRP

- Complete amended post closure plan for FF87 in FY04.
- Determine if OP&S is required for RCRA sites and achieve OP&S for FF87 in FY04.
- Transfer three-fourths of an acre of FF87 to the Newark-Licking County Port Authority in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | VA317002741400 | Media Affected: | Surface water and sediment |
| Size: | 4,631 acres | Funding to Date: | \$86.9 million |
| Mission: | Provide services and materials to support the aviation activities and operating forces of the Navy | Estimated Cost to Completion (Completion Year): | \$32.0 million (FY2024) |
| HRS Score: | 50.00; placed on NPL in April 1997 | Final RIP/RC Date for IRP Sites: | FY2010 |
| IAG Status: | Federal facility agreement signed in February 1999 | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Petroleum products, PCBs, solvents, heavy metals, acids, paints, asbestos, and pesticides | | |



Progress to Date

Norfolk Naval Base provides services and materials to support the aviation activities and operating forces of the Navy. Contamination has resulted from maintenance of aircraft, equipment, and vehicles, and from operation of support facilities. Site types at the installation include landfills, ordnance storage areas, waste disposal areas, fire training areas, fuel spill areas, and underground storage tanks. The installation was placed on the NPL in April 1997 mainly because of the potential for migration of contaminated surface water into groundwater and soil. The installation formed a technical review committee in FY89 and converted it to a Restoration Advisory Board in FY94. A community relations plan (CRP) was completed in FY93 and updated in FY03. The installation signed a federal facility agreement (FFA) in February 1999. 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 Sites 6 and 2. The cleanup progress at Norfolk Naval Base for FY99 through FY02 is detailed below.

In FY99, the remedial investigation/feasibility (RI/FS) at Site 22 was completed. A remedial action (RA) and a ROD were initiated at Site 2. Workplans were initiated for SWMUs 9, 10, 14, and 38. An FFA was signed.

In FY00, the installation completed an interim RA for Site 5. It also completed an RA (landfill cap) at Site 6. Closeout reports were signed for 10 SWMUs.

In FY01, the installation signed the ROD for Site 2. The closeout reports for Sites 5, 7, 8, 12, and 17 were signed. Closeout reports were also signed for SWMUs 8, 9, 10, 38, and 39. An FS was completed for Site 22 and the draft proposed remedial action plan (PRAP) and the draft ROD were prepared. Modeling to characterize the groundwater extraction well capture zones at Site 1 was completed as a part of the long-term monitoring program.

In FY02, closeout reports were signed for Sites 10 and 16. An engineering evaluation/cost analysis (EE/CA) was prepared for Site 22. A removal action consisting of a one-foot soil cover was completed for Site 22. The draft PRAP and ROD were revised to address the removal action. As part of an optimization effort, a shutdown strategy was developed 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 RI/FS at SWMU 14 was initiated. A draft 5-year review was completed. The site investigation and closeout reports for Site 10 were completed. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed a final 5-year review document. Watershed contaminant source documentation was prepared for SWMU 14 and is in a draft final format. The closeout report was signed for SWMU 6. A consensus was also reached for closure of SWMU 4. An EE/CA was prepared 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. A watershed contaminated sources document was prepared to document the potential sources of contamination in the watershed of Willoughby Bay. Site 23 was added as a new CERCLA site.

The installation was unable to complete the PRAP and ROD for Site 22 due to regulatory issues.

FY03 MMRP Progress

The Navy 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

- Sign PRAP and ROD for Site 22 in FY04.
- Initiate remedial investigation (RI) at Site 23 in FY04.
- Complete final RI for Site 18 in FY04.
- Complete final RI for SWMU 14 in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--------------------|--|--|---|
| FFID: | VA317002481300 | Contaminants: | Heavy metals, PCBs, VOCs, SVOCs, POLs, and solvents |
| Size: | 795 acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: | Provide logistical support for assigned ships and service craft; perform work in connection with conversion, overhaul, repair, alteration, dry-docking, and outfitting of naval vessels; perform manufacturing, research, development, and test work; provide services to other activities and units | Funding to Date: | \$17.1 million |
| HRS Score: | 50.0; placed on NPL in July 1999 | Estimated Cost to Completion (Completion Year): | \$19.8 million (FY2026) |
| IAG Status: | None | Final RIP/RC Date for IRP Sites: | FY2011 |
| | | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

Norfolk Naval Shipyard (NNSY) is located on the western bank of the southern branch of the Elizabeth River. The NNSY Installation Restoration Program includes investigation and remediation of sites located within the main shipyard and within three annexes that were formerly part of NNSY 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. An administrative record was established in FY92, and a community relations plan (CRP) was completed in FY94; the CRP was updated in June 2003. The installation formed a technical review committee in FY94 and converted it to a Restoration Advisory Board in FY96.

An initial assessment study identified 19 sites at NNSY. 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 NNSY to 218. The number of sites was reduced to 163 in FY03; the discrepancy in number of sites previously reported is the result of inconsistent numbering and nomenclature in previous documentation. The cleanup progress at NNSY for FY01 through FY02 is detailed below.

In FY01, the installation completed the removal action at Site 1. Significant cost savings were realized by use of an in situ stabilization treatment process to render the waste nonhazardous for disposal. After the removal of the blast grit and soil, the Navy created 1.9 acres of new wetlands at the site in lieu of backfilling the former landfill area.

In FY02, NNSY lead the development of a joint approach response action (JARA) to address cross-boundary contamination from NNSY 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 St. Helena Annex expanded site investigation was completed, which allowed the property to be excessed. The remedial investigations (RIs) for Operable Units (OUs) 1 and 2 were completed. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation drafted a federal facility agreement (FFA), which identifies a total of 163 sites (7 sites which will require a Record of Decision (ROD), 5 site screening areas, 5 preliminary screening areas, and 146 no further action sites). The JARA to address cross-boundary contamination from NNSY Site 9 was completed; approximately 44,00 tons of calcium hydroxide and other debris was removed and the site restored to create 1.5 acres of engineered tidal wetlands.

The completion of the NNSY FFA is pending resolution of regulatory issues. The proposed remedial action plan and ROD for Site 17 were delayed due to technical and regulatory issues. The FSs for OUs 1 and 2 continue to be delayed due to technical issues.

FY03 MMRP Progress

The Navy 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 NNSY FFA in FY04.
- Develop and complete the proposed plan and ROD for Site 17 in FY04.
- Complete engineering evaluation/cost analysis and remedial designs for OUs 1 and 2 in FY04.
- Conduct non-time critical removal action at OU 1 and create an engineered tidal wetlands in place of existing landfill in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|---|--|---|
| FFID: CA957002434500 | Media Affected: Groundwater and soil |  |
| Size: 2,122 acres | Funding to Date: \$112.9 million | |
| Mission: Supported C-141 airlift operations | Estimated Cost to Completion (Completion Year): \$50.5 million (FY2012) | |
| HRS Score: 39.65; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: FY2004 | |
| IAG Status: IAG signed in 1989 | Five-Year Review Status: Completed FY1999/Planned FY2004 | |
| Contaminants: Waste oils and fuel, spent solvents, paints, refrigerants, heavy metals, TCE, and VOCs | | |

Progress to Date

Norton Air Force Base (AFB) supported C-141 airlift operations and was placed on the NPL in July 1987. In December 1988, the BRAC Commission recommended closure of Norton AFB. The installation signed an interagency agreement 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 and BRAC cleanup team (BCT) in FY94. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

To date, a Record of Decision (ROD) has been signed for the Central Base Area (CBA) Operable Unit (OU). The cleanup progress at Norton AFB for FY99 through FY02 is detailed below.

In FY99, the remedial action (RA) was completed at Site 2 and RA operations for landfill gas collection and destruction began. The closure report for Site 5 was completed. The basewide OU feasibility study (FS) was completed, and the proposed plan (PP) was prepared. The BCT required establishment of more specific land use controls (LUCs) for some sites in the basewide OU FS.

In FY00, removals of radium paint residue inside Building 752 and the exterior sewer line were completed. A closure plan was submitted for the industrial waste line (IWL). The CBA base boundary groundwater extraction and treatment system was placed on standby after reducing TCE below the maximum cleanup level of five micrograms/liter.

In FY01, Site 10 dioxin contamination was characterized both on and off the installation, and an ecological risk assessment was completed for two threatened and endangered species located at the site. The data were incorporated into the basewide OU FS. The basewide OU FS was resubmitted to address BCT LUC concerns. A focused effort to close the RCRA sites began. The installation optimized the long-term management (LTM) of groundwater, as well as operations and maintenance (O&M) at RA systems to realize cost efficiencies. Additional radium-contaminated soil was discovered outside of Building 752. Work continued on efforts to close Air Combat Camera Services (ACCS), industrial wastewater treatment plant (IWTP), and IWL RCRA sites. The annual public meeting was held.

Air Force

In FY02, the CBA OU RA systems completed active operations and were shut down. LTM of groundwater and O&M of the Site 2 landfill RA continued. RA planning for Site 10 was initiated as well as a biological opinion project description detailing endangered and threatened species. A removal action work plan was submitted for Building 752. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues. An annual public meeting was held resulting in positive feedback from both the public and regulatory community participation specialists.

FY03 IRP Progress

The installation closed the ACCS and initiated closure of the IWL. The final basewide FS was approved and the interior RA for Building 752 was completed.

Regulatory issues delayed closure of the IWTP as well as the basewide PP and ROD. Technical issues delayed the exterior RA for Building 752 and the RA for Site 10. The installation did not operate the groundwater pump and treat systems and must resolve regulatory issues before closing the RA for the CBA and groundwater systems.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Norton AFB are grouped below according to program category.

IRP

- Complete RCRA closures at IWL and IWTP in FY04.
- Submit final basewide PP and ROD documents in FY04.
- Complete RA construction at Building 752 exterior and Site 10 in FY04.
- Complete 5-year review in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|------------------------|
| FFID: | CA921352066100 | Media Affected: | Groundwater and soil |
| Size: | 425 acres | Funding to Date: | \$33.6 million |
| Mission: | Military Traffic Management Command, Western Area | Estimated Cost to Completion (Completion Year): | \$7.4 million (FY2006) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2006 |
| IAG Status: | None | Five-Year Review Status: | N/A |
| Contaminants: | POL, TCE, solvents, lead, and PCBs | | |



Progress to Date

In 1995, the BRAC Commission recommended closure of Oakland Army Base. The Army closed the installation, and it ceased operations as scheduled on September 30, 1999. Between 1989 and 1995, the installation began to characterize potentially contaminated areas through its Installation Restoration Program (IRP). These areas included underground storage tanks (USTs); 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 (BCT) 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 have identified 26 parcels at the installation. The Army has signed one Record of Decision (ROD) to date. The Army has transferred over 350 acres. The cleanup progress at Oakland Army Base for FY99 through FY02 is detailed below.

In FY99, the Army conducted a limited-scope independent technical review for Operable Units (OUs) 2 and 7. The regulatory agencies approved remedial investigations (RIs) for OUs 2 and 7. Preparation of finding of suitability to transfer documents began for no further action parcels in OUs 1 and 3. Regulators approved plans for completion of UST removal. OU 6 was vacated with no newly discovered issues.

In FY00, the local reuse authority asked the Army to pursue a proposed finding of suitability for early transfer (FOSET) for the property.

In FY01, the installation completed UST removals and closure reports. The installation removed an abandoned pre-Army oil pipe at OU1 and began the final RI of pre-Army oil residue. The installation also researched and established the likely source of pre-Army oil residue to support its Potentially Responsible Party position.

In FY02, the state regulatory agency agreed on land use controls (LUCs) necessary to support the FOSET. The LUCs will be included in the transfer documents. 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 redevelopment authority (LRA). Groundwater treatment of the methyl tertiary butyl ether (MTBE) and benzene plume was postponed, to be assumed by the LRA upon transfer. The Army transferred eighteen acres to the Federal Highways Administration. The Army awarded an RI/feasibility study (FS) contract for the remaining 20-acre Parcel 1. 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 plan and risk management plan. The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents.

FY03 IRP Progress

The installation initiated groundwater monitoring and completed the FOSET. The installation programmed the Parcel 1 investigation funding and cleanup funding for FY03 and FY05 respectively. OU 2 monitoring was initiated. In support of a FOSET, the state regulatory agency issued a ROD approving the remedial action and risk management plans. The installation transferred 366 acres to the LRA. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

With the success of the FOSET, the RAB is in the process of dissolution.

FY03 MMRP Progress

There are no Military Munitions Response Program (MMRP) requirements at Oakland Army Base.

Plan of Action

Plan of action items for Oakland Army Base are grouped below according to program category.

IRP

- Negotiate with the state on OU 2 contamination actions in FY04.
- Complete RI at Parcel 1 and begin the FS in FY04.
- Complete groundwater monitoring and transfer responsibility to the LRA in FY04-FY05.
- Oversee LRA cleanup actions under the terms of the environmental services cooperative agreement in FY04-FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-----------------------------------|
| FFID: | WA09799F832600 | Contaminants, cont'd: | and asbestos |
| Size: | 350 acres | Media Affected: | Surface water, sediment, and soil |
| Mission: | Originally provided harbor defense for Puget Sound; during World War I, tested torpedoes and stored fuel; later served as a fire training school for the Navy and housed an antiaircraft artillery battery | Funding to Date: | \$11.9 million |
| HRS Score: | 50.00; placed on NPL in May 1994 | Estimated Cost to Completion (Completion Year): | \$0.3 million (FY2004) |
| IAG Status: | IAG signed in July 1997 | Final RIP/RC Date for IRP Sites: | FY2004 |
| Contaminants: | PCBs, heavy metals, petroleum hydrocarbons, dioxins and furans, | Five-Year Review Status: | N/A |



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 in a landfill originating from the Annex and the Puget Sound Naval Shipyard. 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, including heavy metals, polychlorinated biphenyls (PCBs), petroleum hydrocarbons, dioxins and furans, and asbestos, have been detected in soil at the landfill, at the fire training area, and in surface water and sediment at the property. The Manchester Annex work group was established in FY94. The property was placed on the NPL in May 1994 and signed an interagency agreement in July 1997.

During FY95, a potential unexploded ordnance area was identified. The United States Army Corps of Engineers (USACE), Huntsville Division, determined that the area is not accessible to the general public and thus should be considered for no further action. The cleanup progress at the Old Navy Dump/Manchester Annex for FY99 through FY02 is detailed below.

In FY99, USACE completed the final remedial design for the overall cleanup remedy.

In FY00, USACE completed the Phase I of remedial action (RA) construction, followed by the commencement of Phase II RA construction. Old Navy Dump/Manchester Annex was engaged in a continuing partnering relationship with EPA and the Washington Department of Ecology, as well as with the current federal property owners.

In FY01, contracting issues negatively affected the RA schedule and the budget. USACE revised the RA schedule and budget.

In FY02, USACE completed the Phase II RA construction. They initiated long-term management (LTM) of the landfill cover that will extend through FY05.

FY03 IRP Progress

USACE completed the institutional control plan. USACE continued the LTM for inspection and maintenance of the landfill cover. The cost of completing environmental restoration at this property has changed significantly due to estimating criteria issues.

Technical issues delayed the Phase II rework.

FY03 MMRP Progress

USACE has identified no previous Military Munitions Response Program (MMRP) work at this property.

Plan of Action

Plan of action items for the Old Navy Dump/Manchester Annex are grouped below according to program category.

IRP

- Continue LTM in FY04.
- Complete the RA report in FY04–FY05.
- Implement compliance monitoring in FY04–FY05.
- Implement institutional controls in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--|-------------------------------------|--|-------------------------|
| FFID: | WV39799F346200 | Media Affected: | Groundwater and soil |
| Size: | 825 acres | Funding to Date: | \$1.6 million |
| Mission: | Manufactured chemicals for ordnance | Estimated Cost to Completion (Completion Year): | \$0.07 million (FY2006) |
| HRS Score: | 35.62; placed on NPL in June 1986 | Final RIP/RC Date for IRP Sites: | FY2006 |
| IAG Status: | None | Five-Year Review Status: | N/A |
| Contaminants: PCBs, PAHs, inorganic compounds, arsenic, and mercury | | | |



Progress to Date

On the basis of environmental studies, the U.S. Army Corps of Engineers (USACE) grouped sites at the Ordnance Works Disposal Areas in Morgantown, WV, into two operable units (OUs). OU 1 consists of an old landfill, a shallow disposal area from which topsoil has been removed, and two lagoons from which sludge has been excavated. OU 2 consists of all other projects, particularly those located in processing areas. The property was placed on the NPL in June 1986.

The Army signed a Record of Decision (ROD) for OU 1 in 1989. The cleanup progress for Ordnance Works Disposal Areas for FY99 through FY02 is detailed below.

In FY99, EPA issued a new ROD for OU 1 superseding the ROD signed in 1989.

In FY00, Olin Corporation on behalf of the potentially responsible parties (PRPs) initiated the remedial design as outlined in the ROD for OU 1 (off-site thermal treatment and on-site landfill capping). Development of a consent decree began.

In FY01, the PRP group and the Department of Justice initiated review of the consent decree. The final remedial action amount was anticipated to be \$7.8 million, of which U.S. Army Corps of Engineers was expected to pay 30.93 percent from the judgment fund (approximately \$2.7 million). EPA approved a work plan for the treatment and removal of the tar from OU 1, and fieldwork began.

In FY02, field efforts included the off-site treatment of the tar and construction of the replacement wetlands. Materials that were below the chlorinated polyaromatic hydrocarbons limits were consolidated in the on-site landfill. The PRP group initiated work on the final cap, swales, and treatment wetland.

FY03 IRP Progress

Restoration activities including the final landfill cover and the construction of the engineered wetlands for leachate treatment were completed. Recycling for tar disposal and the passive treatment wetlands provided a \$1.1 million cost savings. USACE completed investigation of the oil following the approval by EPA of the work plan. The cost of completing environmental restoration at this property has changed significantly due to estimating criteria issues.

Regulatory and legal issues delayed the consent decree.

FY03 MMRP Progress

USACE performed no Military Munitions Response Program (MMRP) actions in FY03.

Plan of Action

Plan of action for Ordnance Works Disposal Areas are grouped below according to program category.

IRP

- Complete the consent decree in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | FL417002473600 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 2,050 acres | Funding to Date: | \$30.9 million |
| Mission: | Serve as naval training center; formerly used as Army Air Force and Air Force bases | Estimated Cost to Completion (Completion Year): | \$17.6 million (FY2010) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2003 |
| IAG Status: | None | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Asbestos, paint, POLs, photographic chemicals, solvents, and low-level radioactive wastes | | |



Progress to Date

From 1941 to 1968, Orlando Naval Training Center 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 began 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 draft finding of suitability to lease (FOSL) for McCoy Annex has been completed. Draft findings of suitability to transfer (FOSTs) for the public benefit conveyance of Herndon Annex and part of McCoy Annex to the Airport Authority have been completed. In addition, the installation has transferred 1,425 acres to the City of Orlando and 83.3 acres to the Federal Aviation Administration. The cleanup progress at Orlando Naval Training Center for FY02 is detailed below.

In FY99, the draft FOSL for McCoy Annex was completed. The draft FOST for the public benefit conveyance of Herndon Annex and part of McCoy Annex to the Airport Authority were completed.

In FY00, the installation completed an economic development conveyance of 1,425 acres to the City of Orlando and the Federal Aviation Administration received 83.3 acres. The final decision documents (DDs) for seven AOCs were finalized. An interim ROD for Operable Unit 3 (OU 3) was issued.

In FY01, the installation completed final DDs for two AOCs and four tank sites; work was ongoing to complete DDs for the remaining AOCs. Long-term management was initiated at two AOCs, one site, and multiple underground storage tank sites. The proposed plan (PP) and ROD were completed for OU 4, and began at OU 2. A 5-year review began. The installation initiated the transfer of 45.8 acres to the Department of Veterans Affairs (VA) and 120 acres to the City of Orlando.

In FY02, the installation completed the PP for OU 2. Although completed, the VA declined the transfer of 45.8 acres due to environmental issues. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. Also in FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

Operating properly and successfully was granted at study area (SA) 36 and is still pending at the remaining AOCs. DDs were issued for SA 18 and SA 54. Treatability studies at OU 3 and Bldg 7125 were completed. The original interim remedial action (IRA) at OU 2 was completed. IRAs continued at OU 3, and OU 4. SA 36 and SA 39 (3.42 acres) were transferred to the City of Orlando via covenant deferral. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

The DDs for SA 36 and SA 39 were delayed pending additional actions in FY04.

FY03 MMRP Progress

The Navy 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

- Complete or continue IRAs at OU 3, SA 55, and SA 52 by FY04.
- Complete final DDs for SA 36, SA 55, and SA 52 by FY04.
- Complete transfer of the majority of remaining property via covenant deferral by FY04.
- Continue IRAs at OU2, OU4, SA2, SA36, and SA39 by FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|----------------------|--|--|--|---|
| FFID: | TX69799F676300 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: | 16,000 acres | Funding to Date: | \$0.3 million | |
| Mission: | Produced and stored military weapons | Estimated Cost to Completion (Completion Year): | \$0 (FY2003) | |
| HRS Score: | 51.22; placed on NPL in May 1994 | Final RIP/RC Date for BRAC-IRP Sites: | FY2011 | |
| IAG Status: | Under negotiation | Five-Year Review Status: | N/A | |
| Contaminants: | VOCs, SVOCs, heavy metals, UXO, and explosives | | | |

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. 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 Texas Tech University. DOE is solely investigating sites on their property. The property was placed on the NPL in May 1994.

A preliminary assessment and site inspection in FY90 identified nine areas of emphasis for investigation. The cleanup progress for Pantex Plant for FY99 through FY02 is detailed below.

In FY99, U.S. Army Corps of Engineers (USACE) completed the cleanup recommended in the engineering evaluation and cost analysis (EE/CA) report for Texas Tech. The Army determined that some data from the original site investigations might be faulty due to possible laboratory fraud at Intertek Testing Services Laboratory of Richardson, Texas. Suspicious data were forwarded to the Department of Justice for investigation. USACE planned additional sampling to substantiate conclusions based on the previous samples.

In FY00, USACE conducted groundwater sampling that supported the results from the past data. The USACE met with Texas Natural Resource Conservation Commission (TNRCC) and recommended continued monitoring of groundwater and additional wells.

In FY01, a review of previous work indicated that additional soil and groundwater investigations were required before development of a cleanup strategy. USACE conducted meetings with TNRCC and reached agreements on requirements for a field investigation work plan. USACE began preparation of the work plan and developed a schedule for submittal to TNRCC.

In FY02, USACE completed a work plan for DoD related investigations that TNRCC approved. Texas Tech University, 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 Texas Tech continued.

FY03 IRP Progress

USACE completed environmental investigations at Zone 9- Bomb Loading Line Area and other areas of concerns (AOCs) including Zone 1, the Burning Grounds, Carbon Black Pits, Landfill, and Lake Mounds areas. USACE will summarize investigation results in a remedial investigation (RI) report. This RI report will be subject to regulatory concurrence. 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 Texas Tech FUDS. The cost of completing environmental restoration at this property has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

The extent of explosives contamination in soil was determined at Zone 9.

Plan of Action

Plan of action items for Pantex Plant are grouped below according to program category.

IRP

- Complete environmental investigations for all AOCs, including Zone 2 in FY04.
- Present investigation results for Zone 1, Zone 9, the Burning Grounds, Carbon Black Pits, Landfill, Rock Pile, and Lake Mounds AOCs to TNRCC in FY04.
- Continue environmental investigations at sites that may require additional data in FY04.
- Continue PRP discussions with landowner and Texas Tech University in FY04.
- Begin preparation of an RI report and feasibility study for cleanup of all DoD responsible AOCs in FY04–FY05.

MMRP

- Conduct additional investigations and EE/CA to address the remaining ordnance and explosives in FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | SC417302276300 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 8,043 acres | Funding to Date: | \$14.8 million |
| Mission: | Receive, recruit, and combat-train enlisted personnel upon their enlistment in the Marine Corps | Estimated Cost to Completion (Completion Year): | \$22.4 million (FY2013) |
| HRS Score: | 50.00; placed on NPL in December 1994 | Final RIP/RC Date for IRP Sites: | FY2013 |
| IAG Status: | Federal facility agreement under negotiation | Final RIP/RC Date for MMRP Sites: | FY2012 |
| Contaminants: | Industrial wastes, pesticides, paint, POLs, solvents, ordnance compounds, metals, acids, and electrolytes | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

The Parris Island Marine Corps Recruit Depot receives, recruits, and combat-trains enlisted personnel upon their enlistment in the Marine Corps. The installation was placed 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.

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 Site 3 and has submitted a draft ROD for no action for Site 2. The cleanup progress at Parris Island for FY99 through FY02 is detailed below.

In FY99, a work plan was approved and sampling was completed for Site 21. A draft remedial investigation/feasibility study (RI/FS) was submitted for Site 3.

In FY00, an interim ROD was signed for Site 3 and a draft ROD for no action was submitted to regulators for Site 2. Negotiations on the federal facility agreement (FFA) were initiated after the Navy drafted a proposed FFA based on existing agreements at other Marine bases. The RI/FS was completed at Site 3. A draft RI report was submitted for Site 21. The contamination assessments at the gas station and Building 4022 was completed. The RI work plan for Site 45 was developed and approved.

In FY01, construction of the landfill cap at Site 3 was completed and the interim remedial action/corrective action report was submitted. The RI for Site 1 was completed, and the FS is currently under review. The RI recommended no action for Site 2. A corrective action plan (CAP) for the gas station and a monitoring plan for Building 4022 were developed. RI fieldwork began at Site 45; alternative technologies are being considered.

In FY02, the installation completed an 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. A groundwater monitoring report was submitted and approved. A contamination assessment was initiated at a fiber optics vault when 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.

FY03 IRP Progress

The contamination assessment at the fiber optic vault was transferred from the Underground Storage Tank program to the Installation Restoration Program 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 has been completed; however, additional assessment is required and monitoring is ongoing. The installation continued monitoring Building 4022 and the aviation gasoline (AVGAS) pipeline. The Site 1 landfill cap work plan was approved and construction is underway. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

No work was performed on MMRP sites at this installation.

Plan of Action

Plan of action items for Parris Island are grouped below according to program category.

IRP

- Continue monitoring SWMU 45 and initiate FS and define path forward to final remedy in FY04.
- Complete RCRA facility assessment at Fiber Optic vault in FY04.
- Issue ROD for SWMU 12 and begin remedial design for removal action in FY04.
- Complete Site 1 landfill cap construction and the report in FY04.
- Complete the CAP at gas station and continue monitoring AVGAS pipeline and building 850 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|--|--|--|
| FFID: MD317002453600 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: 6,800 acres | Funding to Date: | \$40.3 million |
| Mission: Test and evaluate naval aircraft systems | Estimated Cost to Completion (Completion Year): | \$70.1 million (FY2018) |
| HRS Score: 36.87; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2013 |
| IAG Status: None | Five-Year Review Status: | The installation completed a 5-year review and the remedy is still protective. |
| Contaminants: Heavy metals, pesticides, organics, POLs, solvents, and UXO | | |



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. The installation formed a technical review committee in FY90 and completed a community relations plan in FY91, which is updated every three years (last update FY01). A Restoration Advisory Board that meets quarterly was established in FY94. The Navy regularly updates an administrative record and two information repositories. In FY01, the installation completed a 5-year review.

Patuxent NAS has identified 62 sites. The installation has completed Record of Decision (ROD) documents for Site 11, Site 1, and Site 12. In addition, a ROD amendment has been completed for Site 17. The cleanup progress at Patuxent River for FY99 through FY02 is detailed below.

In FY99, a proposed plan (PP) and a ROD were completed. A site investigation (SI) was completed for Sites 3, 31, 39, 41, and 47.

In FY00, the installation completed a remedial action (RA) for Site 6. It also completed a remedial design, a PP, and a ROD for Sites 1 and 12. Long-term management (LTM) began at Site 11 and partnering efforts and updates of the installation's Web page continued.

In FY01, the installation's administrative record was converted to CD-ROM for Navy personnel. The RA at Sites 1 and 12 was completed, and Operable Unit 1 (OU 1) entered the LTM phase. The PP and ROD amendment for Site 17 was completed. The RAs for Site 17 were completed, and OU 1 at this site entered the LTM phase. The 5-year review was completed.

In FY02, the installation completed investigations for Sites 13, 36, 38 and 53; subsequent no further action (NFA) decision documents were completed. Two watershed ecological studies were initiated. Accelerated investigations were completed for Site 27, a National Guard facility on the NAS. Five-year reviews were being conducted on a site-specific basis, as there were only three sites requiring such reviews (Sites 1/12, 11 and 17). The Navy has completed an inventory of all

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

FY03 IRP Progress

Site 37 reached closeout with no further action required. In addition, investigations have been completed for Sites 48, 49, 50 and 52. Remedial investigation/feasibility study (RI/FS) efforts were initiated at Sites 4, 5, 6-OU 2, 11-OU 2, 17-OU 2 and 46, exceeding the goal of four sites. Preliminary assessment/SI efforts were initiated at five sites, exceeding the goal of two sites. One ROD was completed; the second ROD was rescheduled after an additional source of contamination was found off-site. Interim RA (IRA) work at Sites 4 and 5 is proceeding on schedule.

Due to funding issues, remediations could not be started for Sites 48-50. The closeout actions for Site 52 are underway, but not completed.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Patuxent River NAS are grouped below according to program category.

IRP

- Complete RODs at Sites 46 and 1/12-OU 2, and one ROD amendment at Site 6-OU 1 in FY04.
- Complete four RI reports and three FS reports in FY04.
- Complete a comprehensive 5-year review in FY04.
- Complete two ongoing IRA actions at Sites 4/5 and complete three new IRA actions (Sites 48, 49, and 50) in FY04-FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | HI917002434200, HI917002477900, HI917002434100, HI917002434000, HI917002433900, and HI917002433400 | Contaminants cont'd: | hydrocarbons, and solvents |
| Size: | 2,162 acres | Media Affected: | Groundwater and soil |
| Mission: | Provide primary fleet support in the Pearl Harbor area | Funding to Date: | \$141.0 million |
| HRS Score: | 70.82; placed on NPL in October 1992 | Estimated Cost to Completion (Completion Year): | \$153.6 million (FY2023) |
| IAG Status: | Federal facility agreement signed in March 1994 | Final RIP/RC Date for IRP Sites: | FY2014 |
| Contaminants: | VOCs, SVOCs, heavy metals, PCBs, pesticides, petroleum | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

The Pearl Harbor Naval Complex consists of seven installations: the Fleet and Industrial Supply Center, 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 (ISMF). Fuel supply activities, landfills, and other support operations have contaminated the soil and groundwater with volatile organic compounds (VOCs), semivolatile organic compounds (SVOCs), and metals. The installation was placed on the NPL in October 1992. 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 relations plan was completed in FY92 and updated in FY95. The installation signed a federal facility agreement in March 1994.

The installation has identified 80 sites. The installation has conducted investigations and cleanups under CERCLA and RCRA at over 60 sites. The cleanup progress at Pearl Harbor Naval Complex for FY99 through FY02 is detailed below.

In FY99, the Ford Island site summary report (SSR) was completed. A remedial investigation (RI) and feasibility study began for Site 51. The removal action for diesel fuel at Site 31 was initiated. The Phase II RI report for Site 22 and a removal action at Site 39 were completed. Removal actions began for Site 41 and polychlorinated biphenyl (PCB)-contaminated soil at Site 34 and Building 49 (West Loch). A treatability study was completed for Site 34, and a removal action for Site 4 was implemented.

In FY00, the installation completed the Waipio Peninsula, West Loch, Pearl City Peninsula, ISMF, and Bishop Point SSRs. The engineering evaluation/cost analysis (EE/CA), action memorandum (AM), and decision documents (DDs) for removal actions were finalized for Sites 25 and 29. An EE/CA, an AM, and draft DDs also were finalized for Site 45. A removal action under the EPA Superfund Innovative Technology Evaluation program continued at Site 10. Remedial action operations (RA-O) continued for Sites 36, 37, and 46. A time-critical removal action was completed at Site 41.

In FY01, the installation began a groundwater RI for Sites 33 and 39. Fieldwork was completed for an expanded site inspection (ESI) for Site

42. Groundwater monitoring continued at Site 20, and RA-O continued at Sites 31, 36, 37, and 46. Construction began on removal actions at Sites 25 and 45. Site 29 construction was completed and RA-O began. The 5-year groundwater monitoring program at Site 8 and the remedial investigation/feasibility study (RI/FS) at Sites 19, 31, and 51 continued. An ESI was initiated in the Waipio Peninsula Geographic Study Areas (GSA) and the West Loch GSA for sites recommended for further investigation in the SSR. The draft final SSRs were completed for the Pearl City Peninsula, Naval Sea System Command Inactive Ships On-Site Maintenance Office, West Loch, PWC Main Complex, Naval Housing, Makalapa, and Richardson GSAs.

In FY02, the installation completed the draft final SSRs for the Shipyard GSA 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. The site investigation (SI) was initiated 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.

FY03 IRP Progress

The installation continued the RA-O at Sites 25, 29, 36, 37, 45, and 46 and the RI/FS for Site 19. The removal action and remediation verification reports (RVRs) for Site 25 and 45 have been completed, as well as the RI/FS for NS Sites 51-57. The draft final RI/FS for NS Site 31 and initiated removal actions for NS Sites 51, 53-57 were completed. Removal actions continue at PWC Sites 4 and 43, and for NS Sites 31 and 35, and transformer sites PWC Site 34, naval magazine (NM) Site 19, and NS Site 52. Draft groundwater RI for Sites 33 and 39 and draft supplemental RI for Site 22 were completed. The installation initiated fieldwork for SI at NSY SWMU 44. The installation completed the draft ESI for NSY Site 42, draft SI for NAVMAG West Loch and Waipio Peninsula GSAs, the final SSR for Shipyard GSA, 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 completion of the RVRs for NSY Site 41 and Building 49 and the proposed plan for NSY Site 41 were delayed due to regulatory issues.

The installation provided site tours for the RAB of NS Sites 51 and 53-57, 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: removal of PCBs from PCB-contaminated oil and treatment of contaminated sediment using a hydrogen amendment.

FY03 MMRP Progress

The Navy has added an MMRP site at the NAVMAG West Loch for further investigation of potential munitions-generated constituents in a burning pit.

Plan of Action

Plan of action items for Pearl Harbor are grouped below according to program category.

IRP

- Complete removal actions and RVRs for NS Sites 51, 53-57 in FY04.
- Complete SI for SWMU 44 in FY05 and for West Loch and Waipio Peninsula GSAs in FY04.
- Complete RVR and proposed plan for NSY Site 41 and RVR for Building 49 in FY04.
- Complete removal actions at PWC Site 34, NSY Site 10, NS Site 52, and NM Site 19 in FY04-FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|---|--|---------------------------------|
| FFID: | NH157002484700 | Media Affected: | Groundwater and soil |
| Size: | 4,255 acres | Funding to Date: | \$150.4 million |
| Mission: | Served as Strategic Air Command bomber and tanker base | Estimated Cost to Completion (Completion Year): | \$50.8 million (FY2046) |
| HRS Score: | 39.42; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2000 |
| IAG Status: | Federal facility site remediation agreement signed in September 1992, and a new FFSRA was renegotiated to address early transfers and signed in July 2002 | Five-Year Review Status: | Completed FY2000/Planned FY2004 |
| Contaminants: VOCs, spent fuels, waste oils, POLs, pesticides, paints, and TCE | | | |



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 the installation was placed on the NPL in February 1990. In March 1991, the installation was closed. Studies identified the following site types: fire training areas, burn pits, industrial facilities, landfills, and underground storage tanks. 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 at four sites, soil removal at three sites, and test pit operations at two sites. The installation formed a BRAC cleanup team in FY93 and a Restoration Advisory Board in FY95. The installation completed a 5-year review in FY00.

To date, six Records of Decision (RODs) have been signed, as well as a final ROD for the Brooks and Ditches Operable Unit. The cleanup progress at Pease AFB for FY99 through FY02 is detailed below.

In FY99, trend analysis, including system and monitoring plan optimization, was conducted. A permeable reactive wall source-area action was implemented at Site 73. The engineering evaluation and cost analysis fieldwork and report were completed for Site 49. Long-term management (LTM) plans for Zones 2 and 3 and Site 8 were streamlined, reducing sampling frequency and/or sampling points by approximately one third.

In FY00, the installation completed the remedial action (RA) decision document and finished the last RA with construction of a permeable reactive wall at Site 49. Operating properly and successfully (OP&S) documentation was completed for five sites. The findings of suitability to transfer (FOSTs) for the Old Stone Schoolhouse and golf course properties were completed, and the properties were transferred. A 5-year review was completed for all sites, and the report gained regulatory approval.

In FY01, the installation drafted a land use control/institutional control management plan (ICMP). FOSTs were drafted for all parcels not requiring OP&S determinations. Remedial system operation and monitoring continued successfully. The monitoring and evaluation of Site 49 proceeded as planned.

In FY02, the design was initiated for the Zone 3 remedy change, and coordination with local water suppliers was underway. RA system operation, monitoring, LTM, and trend analysis continued. A proposed plan was completed and a ROD amendment was drafted for Zone 3. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues.

FY03 IRP Progress

The installation developed and submitted the draft final ROD amendment for the Zone 3 remedy change. The ICMP 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.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Pease AFB are grouped below according to program category.

IRP

- Install Haven Wellhead treatment in FY04.
- Finalize RA plan with the state for flightline sites in FY04.
- Continue RA system operation, monitoring, LTM, and trend analysis in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | FL417002461000 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 5,874 acres | Funding to Date: | \$60.5 million |
| Mission: | Serve as a flight training center | Estimated Cost to Completion (Completion Year): | \$61.4 million (FY2041) |
| HRS Score: | 42.40; placed on NPL in December 1989 | Final RIP/RC Date for IRP Sites: | FY2014 |
| IAG Status: | Federal facility agreement signed in October 1990 | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Ammonia, asbestos, benzene, cyanide, heavy metals, paints, PCBs, pesticides, phenols, plating wastes, and chlorinated and nonchlorinated solvents | | |



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 was signed in October 1990. 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. Ten Records of Decision (RODs) have been signed by the installation, including 5 for no further action (NFA). The ROD for Site 1 was completed. The cleanup progress at Pensacola NAS for FY99 through FY02 is detailed below.

In FY99, NFA RODs for Sites 9, 17, 29, and 42 were completed. A memorandum of agreement on land use controls was signed. The site assessment report (SAR) for Site 22 was completed.

In FY00, the installation obtained concurrence on RODs for Sites 15 and 42 and initiated annual groundwater monitoring at Site 1. A characterization report for Site 43 and feasibility studies for Sites 11, 12, 25, 26, 27, and 30 were submitted to the regulators for concurrence. SARs were completed for UST Sites 14 and 23.

In FY01, the installation completed the remedial design for Site 15, and the remedial action (RA) began. The RCRA permit application was submitted for SWMU 1. The RA plans were completed for USTs 1107, 1120, and 1159. The SARs for UST Sites 15, 20, 21, and 25 were also completed. Additional investigative fieldwork began at Sites 8, 24, 38, 40, and 41. Document addenda were submitted for these sites. Groundwater monitoring continued at Site 1 and SWMU 1. An interim RA (IRA) began for Site 43. The first annual groundwater monitoring report was completed, and the administrative record was updated.

In FY02, the installation completed SARs for UST Sites 19 and 24, and remedial action plans (RAPs) for UST Sites 15, 21 and 25. The IRA at

Site 43 was completed. The 5-year review was initiated. 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.

FY03 IRP Progress

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 RAP for USTs 20 and 24 currently in production.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Pensacola NAS are grouped below according to program category.

IRP

- Finalize an NFA ROD for Sites 02 (operable unit (OU) 03) and 40 (OU 15) in FY04.
- Finalize a ROD with land use controls for Sites 8 and 24 (OU 13) by FY04.
- Continue groundwater monitoring at SWMU 1 in FY04.
- Finalize RAPs for USTs 20 and 24 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | PA317002775600, PA317002219800, and PA317002241800 | Media Affected: | Groundwater and soil |
| Size: | 1,494 acres | Funding to Date: | \$20.4 million |
| Mission: | Provide logistical support for ships and service craft; overhaul, repair, and outfit ships and craft; conduct research and development; test and evaluate shipboard systems | Estimated Cost to Completion (Completion Year): | \$1.1 million (FY2002) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | None | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | POLs, heavy metals, PCBs, solvents, and VOCs | | |



Progress to Date

Philadelphia Naval Complex comprises Philadelphia Naval Shipyard (NSY), Naval Station (NS), and Naval Hospital. In December 1988, the BRAC Commission recommended closure of the Philadelphia Naval Hospital. In July 1991, it 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 (BCT) 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.

Philadelphia Naval Complex has identified 31 sites. The installation has signed eight Records of Decision. The installation has also transferred 1,218 acres of property. The cleanup progress at Philadelphia Naval Complex for FY99 through FY02 is detailed below.

In FY99, all remedial actions required for property transfer were completed and findings of suitability to transfer for two additional parcels were signed.

In FY00, the installation initiated long-term management (LTM) at Sites 4 and 5 and transferred 1,218 acres.

In FY01, the installation continued LTM at Sites 4 and 5. The Naval Hospital was demolished by the City of Philadelphia. BCT actions ended with the major property transfer and the final property transfer was scheduled.

In FY02, the installation completed the final property transfer of utilities. RCRA-closure was acquired and final property transfer was completed. 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. The 5-year reviews for Sites 4 and 5 were initiated. The Navy completed an inventory of all Military Munitions

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

FY03 IRP Progress

The installation completed the 5-year-review and it is awaiting a final signature. In addition, the installation completed the LTM well repair and repair of the banks and gabion baskets; however, additional work is needed on one well. The installation continued the LTM for Sites 4 and 5.

FY03 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

- Obtain final signature on the 5-year review in FY04.
- Complete well repair of one well at Sites 4 and 5 in FY04.
- Petition regulators to end LTM at Sites 4 and 5 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--|---|--|---------------------------------|
| FFID: | NY257002477400 | Media Affected: | Groundwater and soil |
| Size: | 3,447 acres | Funding to Date: | \$46.1 million |
| Mission: | Former bomber and tanker aircraft operations | Estimated Cost to Completion (Completion Year): | \$45.5 million (FY2084) |
| HRS Score: | 30.34; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: | FY2005 |
| IAG Status: | Federal facility agreement signed in July 1991 (effective September 1991) | Five-Year Review Status: | Completed FY1999/Planned FY2004 |
| Contaminants: Organic solvents, pesticides, fuels, PCBs, and lead | | | |



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. 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. In FY94, the installation formed a Restoration Advisory Board (RAB) to support cleanup efforts. In FY95, an installationwide environmental impact statement (EIS) and a comprehensive land reuse plan were completed, and a community relations plan was drafted. In FY97, the BRAC cleanup plan and environmental baseline survey were updated. A 5-year review was completed in FY99. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Environmental studies at Plattsburgh AFB have identified 41 sites for investigation and cleanup. To date, regulatory concurrence has been received for closeout of 21 sites. Records of Decision (RODs) have been completed for 14 sites to date. The cleanup progress at Plattsburgh AFB for FY99 through FY02 is detailed below.

In FY99, contaminated soil was removed from one site, and a remedial investigation was completed for two sites. The first 5-year review of Plattsburgh AFB's remedial activities was completed. Public interest in cleanup activities at the installation increased in FY99; the RAB met eight times during the year and participated in a site tour.

In FY00, RODs were signed for three sites. An environmental assessment was performed as a supplement to the 1995 EIS to evaluate alternate land uses. A cold war resources survey and a programmatic agreement with the New York State Historic Preservation Office for preservation and transfer of historic property were completed.

In FY01, RODs were signed for two sites. An evaluation of miscellaneous environmental factors was completed, and recommended actions for closeout were initiated. A draft cultural resources management plan, an interactive cultural resources Web site, and recordation of a historic cold war building were completed.

In FY02, the cultural resources management plan was completed, and the interactive cultural resources Web site and historic cold war buildings recordation data were submitted for approval. A no further action ROD was finalized for one site. Progress for these sites included completing a removal action using soil vapor extraction and initiating contaminated soil removal. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria and regulatory issues.

FY03 IRP Progress

The Air Force signed a final ROD for one site and an interim ROD for the former fire training area (FTA) to facilitate construction of the remedy. Construction of the final physical remedy for the FTA was initiated.

Regulatory issues delayed the final ROD for the former FTA and another site.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Plattsburgh AFB are grouped below according to program category.

IRP

- Finalize RODs at three sites in FY04.
- Complete construction of the remedy for the former FTA in FY04.
- Finalize RODs at two sites in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | ME117002201900 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 278 acres | Funding to Date: | \$12.6 million |
| Mission: | Maintain, repair, and overhaul nuclear submarines | Estimated Cost to Completion (Completion Year): | \$59.8 million (FY2016) |
| HRS Score: | 67.70; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2011 |
| IAG Status: | Federal facility agreement signed in 1999 | Final RIP/RC Date for MMRP Sites: | FY2011 |
| Contaminants: | Heavy metals, PCBs, pesticides, and VOCs | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

The Portsmouth Naval Shipyard maintains, repairs, and overhauls nuclear submarines. Preliminary assessment (PA) and a 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 Naval Shipyard 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. The installation signed a federal facility agreement (FFA) in FY99.

Portsmouth Naval Shipyard has identified 35 sites. The installation completed and signed a no further action (NFA) document for SWMUs 12, 13, 16, and 23. The installation completed one Record of Decision (ROD). The cleanup progress at Portsmouth Naval Shipyard for FY99 through FY02 is detailed below.

In FY99, the installation signed an FFA with EPA. It completed the survey of Operable Unit 3 (OU 3) and the report for basewide groundwater sampling. Phase II onshore/offshore contaminant fate and transport modeling was completed.

In FY00, the installation completed the ecological risk assessment. A site screening report for three sites was also completed. Supplemental remedial investigation (RI) reports for two sites and a risk assessment for OU 3 (Sites 8, 9, and 11) were completed. A removal action at Site 6 was completed to stabilize the slope. A removal action for eight mercury burial vaults at Site 9 was also completed.

In FY01, the installation completed the feasibility study, the proposed plan, and the ROD for OU 3. Remedial design (RD) began for OU 3. NFA decision documents under CERCLA for Sites 26 and 27 were completed.

In FY02, the installation completed interim remediation goals for OU 4, and the work plan and fieldwork for the Site 10 additional investigation. The installation 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 for consolidating 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.

FY03 IRP Progress

The installation completed the Site 10 additional investigation report and construction of the OU 3 wetlands. In addition, the installation completed the RD for OU 3. The installation also completed the RI work plan for Site 32. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

A site visit for the PA was performed. Sites will be prioritized for additional work following the completion of the PA.

Plan of Action

Plan of action items for Portsmouth Naval Shipyard are grouped below according to program category.

IRP

- Complete phase I RI data package for Site 32 in FY04.
- Complete environmental engineering/cost analysis for Site 30 in FY04.
- Start Site 10 risk assessment in FY04.
- Continue the RA for OU3 in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------|
| FFID: | CO821382072500 | Media Affected: | Groundwater and soil |
| Size: | 23,121 acres | Funding to Date: | \$115.3 million |
| Mission: | Store chemical munitions, plan for future closure. | Estimated Cost to Completion (Completion Year): | \$58.2 million (FY2012) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2012 |
| IAG Status: | None | Final RIP/RC Date for MMRP Sites: | FY2012 |
| Contaminants: | Heavy metals, POLs, VOCs, SVOCs, pesticides, explosives, PCBs, and UXO | Five-Year Review Status: | N/A |



Progress to Date

In December 1988, the BRAC Commission recommended realignment of the Pueblo Depot Activity, primarily because of chemical demilitarization. In October 1996, the Army placed Pueblo Depot Activity under the Chemical and Biological Defense Command and changed its name to Pueblo Chemical Depot. Sites include a landfill, open burning and detonation grounds, an ordnance and explosives waste area, 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 (LRA), which prepared a land reuse plan. In FY96, the installation developed Team Pueblo to coordinate public involvement in restoration, reuse, closure, and cleanup. Prior to FY99, the Army completed a major groundwater treatment system, an explosives contaminated soil removal, and installed a carbon filter unit on a drinking water source well contaminated with explosives constituents.

The cleanup progress at Pueblo Chemical Depot for FY99 through FY02 is detailed below.

In FY99, the installation implemented full-scale bioremediation of the soil excavated from Solid Waste Management Unit 17 (SWMU 17). SWMU 58 was created to address soil contaminated with trichloroethylene (TCE) near monitoring well CM1. The state identified a new SWMU in the 700 Building areas. The Army investigated off-site contamination in public drinking wells associated with the TNT washout facility and provided drinking water to off-site well water users. It also cleaned up or demolished the 700 Area and 180 Series buildings. A no further action (NFA) agreement and a justification package for six SWMUs were submitted to the state for approval of the NFA designation. RAB members approved the RAB charter.

In FY00, the Army approved a work plan to implement the CM1 Hot Spot (SWMU 58) corrective measure and a sheet pile barrier along with the installation of extraction wells. The installation submitted the RCRA facility investigation work plan for Mercury Storage Building 543 (SWMU 56) to the state. The LRA updated the reuse development plan to reflect current and future reuse and cleanup requirements.

In FY01, the Army completed design and construction of an explosives/nitrate groundwater treatment system for SWMU 17. The installation completed remediation of CM1 hot spot (SWMU 58). The state approved the installation's NFA methodology and the installation selected six SWMU sites to petition for NFA status. The installation developed a depot-wide reuse and cleanup exit strategy, which it submitted to the command for approval. The installation had a total of 29 unexploded ordnance (UXO) sites. Surface clearance was completed for most sites and subsurface clearance was performed on roughly two thirds of the sites.

In FY02, the Army made modifications to the groundwater treatment system at SWMU 17 to improve groundwater capture. Contamination levels in most areas decreased significantly. The state issued a compliance advisory to address two areas with concentrations above cleanup standards. 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 SWMU 14 SVE system was constructed and operation commenced. The installation achieved NFA status for two sites and was in the final stages of a petition for NFA at another six sites. Also in FY02, the Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions, or munitions constituents. Areas designated for wildlife reuse for early transfer were identified, but uncertainties regarding UXO clearance requirements and chemical demilitarization restrictions prevented further progress. The installation initiated a UXO management plan to establish consensus for UXO clearance requirements with the state.

FY03 IRP Progress

The installation initiated additional investigations and pilot studies at the Southwest Terrace (SWMU 17) and South Central Terrace (SWMUs 14, 28, 36, 58) to evaluate in situ groundwater treatment technologies for accelerating cleanup and reducing long-term operations. The installation received state approval for the SWMU 20 NFA and completed sump remediation at SWMU 36. The installation completed modifications to the groundwater treatment system at SWMU 17. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Funding issues delayed the design and construction of a corrective measure for SWMU 56.

FY03 MMRP Progress

The Army completed the inventory of CCT ranges and sites with UXO, discarded military munitions, or munitions constituents. It designated fourteen sites at the installation as Military Munitions Response Program (MMRP) sites as a result of the CTT Range Site Inventory Program. Three other sites were approved for NFA for UXO clearance.

The installation submitted the draft UXO management plan, but regulatory issues delayed it from being completed.

Plan of Action

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

IRP

- Complete additional modifications to the groundwater treatment system at SWMU 17 to reflect new regulatory requirements in FY04.
- Maintain compliance for the groundwater treatment system at SWMU 14 in FY04.
- Gain state approval for NFA at two additional SWMUs in FY04.

MMRP

- Continue coordinating with the state and Command on the UXO management plan in FY04.

| | | | |
|----------------------|---|--|---|
| FFID: | WA017002341800 and WA017002342600 | Contaminants cont'd: | acids, silver nitrate, and ordnance compounds and items |
| Size: | 1,392 acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| 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 | Funding to Date: | \$153.5 million |
| HRS Score: | 50.00; placed on NPL in May 1994 | Estimated Cost to Completion (Completion Year): | \$92.3 million (FY2031) |
| IAG Status: | Bremerton Naval Complex only, IAG 1998 | Final RIP/RC Date for IRP Sites: | FY2007 |
| Contaminants: | Heavy metals, VOCs, POLs, grit, paint, solvents, construction debris, | Final RIP/RC Date for MMRP Sites: | FY2011 |
| | | Five-Year Review Status: | The installation completed a 5-year review. |



Progress to Date

Most of the Bremerton Naval Complex (BNC), which includes the Puget Sound Naval Shipyard, is built on contaminated fill material. Metals and petroleum/oil/lubricants (POLs) are the primary contaminants. The main sources of contamination are past operations, such as cleaning and demilitarization of ordnance, and ship construction, maintenance, and demolition. An initial assessment study (IAS) identified six potentially contaminated sites at BNC. A supplemental preliminary assessment identified five other potentially contaminated sites. An IAS for the Jackson Park Housing Complex (JPHC) identified eight sites. JPHC and BNC formed technical review committees in FY91 and FY92, respectively. Both were converted to Restoration Advisory Boards in FY94. The installations were placed on the NPL in May 1994. An interagency agreement (IAG) was signed for BNC in 1998. An IAG is currently being negotiated for JPHC. In FY02, the installation completed a 5-year review for several sites.

To date, 37 sites have been identified at these installations. BNC completed Records of Decision (RODs) for Operable Unit A (OU A), and OU B marine, and OU Naval Supply Center (NSC). JPHC completed a ROD for OU1. The cleanup progress at BNC and JPHC for FY99 through FY02 is detailed below.

In FY99, the BNC proposed plan (PP) for OU B marine was finalized, and a time-critical removal action to prevent erosion of contaminated soil into the bay was completed. OUs A and NSC were designated construction complete. The OU B terrestrial removal action to cap contaminated fill material was completed. The initial munitions sweeps were completed at JPHC.

In FY00, BNC completed the PP, ROD, and remedial design (RD) for the remedial action (RA) at OU B marine and the RA to remove and contain contaminated marine sediment began. The ROD and RD for OU 1 were completed at JPHC. The benzene investigation at Site 110 was completed. The RA at JPHC OU 1 began. Removal of underwater ordnance began at OU 3 in FY00 and continued in FY01.

In FY01, the BNC remedial investigation (RI) was completed and the feasibility study (FS) continued for OU B terrestrial. The JPHC continued the RA for OU 1 and completed design and construction for the benzene seep RA at Site 110. Negotiations began on the IAG for JPHC.

In FY02, the BNC planned RA construction for OU B marine was completed; finalization of the remedial action operation (RA-O) plan was held pending continued investigation of post construction contamination. The FS and PP were completed for OU B terrestrial sites. OU B terrestrial ROD negotiations and the RD were initiated. The facilitywide petroleum management plan was completed. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The draft 5-year review report was completed. The JPHC completed the RA for OU 1. The Navy completed an inventory of Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

FY03 IRP Progress

Engineering Field Activities Northwest (EFANW) completed negotiations with regulatory and resources agencies regarding the OU B marine RA-O monitoring plan and initiated biological and sediment monitoring. EFANW also negotiated the OU B marine response action characterization requirements and completed characterization of impacted sediment. In addition, it completed the remedy selection and draft final ROD for OU B terrestrial. EFANW also completed RD for the OU B terrestrial remedial construction components of the remedy and initiated removal actions under removal action authority. Additionally, EFANW initiated the long-term monitoring plan for OU B terrestrial and a focused RI/FS and capping removal action for OU D. In addition, EFANW continued monitoring and remedy inspection at OU A, OU NSC and OU C, and initiated remedy maintenance at OU A.

At JPHC, the ROD required long term monitoring at OU 1 continued. EFANW submitted to regulators the OU 2 draft no further action PP.

Regulatory issues are delaying the final signature of the OU B terrestrial ROD.

FY03 MMRP Progress

EFANW completed the OU 3 marine preliminary assessment/site investigation. Development continued of data quality objectives and research for underwater investigative technology for the FY05 RI. In addition, EFANW initiated the OU 3 terrestrial RI and completed approximately 30 percent of the site.

Plan of Action

Plan of action items for BNC and JPHC are grouped below according to program category.

IRP

- Complete OU D focused RI/FS in FY04.
- Complete OU B terrestrial remedial construction in FY05.
- Complete OU B marine response action in FY05.

MMRP

- Continue OU 3 terrestrial RI in FY04.
- Initiate OU 3 marine RI FY05.
- Develop OU 3 terrestrial ROD in FY06.

| | | | |
|----------------------|---|--|--|
| FFID: | VA317302472200 | Contaminants cont'd: | petroleum hydrocarbons, and arsenic |
| Size: | 60,000 acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: | Provide military training and support research, development, testing, and evaluation of military hardware | Funding to Date: | \$48.0 million |
| HRS Score: | 50.00; placed on the NPL in June 1994 | Estimated Cost to Completion (Completion Year): | \$53.2 million (FY2012) |
| IAG Status: | RCRA FFCA signed December 31, 1991; Federal facility agreement signed February 4, 1999 | Final RIP/RC Date for IRP Sites: | FY2009 |
| Contaminants: | PCBs, pesticides, VOCs, SVOCs, phenols, heavy metals, | Final RIP/RC Date for MMRP Sites: | FY2012 |
| | | Five-Year Review Status: | The installation completed a 5-year review. |



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. Contamination at the old landfill area was the primary reason for the installation's placement on the NPL in June 1994. Other 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. In FY92, the installation established three information repositories, each containing a copy of the administrative record. The installation completed a community relations plan in FY95, which was updated in June 2003. The installation signed a federal facility agreement 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 the extent of contamination. The installation has a no further action (NFA) Record of Decision (ROD) for Sites 1, 5, and 17. The cleanup progress at Marine Corps Base Quantico for FY99 through FY02 is detailed below.

In FY99, the installation conducted a remedial investigation (RI) at Site 20 and a feasibility study (FS) at Site 4. Proposed remedial action plans for Sites 1 and 17 were completed, as were site screenings at 15 AOCs. Two SWMUs and seven EPA AOCs were closed.

In FY00, NFA RODs were signed for Sites 1 and 5. Work continued on the arsenic burial area. The basewide background report was finalized. Site screening processes were completed at 10 sites.

In FY01, the installation signed an NFA ROD for Site 17. Preliminary assessments (PAs) and site investigations (SIs) were completed for 45 IRP sites and AOCs. A draft final FS was submitted to EPA for review and an environmental engineering/cost analysis (EE/CA) workplan was completed for Site 97. After completion of PA/SI reviews, 33 IRP sites were closed. This closure accounted for 12.5 percent of the entire Navy's site closure worldwide for FY01.

In FY02, the installation completed EE/CAs for Sites 97 and 2. Site 97 was closed with NFA and a removal action was implemented for Site 2. Quantico Watershed investigation sampling was implemented. In

addition, work on the EE/CA and interim remedial action (IRA) at Site 20 was implemented. Through extensive partnering agreements, 42 IRP sites and 84 AOCs were closed resulting in a significant decrease in the overall cost to complete. The installation conducted a 5-year review of the interim ROD for Site 4. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed the EE/CAs on four sites and implemented IRAs at three sites. The final FS for Site 4 was submitted to regulators for review. The installation completed the final post-IRA report for Quantico Embayment. The installation awarded the IRA at Site 20. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Technical, regulatory, and funding issues delayed the completion of additional EE/CAs. Technical issues delayed acceptance of the proposed plan and ROD by the regulators for Site 4. Technical issues delayed the completion of the RI for Chopawamsic Creek.

FY03 MMRP Progress

No work was performed on MMRP sites at this installation.

Plan of Action

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

IRP

- Complete EE/CAs and IRAs at 3 sites in FY04.
- Complete IRA at Site 20, the former rifle range, in FY05.
- Complete FS for Quantico Embayment Sediments in FY05.
- Complete treatment pilot study in Chopawamsic Creek sediments in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | TX621382073800 | Media Affected: | Groundwater, surface water, and sediment |
| Size: | 19,113 acres (includes 625 acres transferred to the LRA in June 1999) | Funding to Date: | \$32.3 million |
| Mission: | Provide maintenance for light combat vehicles, support rubber production, store ammunition, and conduct training | Estimated Cost to Completion (Completion Year): | \$62.6 million (FY2032) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2009 |
| IAG Status: | None | Final RIP/RC Date for ER Sites: | FY2018 |
| Contaminants: | TCE | Five-Year Review Status: | Planned |



Progress to Date

In 1995, the BRAC Commission recommended realignment of Red River Army Depot. All maintenance missions except those related to the Bradley Fighting Vehicle series were recommended for relocation to other depots. The installation also retained its intern training, civilian training, and rubber production missions. Areas of environmental concern at the depot include the oil-water separator lagoons, spill sites associated with previous industrial and pre-RCRA disposal activities, and spill sites associated with pesticide storage and mixing activities. Trichloroethylene (TCE) is the main contaminant affecting groundwater at the installation. In FY95, the installation formed a BRAC cleanup team (BCT) and the community formed the Red River Local Redevelopment Authority (RRLRA). In FY96, the installation formed a Restoration Advisory Board (RAB) 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 through the Defense and State Memorandum of Agreement (MOA) program.

The installation has removed more than 2,000 cubic yards of contaminated sediment from the north and south stormwater drainage ditches in the Western Industrial Area (WIA). The Army has transferred 625 acres of the 797 acres of BRAC property to the RRLRA. The cleanup progress at Red River Army Depot for FY99 through FY02 is detailed below.

In FY99, the Army transferred 625 acres to the RRLRA and completed the draft final version of the cultural resources MOA. The finding of suitability to transfer was completed for all Environmental Condition of Property Category 1 through 4 sites. The installation removed contaminated soil and sediment from the pesticide pit and water tower.

In FY00, the installation worked with the Waterways Experiment Station to prepare a groundwater model of the WIA area to support cleanup decisions. The installation completed all CERFA-uncontaminated acreage determinations with regulatory approval. The installation also provided a training session for the RAB on bioremediation and wetlands.

In FY01, the Army updated the BCP and transferred acreage to the RRLRA. The Army calibrated the WIA groundwater modeling study. The BCT was active in all reviews related to property transfer. The installation closed out two stormwater lagoons located on excess property. The Army cleaned out and refilled the north lagoon, and

removed sludge from the south lagoon as hazardous waste due to high metal concentrations.

In FY02, the installation completed the cultural resources MOA and submitted it to the regulators for review. Closure of the south lagoon was completed. The installation 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. Five Military Munitions Response Program (MMRP) sites were identified at the non-BRAC, active portion of this installation. No BRAC MMRP sites were identified.

FY03 IRP Progress

The installation completed the groundwater modeling study in the WIA and submitted the study to regulators. Repairs were made to the chrome and storm sewers by relining with cured-in-place-piping. The Hays Plant Affected Property Assessment Report was completed. 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 cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Regulatory issues delayed the cultural resources MOA. Discovery of additional contamination delayed the pesticide pit risk assessment. The Army did not complete the WIA risk assessment so that the groundwater modeling study and off-site sampling results could be incorporated.

The Army presented its proposal to conduct a pilot study of Dual Phase Extraction (DPE) to determine the potential for removal of TCE from contaminated soils and groundwater. The regulators agreed to the proposal as sound method for determining the technical practicability for removal of dense non-aqueous phase liquid (DNAPL). The Army Environmental Center analysis of the groundwater modeling projected negligible environmental impact from groundwater discharge to Panther Creek.

FY03 MMRP Progress

Initiated an MMRP site inspection (SI) in the active portion of the installation.

Plan of Action

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

IRP

- Complete the pilot study to determine the treatability of TCE DNAPL at the installation in FY04.
- Complete removal actions at the former pesticide pit and the chrome drying beds in FY04.
- Complete offsite investigation along Panther Creek to determine the degree of contaminant migration from the installation in FY04.
- Complete investigation at the X-1 sewer treatment plant to define the extent of contamination in FY04.

MMRP

- Complete the SI in FY05.

| | | | |
|----------------------|---|--|--|
| FFID: | AL421382074200 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 38,300 acres | Funding to Date: | \$113.0 million |
| Mission: | Various, includes the Army Aviation and Missile Command, the Space and Missile Defense Command, Redstone Technical Test Center, and the Missile and Space Intelligence Center | Estimated Cost to Completion (Completion Year): | \$289.8 million (FY2032) |
| HRS Score: | 33.40; placed on NPL in June 1994 | Final RIP/RC Date for IRP Sites: | FY2011 |
| IAG Status: | Federal facility agreement under negotiation | Final RIP/RC Date for MMRP Sites: | FY2018 |
| Contaminants: | Heavy metals, solvents, MEC, perchlorate, CWM, and pesticides | Five-Year Review Status: | Planned |



Progress to Date

Past operations at the Redstone Arsenal (RSA) include production, receipt and shipment, storage, demilitarization, and disposal of chemical and high-explosive munitions. Commercial chemicals and pesticides also have been produced 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. Site types include past disposal sites, landfills, open burning and open detonation areas, chemical munitions disposal sites, and solvent spill sites. Primary contaminants of concern are heavy metals, solvents, chemical weapon materials (CWM), munitions and explosives of concern (MEC), and pesticides. RSA has a Technical Review Committee and RSA officials have surveyed the public to determine community interest in forming a Restoration Advisory Board, but little interest was expressed.

Studies beginning in FY77 have identified 169 sites at RSA, some of which are sites at Marshall Space Flight Center (MSFC), which is the responsibility of NASA. The installation has completed six interim Records of Decision (RODs) and two final RODs. Cleanup progress at Redstone for FY99 through FY02 is detailed below.

In FY99, RSA completed nine remedial investigations and feasibility studies (RI/FSs) and integrated the soil vapor extraction (SVE) system with the existing RSA-13 treatment plant. It closed out Operable Unit 3 (OU 3) with a no further action (NFA) ROD and closed out MSFC-60 with an NFA decision document (DD). It also initiated design of two remediation systems to control contaminant source migration to off-post receptors. RSA reduced contaminant sources at OU 14 and OU 10 by using SVE and air-stripping technologies, respectively.

In FY00, the installation began operating the remediation system at the former RSA Rocket Engine Facility North Plant, and completed 14 site investigations, 7 RIs, 5 remedial designs, 4 DDs, and 4 proposed plans (PPs). The installation also continued to participate in the Alabama Partnering Initiative.

In FY01, the installation published the results of a karst study investigation. Construction of soil caps and fencing was completed. The dye trace study work plan for OU 5 was concluded; the study will be completed as planned. The installation completed all site investigation (SI) reports. It focused investigation activities on completing all work at

certain high-risk sites before addressing sites that do not pose as high a risk.

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. A detailed implementation plan containing schedules, manpower curves, and funding requirements for the RSA Installation Restoration Program (IRP) was developed and published. 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 OUs and surface media OUs. The Army completed all fieldwork for the Phase II karst study, although the long-term sampling for the dye trace at OU 5 will continue for several months. The Army conducted an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance, discarded military munitions, or munitions constituents. Twenty-two Military Munitions Response Program (MMRP sites were identified.

FY03 IRP Progress

The installation prepared RI/FS reports for two sites and a draft PP for RSA-099. Five IRP sites were transferred to the Army environmental compliance program for ongoing activities. The Army conducted a program review and initiated a re-prioritization effort. The installation completed the archive search report. An in-depth evaluation of the information and visual SIs are underway. The installation completed the treatability studies work plan for groundwater site RSA-146 and began the fieldwork. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The draft corrective action plan for RSA-143 was submitted for review, but regulatory issues delayed the fieldwork.

FY03 MMRP Progress

The active/inactive and CTT range inventories were found to be incorrect and are in the process of being updated with correct information.

Plan of Action

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

IRP

- Complete the RI/FS reports for 11 sites in FY04.
- Develop surface water and sediment background dataset in FY04.
- Complete the ROD for RSA-099 in FY04.
- Complete the RI/FS reports for seven sites in FY05.
- Complete RODs for 10 sites in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--|---|--|-------------------------------|
| FFID: | TX857152409100 | Media Affected: | Groundwater and soil |
| Size: | 2,987 acres | Funding to Date: | \$78.8 million |
| Mission: | Conducted pilot training | Estimated Cost to Completion (Completion Year): | \$62.6 million (FY2034) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY1999 |
| IAG Status: | Federal facility agreement signed in 1987 and terminated in June 1999 | Five-Year Review Status: | No review has been completed. |
| Contaminants: VOCs, POLs, metals, pesticides, herbicides, and TCE | | | |



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, signed in 1987, was terminated in June 1999. Sites identified at the installation include landfills, surface impoundments, underground storage tanks (USTs), sludge spreading areas, industrial drain lines, and fire training areas. An environmental baseline survey and an environmental impact survey were completed in FY97. The installation formed a Restoration Advisory Board in FY95 and a BRAC cleanup team (BCT) in FY96. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

Environmental studies have identified 13 sites. To date, the installation has transferred 1,870 acres of property to the Lubbock Reese Reuse Authority. The cleanup progress at Reese AFB for FY99 through FY02 is detailed below.

In FY99, two pump and treat systems were constructed to remediate two trichloroethylene (TCE) plumes that extend off base. A 24-acre RCRA landfill cap was completed, and all necessary real estate transactions were finished. All remaining USTs, aboveground storage tanks, and oil-water separators were removed. Lead-contaminated soil was removed from the small arms firing range, and the site was closed. The closure certification report for the Picnic Lake and Golf Course Lake RCRA permit was approved. The installation reached the final remedy in place milestone in September. All investigation and closure reports were completed and approved by the regulatory agencies. The BCT achieved a cost avoidance of \$9.6 million through partnering, innovative process management, and expedited remedial actions.

In FY00, work toward an operating properly and successfully (OP&S) determination continued with the installation of four more wells on the property. Two findings of suitability to transfer (FOSTs) were completed for a total of 735 acres.

In FY01, the installation transferred 1,800 acres of property to the Lubbock Reese Reuse Authority. The BCT developed the criteria for documenting OP&S for a corrective action system. The BCT reviewed and approved the FOST for the transfer of the Airfields and Hurlwood Area. Data collection for OP&S determinations at three sites requiring long-term corrective action was completed, and report preparation

began. Data collection continued to support the OP&S determination for the fourth site that requires long-term corrective action. Groundwater treatment and monitoring also continued.

In FY02, the installation installed four additional corrective action wells in the Tower Area plume. Operation of the groundwater treatment system continued as well as long-term groundwater monitoring. A request for funding was initiated to expand the system due to possible contaminant expansion. The cost of completing environmental restoration at this installation changed significantly due to technical issues.

FY03 IRP Progress

The installation transferred 70 acres.

Regulatory issues delayed OP&S determinations for three sites that require long-term corrective action. This subsequently delayed the transfer of 130 acres. Accessibility issues delayed the installation of additional monitoring and corrective action wells in the Tower Area plume.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Reese AFB are grouped below according to program category.

IRP

- Obtain EPA approval of OP&S determinations for three sites that require long-term corrective action, and transfer 130 acres in FY04.
- Install additional monitor wells and corrective action wells in Tower Area plume in FY04.
- Conduct 5-year review for all long-term corrective action systems in FY04.
- Obtain EPA approval of OP&S determination for the Tower Area corrective action system, and transfer the final 600 acres in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

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|---|--|--|---|
| FFID: MO757002429200 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 429 acres | Funding to Date: | \$10.6 million | |
| Mission: Housed the 442d Fighter Wing; supported A-10 aircraft | Estimated Cost to Completion (Completion Year): | \$1.4 million (FY2033) | |
| HRS Score: N/A | Final RIP/RC Date for IRP Sites: | FY2004 | |
| IAG Status: None | Five-Year Review Status: | Completed FY2003/Planned FY2008 | |
| Contaminants: POLs, PAHs, PCBs, VOCs, and heavy metals | | | |

Progress to Date

Environmental studies at this installation began in FY82. In July 1991, the BRAC Commission recommended closure of Richards-Gebaur Air Reserve Station (ARS), the transfer of the 442nd Tactical Fighter Wing to Whiteman Air Force Base (AFB), and the transfer of the 36th Aeromedical Evacuation Squadron and the 77th and 78th Aerial Port Squadrons to Peterson AFB. The installation 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 February 1994. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

The basewide evaluation and consolidation study (ECS), completed in FY99, identified 23 sites. The cleanup progress at Richards-Gebaur ARS for FY99 through FY02 is detailed below.

In FY99, a basewide ECS was completed. The ECS identified 23 sites; 3 sites required no further response action plan (NFRAP) decision documents, 16 sites required a remedial investigation (RI), and the remaining 4 sites, as well as 6 additional sites, required closure under Missouri RCRA-C UST regulations.

In FY00, the installation's RI fieldwork was completed. A feasibility study (FS) was initiated to address contaminated groundwater. Closure approval was received for eight UST sites, and closure reports for the industrial waste line and the fuel hydrant line were initiated. Investigation fieldwork was completed for all remaining compliance sites referenced in the EBS, and remedial action (RA) to remove contaminated soil from sites identified in that investigation was initiated. RI results for the 15 sites slated for closure indicated that 6 sites could be closed. No further action reports were initiated.

In FY01, the installation submitted an RI report and received regulator concurrence. An engineering evaluation and cost analysis (EE/CA) and a basewide removal action to address contaminated soil were initiated. The EBS site investigation was initiated. A finding of suitability to transfer (FOST) was completed, and all qualified property was deeded as environmental actions were completed.

In FY02, a supplemental RI report for two new sites found as a result of the EBS investigation was submitted for regulatory approval. An EE/CA was approved and RAs were completed to address contaminated soil sites. An inspection report and an RA for EBS sites were completed. A FOST for parcels K and L, and a draft 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.

FY03 IRP Progress

The installation completed the draft Record of Decision (ROD) for operable units (OUs) 1 and 2 and submitted the ROD 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. The installation also completed NFRAP documents for Sites AOC-001, AOC-002, OT-010, and ST-007, which achieved residential soil remediation goals. The NFRAPs for Sites AOC-001, AOC-002, and OT-010 were signed. A PP was also completed.

Technical issues delayed final approval of the NFRAP for Site ST-007.

The installation presented the PP to the community at a public meeting in December 2002. Due to the completion of active environmental restoration and declining public interest, the Air Force initiated procedures to adjourn the RAB in August 2003.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Restoration Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Richards-Gebaur ARS are grouped below according to program category.

IRP

- Finalize and sign the ROD for OU 1 and OU 2 in FY04.
- Finalize and sign the NFRAP for Site ST-007 in FY04.
- Finalize and implement the long-term management plan and land use control management plan in FY04.
- Finalize the FOST and transfer all remaining property in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|------------------------|
| FFID: | OH557002454400 | Media Affected: | Groundwater and soil |
| Size: | 2,016 acres | Funding to Date: | \$24.1 million |
| Mission: | Provide base of support for one fighter wing, one refueling wing, and one airlift group | Estimated Cost to Completion (Completion Year): | \$5.3 million (FY2031) |
| HRS Score: | 50.00; proposed for NPL in January 1994 | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | None | Five-Year Review Status: | Planned FY2005 |
| Contaminants: | Pesticides, paint, spent fuel, waste oil, solvents, and heavy metals | | |



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 was recommended for listing on the NPL because of the potential effects of contamination on underlying groundwater. A Restoration Advisory Board formed and a basewide environmental baseline survey (EBS) was completed in FY94. In FY95, a final environmental impact statement was published. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

To date, a Record of Decision has been signed. The cleanup progress at Rickenbacker ANG Base for FY99 through FY02 is detailed below.

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; closure of abandoned fuel lines; and demolition of the heat and water plant lagoons. No further RA planned documents were signed for 16 Installation Restoration Program (IRP) sites and 3 areas of concern (AOCs). Seven other IRP sites were closed with regulatory concurrence.

In FY99, the final feasibility study, proposed plan, RA decision document (DD), and remedial design were completed for five IRP sites. Response complete (RC) status was achieved for IRP Site 6.

In FY00, RA plans and RA construction were completed for five IRP sites, and monitored natural attenuation (MNA) began. Three IRP sites were closed. The ANG accepted responsibility for six IRP sites and one AOC. Petroleum-contaminated soil was removed at Facility 544, pumphouses 898 and 899, and Segment G of the 1942 fuel line. Groundwater treatment systems were installed at pumphouse 899 and Segment G of the 1942 fuel line. RC status was achieved for IRP Site 45.

In FY01, the final Scientific Management Decision Point paper was published and the DD was signed for IRP Sites 25 and 27. The Site 1 conditional regulatory approval of soil cleanup levels and groundwater treatment was obtained and soil removal and groundwater treatment

were completed. RA operation (RA-O) groundwater treatment at two petroleum-contaminated sites and RA-O MNA at five IRP sites was conducted. Additional soil was removed at Site 42.

In FY02, the amended Site 1 closure and post closure plan was approved. The draft of the final land use control (LUC) and institutional control (IC) layering strategy plan was updated per recent guidance and submitted to regulators for comment. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues.

FY03 IRP Progress

The installation transferred 310 acres to the local reuse authority and published the final investigation report for Site 12/597. A finding of suitability to transfer and the supplemental EBS were delayed for an additional 45 acres. Technical issues delayed the transfer of 20 acres. The draft operating properly and successfully (OP&S) reports were delayed for five sites pending completion of a final 2-year RA report. The LUC/IC management plan was delayed due to technical issues and is under revision.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Mare Island are grouped below according to program category.

IRP

- Complete 2-year report for IRP Sites 2, 21, 41, 42, and 43 in FY04.
- Complete OP&S documents and property transfer of IRP Sites 2, 21, 42, and 43 (20 acres) to local reuse authority in FY04.
- Complete transfer of 45 acres to local reuse authority in FY04.
- Complete LUC/IC Management Plan in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|--|--|---|
| FFID: CA921382075900 | Media Affected: Groundwater and soil |  |
| Size: 172 acres | Funding to Date: \$50.2 million | |
| Mission: Manufacture grenades, projectiles, and steel cartridge casings | Estimated Cost to Completion (Completion Year): \$11.6 million (FY2017) | |
| HRS Score: 63.94; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: FY1998 | |
| IAG Status: IAG signed in April 1990 | Final RIP/RC Date for MMRP Sites: FY2017 | |
| Contaminants: Chromium, cyanide, and zinc | Five-Year Review Status: Completed FY2001/Planned | |

Progress to Date

In 1942, the Army constructed what is now the Riverbank Army Ammunition Plant (AAP) as an aluminum reduction plant to supply military requirements. Since 1951, the installation has manufactured 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 ponds located north of the plant near the Stanislaus River. Chromium was detected in drinking water wells at residences west of the installation. EPA placed the installation on the NPL in 1990. EPA and the Army signed an interagency agreement in 1990. The installation formed a technical review committee in FY94. 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 did approve the preliminary closeout report and the remedial action (RA) completion report. Therefore, Riverbank AAP became the first DoD installation on the NPL to reach the construction complete milestone. The Army completed a five-year review in FY01.

In FY94, the installation completed an installationwide Record of Decision and installed a groundwater extraction and treatment system in FY97. The cleanup progress at Riverbank AAP for FY99 through FY02 is detailed below.

In FY99, the Army added an ion exchange system to the groundwater treatment system (GWTS) to remove chromium and cyanide from the groundwater. This method eliminated chemical use at the interim GWTS.

In FY00, the installation closed out the RAs. Further optimization of the GWTS with innovative technologies eliminated 50 percent of the operating cost, or \$600,000. The installation also developed and implemented a computer-based system to transfer all documents to compact disc.

In FY01, the State of California approved the discharge of higher nitrates levels. The installation continued GWTS optimization efforts by obtaining permission to use the city's publicly owned treatment works for discharge of treated water. The installation explored the idea of awarding a contract for a fluidized bed treatment system for reduction and/or elimination of nitrates. The Army completed a 5-year review.

Army

In FY02, the Army procured a fluidized bed treatment system for the treatment of nitrates. The installation was no longer dependent on the City of Riverbank discharge agreement due to the installation of the fluidized bed reactor at the GWTS. 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.

FY03 IRP Progress

The installation continued to work towards implementing a pilot test for in situ treatment of the chromium-contaminated soil in the source area to reduce the overall cleanup duration, including negotiations with the California Regional Water Quality Control Board 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 cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

The Army completed an inventory of CTT ranges and sites. One Military Munitions Response Program (MMRP) sites was identified at this installation, specifically a closed pistol range and a small arms range.

Plan of Action

Plan of action items for Riverbank AAP are grouped below according to program category.

IRP

- Convert monitoring well 109B to an extraction well and perform additional well optimization study based on the new extraction well field layout in FY04.
- Implement the first pilot test for the in situ chromium treatment pilot project in the source area in FY04 and complete the pilot project in FY05.
- Implement a cyanide source destruction pilot study in FY04-FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|----------------------|---|--|--|---|
| FFID: | GA457172433000 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: | 8,855 acres | Funding to Date: | \$142.0 million | |
| Mission: | Provide logistics support for aircraft | Estimated Cost to Completion (Completion Year): | \$131.9 million (FY2035) | |
| HRS Score: | 51.66; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2005 | |
| IAG Status: | IAG signed in July 1989 | Five-Year Review Status: | N/A | |
| Contaminants: | VOCs, paint strippers and thinners, paints, solvents, phosphoric and chromic acids, oils, cyanide, and carbon | | | |

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 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). The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The NPL Site at Robins AFB is divided into three operable units (OUs): source control (OU 1), wetlands (OU 2), and groundwater (OU 3). Interim Records of Decision (RODs) have been signed for all three OUs. Signature of the final ROD for OUs 1 and 3 is pending. The cleanup progress at Robins AFB for FY99 through FY02 is detailed below.

In FY99, the installation completed the remedial design and began construction on the final remedial action (RA) for Landfill 003 (LF003) and OT017. Fieldwork was completed at OT038. The OU 2 sediment containment project was completed. The installation continued operating the bioventing system for SS010 and the groundwater treatment plant for OT020 and LF004. Final RAs continued at SS010 and OT029, and the installation continued basewide groundwater sampling.

In FY00, the installation completed the site inspection for SS40. It also completed RCRA facility investigations (RFIs) for LF001, LF002, OT020, OT022, OT023, OT038, OT041, and SS039; a corrective action plan (CAP) for SS039; and RA construction for LF003 and OT017. The installation continued final RA operations at SS010 and OT029. RFIs for DC034, SS035, and SS036 also continued, as did CAPs for LF001, LF002, OT023, OT037, OT038, OT041, SS035, SS036, SS040, and SS042. The installation closed FT005, FT007, FT008, and ST033. The interim measure at LF004 and OT020 and basewide groundwater sampling continued. The proposed plan (PP) for OU 1 and OU 3 was completed.

In FY01, the CAPs for LF001, LF002, and SS035 were completed. The RA was installed for OT038 and SS039, and final approval was obtained for site closure of SS009.

In FY02, the installation completed CAPs for Sites OT020, OT023, OT037, OT041, and closure for Sites OT022, SS035, SS036, OT038, and SS010. RAs were installed for Sites OT037 and OT041. A feasibility

study for OU 2 at LF004 was completed. Through negotiations with the regulators, no RA was required for Site SS036 and the site was closed. The study phases were completed for Sites LF004, OT020, OT023, OT037, OT041, and SS036. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed the PP and remedial design for OU 2 at LF004. However, a ROD was not necessary since the remediation will be completed under RCRA. The installation completed the CAP for SS040 and installed RAs for OT020 and SS040. A 5-year performance-based contract was awarded to perform the CAP for DC34 and remediate the site until no further action is necessary. Operations and maintenance continued at 12 environmental restoration sites.

Robins has a very active RAB made up of 16 community participants, regulators, and base members. The RAB met quarterly to discuss ongoing restoration activities.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for Robins AFB are grouped below according to program category.

IRP

- Install the RA for OT023 in FY04.
- Obtain approval for site closure of Area of Concern 15 in FY04.
- Complete the CAP and install the RA for DC34 in FY04–FY05.
- Complete the RA for OU 2 at LF004 in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--------------------------|
| FFID: | CO821382076900 | Media Affected: | Groundwater and soil |
| Size: | 17,228 acres | Funding to Date: | \$1,266.0 million |
| Mission: | Manufactured and stored chemical munitions | Estimated Cost to Completion (Completion Year): | \$719.5 million (FY2033) |
| HRS Score: | 58.15; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2010 |
| IAG Status: | IAG and federal facility agreement signed in 1989 | Five-Year Review Status: | Completed FY2001/Planned |
| Contaminants: | Pesticides, chemical agents, VOCs, chlorinated organics, PCBs, UXO, heavy metals, and solvents | | |



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 soil and groundwater contamination cleanup program since the 1980s. Contaminated sites included liquid waste in unlined and lined lagoons and basins, open burning and detonation areas, and landfills that received both liquid and solid wastes. Primary contaminants of concern are compounds used for chemical weapons material production and pesticides. In 1987, the EPA placed the installation on the NPL. The Army and EPA signed an interagency agreement and federal facility agreement in FY89. The installation was divided into two operable units (OUs), one containing all on-post sites and another for off-post sites. In 1994, the Army converted its technical review committee into a Restoration Advisory Board (RAB). In 1996, the Army, EPA 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 in FY97. The initial 5-year review report covering both OUs was completed in FY01.

Environmental studies have identified 209 sites at this installation. During FY96, the Army and regulators signed Records of Decision (RODs) for both OUs at the installation. Prior to the signing of the ROD, the Army completed 14 interim responses at 17 sites at the arsenal. The Army installed five groundwater extraction and treatment systems on-post and one off-post. Contaminated soil responses have included excavations and treatment of soil, disposing of contaminated soil in landfills, and capping contaminated soil sites. The cleanup progress at RMA for FY99 through FY02 is detailed below.

In FY99, the Basin A consolidation area, Phase I of the hazardous waste landfill (HWL) construction, and the landfill wastewater treatment system reached construction complete status and became operational. A remedial action (RA) was completed for the off-post well closure. The Army completed the RD for seven RAs and began four RDs for Phase II RAs.

In FY00, the Army completed the RA for the post-ROD removal actions for structures. The Army also completed RAs for four Phase I projects and the confined flow system well closure project. RDs were also completed for the four remaining Phase I projects and one of the Phase II projects. The Army completed treatability studies for two Phase II projects.

In FY01, the Army completed RAs for two Phase I projects. RDs for three Phase II projects and one Phase III project also were completed. As part of RA activities for one of the Phase I projects, ten M139 bomblets containing the chemical agent Sarin (GB) were discovered. The Army destroyed the bomblets using the Explosive Destruction System. The Army completed the first CERCLA 5-year review report, which covered both OUs.

In FY02, the installation completed the RD of the last disposal facility landfill and one Phase III project. The Army awarded RA contracts for one Phase II and one Phase III project. The RAs for one Phase II project and one Phase I project were completed. The Army continued implementation of all installationwide programs and the operation and maintenance of groundwater treatment systems. The notice of intent to delist approximately 940 acres from the NPL was published in the Federal Register by the EPA. The RAB continued to focus on providing input and comments to remediation designs, as well as sharing information with other interested stakeholders.

FY03 IRP Progress

The Army completed the RD for the Section 36 Balance of Areas and the Basin F Wastepile projects. The installation completed the RA for one Phase I project (Burial Trenches) and three Phase III projects (Secondary Basins Soil Remediation, Section 35 Soil Remediation, and North Plants Structures Demolition). The Army awarded RA contracts for two Phase I projects, one Phase II project, three Phase III projects and one Phase IV project. One Phase III RA contract was not awarded due to additional design work required. The Army continued to implement installationwide programs and operate groundwater treatment systems. Of the 940 acres scheduled for deletion from the NPL, 929 have been transferred to the General Services Administration for disposal.

The innovative treatment technology for a Phase II project (Hex Pit remediation) failed, causing a delay in the remedy.

FY03 MMRP Progress

RMA 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).

Plan of Action

Plan of action items for Rocky Mountain Arsenal are grouped below according to program category.

IRP

- Begin construction of the South Plants cover and the Enhanced HWL in FY04.
- Continue operation of the RCRA HWL and the Basin A Consolidation area in FY04.
- Complete two Phase I RAs, two Phase II RAs, and one Phase III RA in FY04.
- Transfer approximately 4929 acres to the U.S. Department of the Interior and 126 acres to local governments in FY04-FY05.
- Complete one Phase IV RD in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|----------------------|---|--|--------------------------|---|
| FFID: | CA921382078000 | Media Affected: | Groundwater and soil |  |
| Size: | 485 acres | Funding to Date: | \$61.7 million | |
| Mission: | Repaired and maintained communications and electronic equipment | Estimated Cost to Completion (Completion Year): | \$7.1 million (FY2012) | |
| HRS Score: | 44.46; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY1997 | |
| IAG Status: | IAG signed in 1988 | Five-Year Review Status: | Completed FY2001/Planned | |
| Contaminants: | Waste oil and grease; solvents; metal plating wastes; and wastewater containing caustics, cyanide, and metals | | | |

Progress to Date

When in operation, Sacramento Army Depot provided support for communications and electronic equipment. In July 1987, the BRAC Commission recommended closure of the Sacramento Army Depot and EPA placed the installation on the NPL. During 1988, the installation signed an interagency agreement. In FY93, the installation completed a BRAC cleanup plan and a CERFA report. The installation formed a Restoration Advisory Board (RAB) in FY94. The Army closed the installation in March 1995. A 5-year review was completed in FY01.

To date, all but 49 acres have been transferred. The sites were divided into four operable units (OUs). During FY92, the Army signed Records of Decision (RODs) for all four OUs and in FY95 an installationwide ROD was signed. The cleanup progress at Sacramento for FY99 through FY02 is detailed below.

In FY99, the findings of suitability to transfer (FOSTs) and BRAC disposal support packages (BDSPs) were approved. The installation received an operating properly and successfully designation from regulators for the south post groundwater treatment plant. The U.S. Army Environmental Center conducted an independent technical review to determine the effectiveness of the groundwater extraction system.

In FY00, the installation submitted the FOST, BDSP, and covenant package for the final parcel to the regulators. The Army discontinued treatment of discharged groundwater at both the groundwater treatment plant and Parking Lot 3 due to diminished levels of trichloroethylene (TCE) contamination. The transfer of the first of the final three parcels was completed. The City of Sacramento received 16.9 acres in the transfer.

In FY01, the Army completed the 5-year review as planned. The installation initiated the closeout and monitoring plan for Parking Lot 3, and the installationwide closeout and monitoring plan. The closure plan for the horizontal wells and subsequent destruction of the wells were completed. The installation received regulatory concurrence on the FOST for the final parcel.

In FY02, the regulators approved the 5-year review. The installation completed the Parking Lot 3 closeout and monitoring plan and submitted it to the regulators. Destruction of the horizontal wells was completed. The Army completed transfer of Parcel 3 and the FOST for Parcel 2B. The installation received the approved closeout report from EPA, and

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. No Military Munitions Response Program (MMRP) sites were identified.

FY03 IRP Progress

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.

Regulatory issues for developing ROD implementation plans, and completion of the fate and transport for groundwater modeling delayed the transfer of Parcel 2B. Technical issues delayed the development of the installationwide closeout and monitoring plan.

The RAB was updated throughout the year on installation activities.

FY03 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

- Transfer Parcel 2B in FY04.
- Complete the fate-and-transport phase of groundwater modeling in FY04.
- Complete the optimization of the groundwater treatment plant in FY04.
- Develop an installationwide closeout and monitoring plan in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|------------------------|
| FFID: | CA99799F558700 | Media Affected: | Groundwater |
| Size: | 1,663 acres | Funding to Date: | \$6.7 million |
| Mission: | Served as World War II Engineer storage depot, Quartermaster repair facility, and prisoner of war camp | Estimated Cost to Completion (Completion Year): | \$0.1 million (FY2005) |
| HRS Score: | 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2005 |
| IAG Status: | IAG signed in July 1997 | Final RIP/RC Date for MMRP Sites: | FY1995 |
| Contaminants: | TCE, PCE, and freon 11 and 12 | Five-Year Review Status: | N/A |



Progress to Date

The U.S. Army leased the property comprising San Bernardino Engineering Depot beginning on December 15, 1941. The Army used the depot for military storage, as a tent repair facility, and as a prisoner of war camp. The site served as part of the Communications Zone of the Desert Training Center, a large multi-state area where troop maneuvers were held. Operations included routine vehicle maintenance, supply, storage, tent repair, motor pool operations, a sewage disposal system, and a station hospital. The camp was closed in mid-1947, and all leases were terminated by the end of 1948. Uses of the property after the Army's departure included a steel rolling mill, mineral processing, machine shops, steel fabrication, poultry farms, agricultural commodity storage, gasoline service stations, and various private manufacturing and warehousing operations. There are five parcels of depot property within the Newmark Groundwater Contamination site. EPA added this site to the NPL in May 1994 after discovery of groundwater contamination. The Army and EPA signed an interagency agreement in July 1997.

The U.S. Army Corps of Engineers (USACE) completed an archive search report and they issued a declaration of No Defense Action Indicated. The cleanup progress for San Bernardino Engineering Depot for FY99 through FY02 is detailed below.

In FY99, USACE completed installation of 11 soil gas borings (0 to 150 feet), installation of 3 groundwater monitoring wells, and testing of groundwater in the area of the former sewage treatment facility. They submitted a site investigation report to EPA.

In FY00, investigation of the upper portion of Parcel 1 of the former engineering depot was completed.

In FY01, USACE completed site investigation reports for the upper portions of Parcel 1. Regulators reviewed the reports and provided comments. A fourth work plan underwent review, and comment resolution began. No new data were acquired that indicated the presence of contaminant plumes.

In FY02, EPA continued the review of the fourth work plan and comment resolution continued. No new data was acquired indicating the presence of contaminant plumes. USACE completed the review cycle for the upper portions of Parcel 1 and received regulatory and public comments. USACE submitted the final document to EPA and the City of San Bernardino.

FUDS

FY03 IRP Progress

USACE completed all fieldwork for the fourth work plan and submitted a draft final data report for regulatory and community review. The cost of completing environmental restoration at this property has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

USACE has identified no previous military munitions response work at this property.

Plan of Action

Plan of action items for San Bernardino Engineering Depot are grouped below according to program category.

IRP

- Submit final data report to EPA in FY04.
- Continue negotiations for DoD settlement in FY04.

MMRP

There are no Military Munitions Response Programs (MMRP) actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | CA917002320200 | Media Affected: | Groundwater, sediment, and soil |
| Size: | 541 acres | Funding to Date: | \$34.8 million |
| Mission: | Provided recruit training for enlisted personnel and specialized training for officers and enlisted personnel | Estimated Cost to Completion (Completion Year): | \$3.0 million (FY2007) |
| HRS Score: | N/A | Final RIP/RC Date for BRAC Sites: | FY2005 |
| IAG Status: | None | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Paint, pesticides, solvents, and POLs | | |



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. Certain installation facilities and activities were retained to support other Navy operations in the San Diego area. The installation closed in April 1997. In FY86, an initial assessment study identified 12 sites that might present environmental problems: 5 sites are being addressed under CERCLA; 7, under the underground storage tank (UST) 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 and an information repository containing the most current documents of the administrative record were established in FY94.

Nine sites have been identified at this installation. The installation has signed one Record of Decision (ROD). The cleanup progress at San Diego NTC for FY99 through FY02 is detailed below.

In FY99, the installation signed the ROD for an environmental impact statement, transferred Site 3 to the San Diego Marine Corps Recruit Depot, and closed Site 8. The installation also completed a closure report for Site 10 and completed an environmental engineering/cost analysis (EE/CA), an action memorandum, and a remedial action (RA) for Site 14 and an expanded site investigation for Site 15. In addition, the installation's BRAC cleanup plan was updated.

In FY00, asbestos removal efforts were completed. The EE/CA for the Site 1 landfill was completed. A business plan was completed.

In FY01, the installation executed the early transfer of the Site 1 landfill to the Port of San Diego. The formal no further response action designations for Site 15 and the USTs at Building 361 were obtained. Finding of suitability to transfer (FOST) documents and final transfers were completed for all parcels except the two associated with the Site 12 boat channel. The Navy continued to negotiate with the Regional Water Quality Control Board regarding the remedial investigation (RI) recommendation of no action for Site 12.

In FY02, the Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation initiated a preliminary assessment (PA) for Site 101. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Regulator issues delayed the final RI and feasibility study (FS) for Site 12.

FY03 MMRP Progress

The Navy identified no MMRP sites at this installation.

Plan of Action

Plan of action items for San Diego NTC are grouped below according to program category.

IRP

- Finalize a PA for Site 101 in FY04.
- Finalize FS, proposed plan, and ROD for Site 12 in FY04–FY05.
- Conduct a remedial design/RA and FOST for Site 12 in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------|
| FFID: | IL59799F221600 | Media Affected: | Groundwater and soil |
| Size: | 43,000 acres | Funding to Date: | \$1.3 million |
| Mission: | Manufacture and load ordnance for shipping | Estimated Cost to Completion (Completion Year): | \$43.6 million (FY2041) |
| HRS Score: | 43.70; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2003 |
| IAG Status: | IAG signed in September 1991 | Final RIP/RC Date for MMRP Sites: | FY2040 |
| Contaminants: | Organic solvents, inorganic compounds, PAHs, PCBs, munitions, and heavy metals | Five-Year Review Status: | N/A |



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 (USFWS'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. These areas were grouped 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 1987. The Army and EPA signed an interagency agreement in 1991. The USFWS established a technical working group (TWG) in FY00.

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 USFWS must provide preliminary investigations for uncharacterized sites. During FY98, the remedial action (RA) for MEC at the Explosives and Munitions Manufacturing Area OU began. The cleanup progress for Sangamo Electric Dump/Crab Orchard National Wildlife Refuge for FY99 through FY02 is detailed below.

In FY99, formal partnering was stopped when the Illinois Environmental Protection Agency (IEPA) stopped participating due to lack of progress by USFWS.

In FY00, USFWS established a TWG consisting of USFWS, EPA, IEPA, and USACE to continue working together on Crab Orchard.

In FY01, USACE completed the RA for the EMMA OU; all ordnance was removed. The USACE completed all restoration work pertaining to the Military Munitions Response Program (MMRP).

In FY02, USACE performed additional tree planting for erosion control, which completed the RA for the EMMA OU.

FY03 IRP Progress

USACE continued long-term monitoring. The USACE performed one round of groundwater monitoring well sampling in the EMMA OU. The results were provided to IEPA, USEPA, and USFWS. The cost of completing environmental restoration at this property has changed significantly due to technical issues.

FUDS

Technical issues delayed the inventory project report revision.

The TWG met three times to discuss the land use control (LUC) plan for the entire Crab Orchard National Wildlife Refuge.

FY03 MMRP Progress

USACE performed no work on MMRP sites at this property in FY03.

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 long-term monitoring in FY04.
- Provide input to draft USFWS LUV plan in FY04.
- Continue participation in meetings about potential responsible party (PRP) sites in FY04.
- Complete the inventory project report revision for a PRP project in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | IL521382080300 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 13,062 acres | Funding to Date: | \$95.5 million |
| Mission: | Receive, store, and demilitarize ammunition; manufacture ammunition-specific equipment | Estimated Cost to Completion (Completion Year): | \$135.3 million (FY2015) |
| HRS Score: | 42.20; placed on NPL in March 1989 | Final RIP/RC Date for IRP Sites: | FY2015 |
| IAG Status: | IAG signed in 1989 | Final RIP/RC Date for MMRP Sites: | FY2011 |
| Contaminants: | Explosives, metals, solvents, POLs, and VOCs | Five-Year Review Status: | Planned |



Progress to Date

The installation 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. In July 1995, the BRAC Commission recommended closure of the Savanna Depot Activity and relocation of the U.S. Army Defense Ammunition Center and School to McAlester Army Ammunition Plant in Oklahoma. Contaminants were released at landfills; the open burning and open detonation ground; the fire training area; and ammunition load, assemble, and pack facilities. In FY96, the Army formed a BRAC cleanup team (BCT) and a Restoration Advisory Board (RAB), and in FY97, the installation completed a BRAC cleanup plan.

To date, one Record of Decision has been signed and the installation has transferred approximately 3,200 acres of land. The cleanup progress at Savanna Army Depot for FY99 through FY02 is detailed below.

In FY99, the Army completed the open burning grounds (OBG) soil pile removal and submitted the OBG ecological risk assessment (ERA) sampling plan to the regulators for review. The Army updated the CERFA report and the environmental baseline survey. The depot submitted a work plan to the regulators for review.

In FY00, the installation completed fieldwork at the OBG. The Army formed a Strategic Management, Analysis, Requirements, and Technology (SMART) team at Savanna to address ordnance and explosives (OE) hazards at the installation. The team comprises senior-level officials from the Army, EPA, Illinois Environmental Protection Agency, and the U.S. Fish and Wildlife Service (USFWS). The SMART team worked successfully to resolve unexploded ordnance (UXO) issues, including redefining the 1917-1918 range fire fans as being nearly 50 percent smaller in acreage than previously documented in the archive search report. This will open the way for public access to the installation's backwaters and expedite the transfer of property to the USFWS. With agreement on smaller fans, the installation installed a buoy/barrier system in the backwaters of the Mississippi River and on open parts of Army owned land. The public can now use it for boating and fishing.

In FY01, the installation obtained funding and began design work for the removal action on the old battery storage and small-arms/artillery tunnel

areas. Design work began on removals for Sites 24 and 76. The Army completed all laboratory work for the OBG ERA project and initiated development of the remedial investigation (RI) Report. The Army initiated a removal action and phase II sampling for Zone L, and the planned three site investigations. The RAB met to discuss projects, policies, and the accomplishments of the team. The SMART Team worked successfully to resolve environmental issues that included assisting the BCT in completing remediation plans for a large pesticide burial area.

In FY02, the Army successfully completed a removal action at the Pesticide Burial Area. RI fieldwork in the lower post was completed. The installation completed the draft Old Burning Grounds (Sites 13 and 14) ecological risk assessment and submitted it for review. The Army initiated an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents.

FY03 IRP Progress

The Army completed findings of suitability to transfer (FOSTs) and environmental conditions of property statements (ECOPS) that contributed to the transfer of 3,002 acres to the USFWS and 221 acres to the local redevelopment authority (LRA). Both transfers were preceded by completion of memoranda of agreement with each transferee. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The installation initiated removal actions at Sites 76AD, 44, 25, and 15/33. The installation also initiated consolidation of all remedial investigation efforts at the Sites 13 and 14.

Technical issues delayed the RI at Sites 13 and 14. Regulatory issues and weather prevented the completion of the four removal actions.

FY03 MMRP Progress

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.

Plan of Action

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

IRP

- Complete the MEC investigation projects on the Primm's Pond area, the River Road strip, the Central E-Area, Parcels 5 and 6, and on the OBG kick-out area in FY04.
- Complete FOST/ECOPs and transfer approximately 400 acres in FY04.
- Define the extent of the groundwater plume under LRA Parcel 7 and determine the impact on the transfer of three parcels on the lower post in FY04.

MMRP

- Complete Phase III of the Zone L project in FY04.

| | | | |
|----------------------|---|--|--|
| FFID: | NY221382083000 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 10,594 acres | Funding to Date: | \$82.6 million |
| Mission: | Received, stored, distributed, maintained, and demilitarized conventional ammunition, explosives, and special weapons | Estimated Cost to Completion (Completion Year): | \$62.4 million (FY2030) |
| HRS Score: | 37.30; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2005 |
| IAG Status: | Federal facility agreement signed in January 1993 | Final RIP/RC Date for MMRP Sites: | FY2013 |
| Contaminants: | Chlorinated solvents, radioactive isotopes, heavy metals, and petroleum hydrocarbons | Five-Year Review Status: | N/A |



Progress to Date

In July 1995, the BRAC Commission recommended closing Seneca Army Depot, except for an enclave that will store hazardous materials and ores. The installation closed in September 2000. During its operation, the installation stored munitions and supplies and distributed them to the Army. Such operations included demilitarization and disposal of munitions and explosives. Since FY78, studies have identified the following sites or site types: an open burning (OB) 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. 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 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 and began developing a land reuse plan.

To date, two Records of Decision (RODs) have been signed. Interim actions included removal of several USTs and associated contaminated soil, and removal and treatment of approximately 35,000 cubic yards of soil from the ash landfill. The cleanup progress at Seneca for FY99 through FY02 is detailed below.

In FY99, the Army completed the ROD for the OB ground. The installation prepared a NFA decision document and began an unexploded ordnance (UXO) engineering evaluation and cost analysis (EE/CA) to identify areas that require remedies before the property is transferred.

In FY00, the installation closed as scheduled. The Army transferred the prison site and the north depot properties. A treatability study for an iron filing reactive wall demonstrated that the method was successful as an in situ treatment. The installation completed the UXO EE/CA project on the upland portions of the installation.

In FY01, the BCT met every other month to discuss issues, reuse priorities, and overall progress. The RAB continued to meet regularly.

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 the regulators for approval. The installation completed an investigation at the small-arms range at the airfield and initiated the IRAs in preparation for transfer.

FY03 IRP Progress

The installation completed 10 IRAs for the sludge piles, paint disposal areas, VOCs, and metals. The ROD for 28 no action/NFA was signed, closing these sites. RCRA storage units had close efforts accomplished. The Army transferred 7,350 acres of property. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria, regulatory, and technical issues.

Regulatory issues delayed the completion of RODs with land use controls (LUCs). The eleventh IRA site was delayed due to regulatory issues. Regulatory issues delayed the termination of the Nuclear Regulatory Commission (NRC) license for the storage of depleted uranium rounds.

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.

FY03 MMRP Progress

The Army completed an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents. Eighteen Military Munitions Response Program (MMRP) sites were identified at this location, but 13 of these sites have already reached the response complete phase.

Plan of Action

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

IRP

- Continue to pursue completion of RODs with LUCs in FY04.
- Complete IRA at one site in FY04.
- Transfer clean parcels in FY04.
- Continue termination requirements of the NRC to terminate the license for the storage of depleted uranium rounds in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|--------------------------|
| FFID: | CA921382084300 | Media Affected: | Groundwater and soil |
| Size: | 96,930 acres | Funding to Date: | \$69.1 million |
| Mission: | Receive, store, and maintain conventional ammunition to support demilitarization of conventional ammunition and receive, store, maintain, and issue operational project stocks and general supplies | Estimated Cost to Completion (Completion Year): | \$5.7 million (FY2008) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2008 |
| IAG Status: | Two-party federal facility agreement signed in May 1991 | Final RIP/RC Date for MMRP Sites: | FY2004 |
| Contaminants: | Petroleum products, solvents (including TCE), and explosives | Five-Year Review Status: | Completed FY2002/Planned |



Progress to Date

In 1995, the BRAC Commission recommended realignment of Sierra Army Depot. Approximately 64,996 acres were identified 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. 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 a 5-year review in FY02.

Environmental studies have identified 46 sites at this installation. Records of Decision address 17 sites. The cleanup progress at Sierra Army Depot for FY99 through FY02 is detailed below.

In FY99, the installation completed one property transfer to the Federal Bureau of Prisons. It also completed the final two remedial investigation reports, and remediated the TNT soil area, Building 1003 soil, and the large sewage treatment pond beds. The Army completed a project to bioremediate explosives contaminated soil using composting. The installation began cleanup of a diesel-contaminated soil site. All depleted uranium munitions were removed.

In FY00, the Army initiated installation and operation of the groundwater remediation system. In FY01, the installation initiated the 5-year review of monitored natural attenuation (MNA) at the TNT area. It also completed all BRAC cleanup. All BRAC property, excluding the ordnance impact area, was on schedule for transfer. Federal, state, Susanville Indian Rancheria, and Lassen County Local Reuse Association representatives formed a stakeholders team to confirm reuse plans, allowing the Army to develop ordnance and explosives cleanup requirements.

In FY02, the installation completed the survey for the Carson Wandering Skipper, an endangered butterfly, for 2 BRAC parcels (Herlong and East Shore). The Army completed the 5-year review of MNA at the TNT area and bioventing at SIAD-011 Diesel Spill Area. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance (UXO), 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.

FY03 IRP Progress

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 ordnance and explosives (OE) clean portion of the Airfield and East Shore parcels. The Army awarded a guaranteed fixed price remediation contract. This contract addresses all open restoration sites at SIAD with the exception of two sub-areas within the Upper Burning Ground.

Weather delayed the completion of the EE/CA and the remediation of Honey Lake. The Military Munitions Response Program (MMRP) portion of the East Shore and Airfield was not transferred due to regulatory issues. An environmental baseline survey addendum was required for Susanville Road and the Cross Depot Access prior to transfer. Public benefit conveyance issues delayed the transfer of property to West Patten Village.

The RAB met three times to review the findings of suitability to transfer for the Herlong Parcel, the OE 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.

FY03 MMRP Progress

The Army completed the CTT range and site inventory for both the BRAC and active portions of the installation. Five BRAC MMRP sites and 11 active MMRP sites were identified at Sierra.

Plan of Action

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

IRP

- Complete the EE/CA and response action for the East Shore parcel in FY04.
- Transfer the MMRP contaminated portion of the East Shore and Airfield Parcels in FY04.
- Transfer Susanville Road and the Cross Depot Access parcels in FY04.
- Complete the EE/CA and any required response action for Honey Lake in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|--|--|---|
| FFID: MA117002202200 | Contaminants cont'd: | photographic chemicals, industrial wastes, and UXO |
| Size: 2,094 acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: Provided administrative coordination and logistical support for Reserve units; provided logistical support for the Marine Air Reserve Training Detachment South Weymouth | Funding to Date: | \$58.3 million |
| HRS Score: 50.00; placed on NPL in May 1994 | Estimated Cost to Completion (Completion Year): | \$66.0 million (FY2025) |
| IAG Status: Federal facility agreement signed in April 2000 | Final RIP/RC Date for IRP Sites: | FY2006 |
| Contaminants: Petroleum hydrocarbons, solvents, acids, paints, metals, | Final RIP/RC Date for MMRP Sites: | FY2005 |
| | Five-Year Review Status: | The installation has not completed a 5-year review. |



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, and 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 tank storage area, a tank farm where jet fuel is stored, a rubble disposal area, and a fire training area. The installation was placed on the NPL in May 1994. 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 FY98. A BRAC cleanup plan was released. A technical assistance for public participation grant was awarded to the RAB in FY99. The installation signed a federal facility agreement (FFA) in April 2000.

Fourteen sites have been identified at this installation. The installation has completed a Record of Decision (ROD) for Site 3. The cleanup progress at South Weymouth NAS for FY99 through FY02 is detailed below.

In FY99, the environmental baseline survey (EBS) Phase II work plan and the surface debris removal action for four Installation Restoration Program (IRP) sites were completed. The remedial investigation (RI) field program for seven CERCLA sites was underway.

In FY00, the installation completed the FFA and a site management plan. Remedial action (RA) for UST 1 was conducted. Two draft RI Phase II reports were completed. All IRP sites were reviewed as candidates for presumptive remedies and innovative and improved technologies. Interim remedial actions (RAs) for two IRP sites were initiated.

In FY01, the installation completed RI Phase II risk assessments and reports for Sites 2, 3, and 4. Feasibility studies (FSs) began for Sites 1 and 2, while Sites 3 and 4 were determined not to require FSs. A proposed plan (PP) and a ROD were initiated for Site 3. Two former UST sites were determined to include CERCLA waste in both the soil and the groundwater. Work was underway to prepare the property for transfer.

In FY02, the RI Phase II risk assessments and reports were completed for four CERCLA sites. The installation completed FSs for Site 2 and initiated FSs for Sites 1 and 7. The Site 9 pilot study was completed and the RI work plan was submitted. The PP and ROD for Site 3 were completed. The Site 9 and 10 RI work plans were initiated. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation.

FY03 IRP Progress

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 continues to incorporate the EBS to the basewide report work. The Site 4 PP was on hold in order to address regulatory comments relative to potential non-CERCLA petroleum residuals at the Site; however, a field program commenced and was completed and the PP was released for public comment during FY03. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Regulatory issues have delayed the Site 7 FS. Due to the ongoing covenant deferral request (CDR) and environmental services cooperative agreement (ESCA), CERCLA work has been temporarily put on hold pending transfer. The basewide report work plan is currently in the draft stage due to the need to incorporate EBS data that only recently became available. The work plan and report will be completed after base transfer.

FY03 MMRP Progress

The Navy has completed an inventory of all MMRP sites. Preliminary assessments have been completed and no further action is planned.

Plan of Action

Plan of action items for South Weymouth are grouped below according to program category.

IRP

- Complete the CDR and ESCA in FY04.
- Complete the Site 2 ROD in FY04.

- Complete the PP and ROD for Site 4 in FY04.
- Complete the Site 2 remedial design/RA in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | VA317002758100 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 490 acres | Funding to Date: | \$7.3 million |
| Mission: | Provide radar testing range and various administrative and warehousing facilities for the nearby Norfolk Naval Shipyard and other local Navy activities | Estimated Cost to Completion (Completion Year): | \$21.3 million (FY2013) |
| HRS Score: | 50.0; placed on NPL in August 2000 | Final RIP/RC Date for IRP Sites: | FY2011 |
| IAG Status: | None | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Pesticides, heavy metals, explosives, SVOCs, and solvents | | |



Progress to Date

Historically, St. Juliens Creek Annex has been used since 1849 for storing, loading, assembling, issuing, and receiving naval gun ammunition. Contamination resulted from past handling of, and operations involving, hazardous materials. The assessment study revealed low concentrations of ordnance materials throughout the facility; however, the identified sites were determined to pose no threat to human health and the environment and no confirmation study was needed. An administrative record was established in FY99 and the facility was placed on the NPL in August 2000. The installation formed a Restoration Advisory Board (RAB) in FY00 and completed a community relations plan in FY01.

Fifteen sites have been identified at this installation. The installation completed a Record of Decision (ROD) for Site 6 in FY03. The cleanup progress at St. Juliens Creek Annex for FY99 through FY02 is detailed below.

In FY99, 12 potential areas of concern (AOCs) were identified for investigation during a joint EPA, Virginia Department of Environmental Quality, and Navy review of historical aerial photography of the facility. An administrative record was established.

In FY00, the installation developed work plans and conducted remedial investigation (RI) fieldwork for Sites 2 through 6. A background study began for soil. A site management plan and master project plans were completed. A RAB was also formed. The RAB participated in ecological and human health risk assessment (HHRA) training and site tours. Partnering training was initiated and a facilitator was assigned to the regulatory partnership team, which consists of the Navy, EPA, the State, and contractor representatives.

In FY01, the installation completed the community relations plan and the facility background concentration investigations. A final site investigation (SI) was completed for Site 17. A draft site screening assessment (SSA) was completed for 21 AOCs.

In FY02, the installation finalized the engineering evaluation/cost analysis and action memorandum for Sites 3 and 6, and the interim remedial action (IRA) was initiated. SSA Sites 10, 18, 20, and AOCs 2-12 were closed. 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.

FY03 IRP Progress

The installation completed the ROD along with a closeout report for Site 6. A draft RI/HHRA/ERA for Site 2 was completed, as well as a draft feasibility study for Site 4. The installation completed the final RI/HHRA/ERA report for Sites 3, 4, 5, and 6. The installation also completed a draft work plan for the IRA at Site 3. In addition, the installation completed a draft work plan for the SSA addendum at Site 8 and AOCs 13, 14, and K and SI at Sites 19, 21, and AOC 1. A draft site specific work plan and sampling and analysis plan basewide groundwater background investigation report was completed. A final technical memorandum site delineation/supplemental RI for Site 3 was completed.

FY03 MMRP Progress

The Navy 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

- Conduct supplemental investigations for Sites 2 and 5 in FY04.
- Complete remedial designs for Sites 4 in FY04.
- Complete SI or RI at various sites in FY04.
- Complete baseline ERA for Blows Creek in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|---|--|---|
| FFID: CT121382292400 | Media Affected: | Groundwater, soil, soil vapor, and sediment |
| Size: 78 acres | Funding to Date: | \$18.1 million |
| Mission: Manufacture engines for heavy armor vehicles and rotary wing aircraft | Estimated Cost to Completion (Completion Year): | \$21.9 million (FY2012) |
| HRS Score: N/A | Final RIP/RC Date for IRP Sites: | FY2011 |
| IAG Status: None | Five-Year Review Status: | Planned |
| Contaminants: PCBs, asbestos, fuel-related VOCs, solvents, metals, and PAHs | | |



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 indicated 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 two sludge lagoons, removal of chromium contaminated soil, and capping of one large parking lot area to immobilize 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. In addition, a draft BRAC cleanup plan was completed, which was updated in FY97 and FY99. In FY98, the process for terminating the Nuclear Regulatory Commission (NRC) license began with decommissioning plans and radiological surveys. 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 FY99 through FY02 is detailed below.

In FY99, remedial investigations across the installation with focused studies on the causeway and chrome plating shop. VOCs and chrome were discovered in the soils and groundwater beneath the plating shop at levels exceeding State standards. The installation completed a cleanup of the chrome-plating room and completed termination of the NRC license.

In FY00, the installation completed an engineering evaluation and cost analysis for the causeway and submitted the decision document (DD) for public comment. It also completed a draft remedial investigation (RI) for the entire installation and conducted a pilot study for the cleanup of chrome-contaminated groundwater.

In FY01, the Army submitted the draft RI to the State and RAB for review. The Army completed the DD for the causeway and proceeded with construction of an erosion control cap on the causeway.

In FY02, the Army completed cap construction on the causeway. It received comments on the draft RI, collected additional data for the RI, and revised the draft RI. 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.

FY03 IRP Progress

The installation submitted the draft final RI to the State and RAB for review. The final inspection of the causeway cap was completed. The installation worked with State to draft FS alternatives. The cost of completing environmental restoration at this installation has increased significantly due to estimating criteria issues.

Approval of the feasibility study and proposed plan (FS/PP) and the Record of Decision (ROD) were delayed pending comments from the State on the draft final RI.

FY03 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.

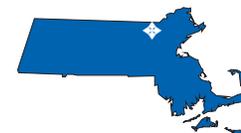
IRP

- Complete the RI in FY04.
- Submit a FS/PP to meet State requirements for a remedial action plan in FY05.
- Complete the ROD in FY05.
- Begin remedial design in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|------------------------------|
| FFID: | MA121402300900 | Media Affected: | Groundwater and soil |
| Size: | 2,284 acres | Funding to Date: | \$13.6 million |
| Mission: | Train troops and test ordnance, materiel, and equipment | Estimated Cost to Completion (Completion Year): | \$0.5 million (FY2000) |
| HRS Score: | 35.57; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2000 |
| IAG Status: | IAG signed in May 1991 | Five-Year Review Status: | Completed FY2001/ Planned |
| Contaminants: | VOCs, PCBs, pesticides, UXO, and heavy metals | | |



Progress to Date

In July 1995, the BRAC Commission recommended closure of the Sudbury Training Annex, a subpost of Fort Devens in eastern Massachusetts. Studies since FY80 identified several sites, including an old landfill, disposal and dump areas, a fire training pit, ordnance test areas, a leaching field, underground storage tanks (USTs), a drum storage area, a burning ground area, and a chemical research and development area. The primary contaminants were volatile organic compounds (VOCs) and pesticides in groundwater and soil. After the installation's NPL designation in February 1990, the Army formed a technical review committee (TRC). The installation completed an archive search for unexploded ordnance (UXO) in FY97. In FY98, the Army completed a 3-year installationwide arsenic study, a UXO survey, and an environmental baseline survey; one building required UXO clearance. The Army completed a 5-year review in FY01. The installation was delisted from the NPL in FY02.

Environmental studies have identified 74 sites at the installation. Six No Further Action (NFA) Records of Decision have been signed to date. Between FY94 and FY96, the installation removed 2,300 tons of contaminated soil, 15 tons of debris, 107 abandoned drums, and 13 abandoned oil USTs. The cleanup progress at Sudbury for FY99 through FY02 is detailed below.

In FY99, the installation completed asbestos abatement and two removals. The regulators drafted a final closeout report for NPL deletion. The installation also identified two sites for limited removal action. It sent final draft environmental condition of property statements and memoranda of agreement for transfer of the property to the U.S. Army Forces Command for review. Sudbury received regulatory concurrence on a finding of no human health or environmental risk. However, immediately following this designation the state discovered high arsenic levels in the soil (1,200 parts per million) at Study Area P27, which was then declared an imminent hazard.

In FY00, the installation completed its UXO and Study Area P27 cleanup. It completed the installationwide arsenic investigation and obtained regulatory signatures for a conclusion of no action under CERCLA. The installation negotiated NFA decision documents for all remaining site assessments (16 in all). All required remedies are now in place. The Army completed the property transfer of the main parcel to

the U.S. Fish and Wildlife Service. The final closeout report and all BRAC and CERCLA activities were completed. EPA directed that the TRC and public repositories not close.

In FY01, the Army completed the 5-year review of groundwater contamination at Areas A7 and P58 and the annual and semiannual sampling and analysis reports.

In FY02, the installation conducted a community meeting on the 5-year review report. The Army completed all requirements for NPL site deletion and the site was delisted. The Army initiated an inventory of closed, transferred, and transferring (CTT) ranges and sites with UXO, discarded military munitions, or munitions constituents.

FY03 IRP Progress

The Army transferred the remaining parcel to the Federal Emergency Management Agency and conducted a long-term monitoring and maintenance program for Area of Concern (AOC) 7.

FY03 MMRP Progress

The Army completed an inventory of CTT ranges and sites. Eight sites were identified at this installation, although none were deemed eligible for the Military Munitions Response Program (MMRP).

Plan of Action

The Army has transferred all of the Sudbury property and EPA deleted it from the NPL. Therefore, since all cleanup activity has been accomplished, this is the last narrative for Sudbury Annex. Plan of action items for Sudbury are grouped below according to program category.

IRP

- Continue the long-term monitoring and maintenance program for AOC 7 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|--|--|--|
| FFID: KS721382087800 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: 9,065 acres | Funding to Date: | \$31.2 million |
| Mission: Manufactured smokeless powder and propellants | Estimated Cost to Completion (Completion Year): | \$63.1 million (FY2016) |
| HRS Score: 50.00; proposed for NPL in February 1995 | Final RIP/RC Date for IRP Sites: | FY2010 |
| IAG Status: None | Five-Year Review Status: | Planned |
| Contaminants: Nitrates, sulfates, lead, chromium, and propellants | | |



Progress to Date

The Sunflower Army Ammunition Plant (AAP) began operations in 1942. Its 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. The installation no longer has a mission and all real property has been designated as excess. EPA proposed placing the installation on the NPL in 1995 after evaluating five propellant manufacturing surface impoundments as potential sources of hazardous waste. Prominent site types at the installation include landfills, open burning and open detonation (OB/OD) areas, propellant production areas, dump sites, settling ponds, wastewater lagoons, and drainage ditches. An analysis also indicated heavy metal contamination of surface water and sediment. The Army has developed a community relations plan.

To date, sources of contamination at the installation include production line areas, magazine storage areas, 67 RCRA solid waste management units (SWMUs), and 22 areas of concern. The cleanup progress at Sunflower AAP for FY99 through FY02 is detailed below.

In FY99, the Army completed a draft corrective measures study for SWMUs 10/11 and 22/32 and initiated a remedial action (RA) for SWMU 50. The Army also completed remediation of SWMU 23, with approval by EPA and Kansas Department of Health and Environment. The installation prepared a final work plan for additional investigation activities at SWMUs 33, 34, and 35. The U.S. Army Center for Health Promotion and Preventive Medicine completed field evaluations for SWMUs 53 and 54.

In FY00, the installation completed interim remedial actions (IRAs) for SWMU 50 and achieved closure of the OB/OD site (SWMU 23). Long-term monitoring began for SWMUs 13 and 27. The installation completed supplemental sampling at SWMU 41.

In FY01, removal actions for SWMUs 10, 11, and 50 were completed. The Army conducted confirmatory sampling for SWMU 2 and SWMU 42 soil.

In FY02, the installation initiated an installationwide stream study, including SWMU 14. The Army completed IRAs 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; no specific

environmental or public health concerns related to the installation were identified. The Army initiated RCRA facility investigations (RFIs) for SWMUs 1, 21, 39, 45 and 47. Long-term monitoring continued for SWMUs 11, 13, 27, 41, 48 and 50. The installation held Restoration Advisory Board (RAB) meetings every 2 months. The meetings informed the community about actions taken under the Installation Restoration Program (IRP), future planned actions, and other activities at Sunflower AAP that might be of concern to the public.

FY03 IRP Progress

The installation continued RFIs for SWMUs 1, 21, 39, 45 and 47. Long-term monitoring continued for SWMUs 11, 13, 27, 41, 48 and 50. The Army continued the installationwide stream study. The installation initiated a RA for SWMU 22. The cost of completing environmental restoration at this installation has increased significantly due to technical issues.

Technical issues delayed the RA for SWMU 21.

The installation conducted a site tour for the RAB and gave a presentation that described the risk assessment process.

FY03 MMRP Progress

The Army completed an inventory of closed, transferred, and transferring ranges and sites with unexploded ordnance (UXO), discarded military munitions, or munition constituents and identified two Military Munitions Response Program (MMRP) sites.

Plan of Action

Plan of action items for Sunflower AAP are grouped below according to program category.

IRP

- Complete RFIs for SWMUs 1, 21, 39, 45 and 47 in FY04.
- Begin RFIs for SWMUs 3, 10, 14, 25, 38, and 53 in FY04.
- Continue long-term monitoring for SWMUs 11, 13, 27, 41, 48 and 50 in FY04-FY05.
- Begin the RA for SWMU 21 in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--|--|--|---|
| FFID: OK657172439100 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 5,041 acres | Funding to Date: | \$188.2 million | |
| Mission: Repair aircraft, weapons, and engines | Estimated Cost to Completion (Completion Year): | \$108.2 million (FY2023) | |
| HRS Score: 42.24; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2008 | |
| IAG Status: IAG signed in September 1988 | Five-Year Review Status: | Completed FY1999/Underway/ Planned FY2008 | |
| Contaminants: Organic solvents, heavy metals, and petroleum | | | |

Progress to Date

The mission of Tinker Air Force Base (AFB) is to repair aircrafts, weapons, and engines. The installation was placed on the NPL in July 1987 and signed an interagency agreement in September 1988. 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, 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 underground storage tanks 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, the installation completed a 5-year review of NPL treatment systems. In FY03, the installation submitted to regulators 5-year review Record of Decision (ROD) reports. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

To date, RODs have been signed for Building 3001 and for Soldier Creek. The cleanup progress for Tinker AFB for FY99 through FY02 is detailed below.

In FY99, the draft final Soldier Creek Off-Base Groundwater (SCOBGW) risk assessment was submitted to regulators. A groundwater treatment system was constructed for the Gator Groundwater Management Unit. Closure letters were received for the 3700 Fuel Yard and the purge facility. The 5-year review of NPL treatment systems was submitted for review. The Oklahoma Department of Environmental Quality designated no further action for the remaining radioactive waste disposal sites. Seven solid waste management units and one area of concern were closed.

In FY00, regulators accepted the feasibility study (FS) for the SCOBGW Operable Unit (OU). All landfills at Tinker now have a RCRA cap in place. The installation began an interim remedial action (IRA) at the Industrial Water Treatment Plant (IWTP), which should enable the site to reach remedy in place (RIP) status. Air Force documentation formally closing the four radioactive waste disposal sites and Fire Training Area 1 was completed.

In FY01, the decision documents (DDs) necessary to achieve RIP and

response complete (RC) status for five of the six landfills were completed. The treatment system at 290 Fuel Farm was completed, with the relative risk reduced from medium to not required, and RIP status was achieved. The purge facility turnaround soil site was closed. Fire Training Area 2 was also closed. A comprehensive range inventory was initiated. This inventory was designed to be an annual, iterative effort. To supply data for the inventory, a detailed questionnaire was completed that collected data on the types of munitions used, the range's environmental status, and the type and level of external stakeholder interest.

In FY02, the installation completed the DD necessary to achieve RIP and RC status for Landfill 4. The IRA 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. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria and technical issues. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

The Air Force completed the risk assessment necessary to achieve site closeout for Industrial Waste Pit 2. The 5-year review ROD reports were submitted to regulators. Installation of the IRA-C groundwater extraction system for the SCOBGW OU commenced and changes were incorporated into the proposed plan (PP). The Northwest Groundwater Management Unit (CG-37) FS was completed and recommended monitored natural attenuation as the remedy.

The ROD and remedial design (RD) for SCOBGW OU were delayed to incorporate changes into the PP.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for Tinker AFB are grouped below according to program category.

IRP

- Achieve site closeout for Soldier Creek sediment and surface water in FY04.
- Achieve SCOBGW RIP in FY04.
- Complete DD and achieve RIP and RC for four fuel sites in FY04.
- Complete DD and achieve RIP for IWTP soils in FY04.
- Complete the ROD and RD for SCOBGW OU in FY04.

MMRP

There are no MMRp actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | PA321382089200 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 1,293 acres | Funding to Date: | \$14.7 million |
| Mission: | Provide logistics for communications and electronics equipment | Estimated Cost to Completion (Completion Year): | \$20.6 million (FY2017) |
| HRS Score: | 37.93; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: | FY2005 |
| IAG Status: | IAG signed in September 1990 | Final RIP/RC Date for MMRP Sites: | FY2017 |
| Contaminants: | Heavy metals, solvents, VOCs, PCBs, POLs, and UXO | Five-Year Review Status: | Completed FY2002/Planned |



Progress to Date

Tobychanna Army Depot (TYAD) provides support for communications and electronics equipment. Environmental studies at TYAD 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 includes 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 was signed in September 1990. During FY95, the installation formed a Restoration Advisory Board, followed by a new community relations plan in FY98. The Army completed a 5-year review in FY02.

Environmental studies identified 65 areas of concern (AOCs) covering 1,293 acres at the installation; EPA partially delisted 62 of the AOCs from the NPL in FY01. The installation completed six Records of Decision (RODs), including five in FY00. The cleanup progress at TYAD from FY99 through FY02 is detailed below.

In FY99, the installation completed a closeout document for 18 no further action sites. Health risk assessments were completed for two sites. The installation completed a quality assurance project plan for groundwater sampling and analysis at AOC 1.

In FY00, the installation removed the sewage drying beds at AOC 32. It also completed closeout documents for five sites and the ecological risk assessment. Two proposed remedial action plans were completed. The Army and regulators signed RODs for those sites and TYAD attained Construction Complete status. TYAD became the first federal facility in EPA Region 3 to achieve this status.

In FY01, groundwater monitoring continued at OU 1 and OU 5. OU 1 and OU 5 required long-term monitoring, including semi-annual sampling and analysis for the following three years. Because of successful partnering with EPA and the Pennsylvania Department of Environmental Protection and the use of innovative technologies, TYAD reduced its cleanup costs for sites significantly. TYAD became the first federal facility in EPA Region 3 to become partially delisted from the NPL.

Army

In FY02, the Army completed the first 5-year review. Five groundwater monitor wells were installed at TYAD-067 for quarterly sampling to determine the extent of tetrachloroethylene contamination. The Army completed the closed, transferred, and transferring (CTT) ranges and sites inventory and identified two Military Munitions Response Program (MMRP). The inventory includes CTT ranges, sites with UXO, discarded military munitions, or munitions constituents. TYAD constructed a barbed wire fence with warning signs around its UXO area, TBAD-055.

FY03 IRP Progress

The installation continued groundwater monitoring at OU 1 and OU 5. The cost of completing environmental restoration at this installation has increased significantly due to estimating criteria issues.

FY03 MMRP Progress

An MMRP site inspection was initiated. The installation provided information regarding the UXO area and a former machine gun range (TYAD-029) to the AEC for inclusion in the CTT range inventory. The UXO fence and warning signs were maintained.

Plan of Action

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

IRP

- Continue groundwater monitoring at OU 1 and OU 5 in FY04.

MMRP

- Maintain the UXO fence and warning signs in FY04.
- Complete the site inspection in FY05.

| | | |
|---|--|---|
| FFID: UT821382089400 | Media Affected: Groundwater and soil |  |
| Size: 24,732 acres | Funding to Date: \$99.5 million | |
| Mission: Store and demilitarize munitions | Estimated Cost to Completion (Completion Year): \$63.5 million (FY2032) | |
| HRS Score: 53.95; placed on NPL in August 1990 | Final RIP/RC Date for IRP Sites: FY2007 | |
| IAG Status: Federal facility agreement signed in September 1991 | Final RIP/RC Date for MMRP Sites: FY2018 | |
| Contaminants: Solvents, metals, explosives, petroleum hydrocarbons, and PCBs | Five-Year Review Status: Completed FY2002/Planned | |

Progress to Date

In 1993, the BRAC Commission recommended realignment of the Tooele Army Depot (TEAD) maintenance mission with the installation retaining its conventional ammunition storage and demilitarization missions. The installation was placed on the NPL in August 1990. Identified sites include open burning and open detonation areas, an ammunition demilitarization facility, landfills, firing ranges, industrial sites, underground storage tanks, surface impoundments, lagoons, and drain fields. Organic solvents are the main contaminants affecting groundwater. TEAD's environmental programs are regulated under a CERCLA federal facility agreement signed by the Army and EPA in 1991 and a RCRA corrective action permit. During FY94, the installation formed a BRAC cleanup team and a Restoration Advisory Board (RAB). A 5-year review was completed in FY02.

In FY94, a Record of Decision (ROD) was approved for six sites, four of which required no further action. The installation transferred 41 acres to the Tooele City Redevelopment Agency (RDA) in FY96. The Army retained 23,069 acres for the conventional ammunitions mission. The cleanup progress at TEAD for FY99 through FY02 is detailed below.

In FY99, TEAD transferred the remaining excess BRAC property (1,663 acres) to the Tooele City RDA. It installed bioventing systems to remediate petroleum-contaminated soil and conducted risk assessments.

In FY00, TEAD completed a Phase I RCRA facility investigation (RFI) of groundwater contaminant source areas in the BRAC parcel. TEAD began a Phase I BRAC RFI to define the extent of off-site groundwater contamination to the northeast of the property. It completed a decision document for Group B RCRA corrective action sites. An interim action plan for the removal of the primary source of groundwater contamination was completed. The U.S. Army Corps of Engineers started preparing a site management plan for land use controls.

In FY01, the Army initiated a pilot study to evaluate the effectiveness of soil vapor extraction for remediation of soil contamination. The installation completed Phase I off-post RFI fieldwork for delineation of groundwater contamination, and completed corrective action for ten Group B sites. The RAB had the opportunity to review all work plans and reports that were prepared, and participated in quarterly project reviews.

In FY02, the installation completed confirmation sampling and prepared a closure report for the final tank site. TEAD awarded a contract for the Phase II groundwater and vadose zone investigation of the BRAC industrial area, and initiated corrective actions for ten Group A and nine Group C sites. The draft final feasibility study for Operable Unit 9 (OU 9) was completed and submitted for regulatory review. The installation completed a RCRA corrective measures study (CMS) for four known release sites, and completed a 5-year review for all sites at the installation. The RAB met quarterly to review the status of restoration activities at the installation.

FY03 IRP Progress

TEAD completed all required remedial actions at nine Group A and eight Group C sites. It also initiated remedial actions at one Group C site and one Group A site. EPA approved and signed the ROD for OU 4 and all required remedies were implemented. The installation completed CMSs for Sites 10, 12, and 15. Decision documents (DDs) for these sites are underway. The cost of completing environmental restoration at this installation has increased significantly due to estimating criteria issues.

Regulatory issues delayed the closure approval of the final tank site and the OU 8 ROD.

The RAB met quarterly to review plans and progress associated with the Installation Restoration Program (IRP).

FY03 MMRP Progress

The Army completed an inventory of operational and closed, transferred, and transferring (CTT) ranges and sites with unexploded ordnance (UXO), discarded military munitions, or munitions constituents at TEAD. Military Munitions Response Program (MMRP) sites were identified within the active portion of this installation. Cost estimates for addressing the CTT ranges and sites with UXO, discarded military munitions, or munitions constituents were also developed.

Plan of Action

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

IRP

- Complete corrective measures at one Group C and one Group A site in FY04.
- Finalize DDs and initiate corrective measures at Sites 10, 12, and 15 in FY04.
- Initiate an alternative measure evaluation of ground water treatment technologies in FY04.
- Initiate field activities for the Phase II groundwater vadose investigation of the BRAC industrial area and impacted off-site property in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | | |
|--------------------|--|--|--|---|
| FFID: | CA957182457500 | Contaminants: | VOCs, heavy metals, POLs, and PAHs |  |
| Size: | 6,383 acres | Media Affected: | Groundwater, surface water, sediment, and soil | |
| Mission: | Provide air refueling and strategic airlift services for troops, cargo, and equipment | Funding to Date: | \$87.6 million | |
| HRS Score: | 29.49; placed on NPL in November 1989 | Estimated Cost to Completion (Completion Year): | \$111.9 million (FY2195) | |
| IAG Status: | Federal facility agreement signed in September 1990 and amended in May 1993, October 1995, July 1996, November 1997, and July 1998 | Final RIP/RC Date for IRP Sites: | FY2011 | |
| | | Final RIP/RC Date for IRP Sites: | N/A | |
| | | Five-Year Review Status: | Completed FY2003/Planned FY2008 | |

Progress to Date

Travis Air Force Base (AFB) has supported Air Force operations since 1943. Historical activities at the base have resulted in releases of fuels, solvents, and petroleum/oils/lubricants (POLs), which have migrated into groundwater. Since FY85, studies have identified numerous sites, including old landfills, a closed sewage treatment plant, four fire training areas, disposal pits, spill areas, the 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. Granular activated carbon treatment systems were installed to treat groundwater contaminated with trichloroethylene (TCE) at a storm sewer outfall in Union Creek and a source area for the installation's largest TCE groundwater plume. In FY95, the installation formed a Restoration Advisory Board (RAB). The installation received technical assistance for public participation (TAPP) funding in FY99. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria and technical issues.

The Air Force divided the installation into four operable units (OUs). To date, interim Records of Decision (RODs) have been signed for groundwater in the North, East, and West Industrial OUs (NEWIOU) and for both groundwater and soil in the West/Annexes/Basewide OU (WABOU). The cleanup progress at Travis AFB for FY99 through FY02 is detailed below.

In FY99, the WABOU groundwater interim ROD was signed. The installation completed an interim removal action (IRA) for lead-contaminated soil at Site 12 Building 1207/1209 and initiated removal at Building 1133. Also at Site 12, the installation completed the OU draft final remedial investigation (RI) report, initiated and completed a TAPP grant for the RAB review of the RI, and completed fieldwork for additional characterization. The draft final RI report for offshore sediment was also completed.

In FY00, IRAs were completed at nine groundwater sites. The IRA for one off-base groundwater plume (SS030) was also completed. The RAB continued to review restoration documents and provide advice on project prioritization.

In FY01, the installation completed construction on one part of Landfill 2. It also installed two additional dual-phase extraction wells and a thermal

oxidizer as part of an expansion of the IRA for the groundwater plume at Site SS016. Construction of the IRAs at LF008 and DP039 was finished, and a removal action was completed at Cypress Lakes Golf Course. The RAB reviewed 21 documents and conducted two base tours for members of the public.

In FY02, the Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. A MMRP site was identified at this installation. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria, technical, and regulatory issues.

FY03 IRP Progress

The installation began IRA construction at one off-base groundwater plume and completed the WABOU soil ROD. The installation also completed remedial action at six of seven soil sites as well as the 5-year review of interim groundwater actions. A land access agreement was approved, allowing RA construction at one off-base groundwater plume to begin.

Contractor issues delayed the RA for the remaining soil sites.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for Travis AFB are grouped below according to program category.

IRP

- Complete NEWIOU soil, sediment, and surface water ROD in FY04.
- Complete remedial design at 12 NEWIOU soil sites in FY04.
- Award RA contracts for 10 NEWIOU soil sites and 1 WABOU soil site in FY04.

MMRP

- Initiate MMRP site investigations in FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | CA917002333000 | Media Affected: | Groundwater and soil |
| Size: | 1,075 acres | Funding to Date: | \$106.3 million |
| Mission: | Provide services and materials to support units of operating forces and shore activities | Estimated Cost to Completion (Completion Year): | \$27.7 million (FY2011) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2011 |
| IAG Status: | Federal facility site remediation agreement signed in September 1992 | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Petroleum hydrocarbons, VOCs, SVOCs, chlorinated solvents, metals, pesticides, and PCBs | | |



Progress to Date

In July 1993, the BRAC Commission recommended closure of Treasure Island 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. The installation completed a community relations plan (CRP) and established two information repositories and an administrative record in FY92. The installation signed a federal facility site remediation agreement 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-one sites, including a former fire training area, a landfill, a former dry cleaning facility, an old bunker area, fuel farms, and a service station, have been identified to date. The cleanup progress at Treasure Island Naval Station for FY99 through FY02 is detailed below.

In FY99, the installation completed an interim removal action for lead-contaminated soil at Site 12 Buildings 1207/1209. The installation completed the operable unit (OU) draft final RI reports for Site 12 and for offshore sediment.

In FY00, the installation completed lead removal at Building 1133 and removed an underground storage tank (UST) at Building 1. The installation also conducted pilot investigation sampling of debris, soil gas sampling, and additional sampling at the Site 12 debris areas. Polychlorinated biphenyl (PCB)- and polycyclic aromatic hydrocarbon (PAH)-contaminated soil was removed from Halyburton/Bigelow/Flounder Court housing. Groundwater monitoring was performed, and a tidal study was completed. The installation investigated the former fuel line right-of-way for petroleum in soil. Sites 5, 7, and 17 were proposed for no further action. Site 7 was later continued in the RI. Sites 5 and 17 were combined into Site 24.

In FY01, the draft corrective action plans for and initial cleanup of all petroleum sites were underway. During removal of the two remaining USTs, additional USTs and two additional sections of fuel line were found, and further investigation was initiated. Pilot studies were completed at four sites on the use of in-situ remedial technologies instead of traditional technologies.

In FY02, the installation received closure concurrence for Sites 1 and 3. CERCLA Sites 30 and 31 were added. A removal action for PCB- and PAH-contaminated soil was completed at five buildings in the Site 12 housing area. The RI was completed for the offshore OU Sites 13 and 27. A full-scale in-situ soil vapor extraction system was operating at Petroleum Sites 14, 22, and 25. Soil removal actions were completed or were underway at other petroleum sites, and a number of former UST sites received closure letters from the State Water Board. The update of the CRP was completed. The cost of completing environmental restoration at this installation changed significantly due to regulatory issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

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/cost analysis for a removal action in portions of Site 12 for review. The installation completed additional soil sampling for Site 12. An RI was completed for Sites 13 and 27. The installation installed a pilot study for in-situ remediation at Site 24. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Treasure Island are grouped below according to program category.

IRP

- Complete remedies in place for all petroleum sites in FY04.
- Complete finding of suitability for transfer and finding of suitability for early transfer documentation for transfer of all property in FY04.

- Complete closure of Sites 7 and 10 with a supplemental SI in FY04.
- Complete RIs for CERCLA Sites 9, and 21 and draft RIs for Sites 6, 8, 11, 24, and 28-31 in FY04.
- Complete the petroleum remedies for the remaining 5 percent of sites in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | |
|---|---|
| FFID: NJ217002269500 | Media Affected: Groundwater and soil |
| Size: 529 acres | Funding to Date: \$22.1 million |
| Mission: Test engine systems and components | Estimated Cost to Completion (Completion Year): \$18.2 million (FY2032) |
| HRS Score: N/A | Final RIP/RC Date for IRP Sites: FY2000 |
| IAG Status: None | Five-Year Review Status: The installation has not completed a 5-year review. |
| Contaminants: TCE, freon, fuels, mercury, and solvents | |



Progress to Date

In July 1993, the BRAC Commission recommended closure of this installation. 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 (RAB) in FY93. The RAB was formally disbanded in FY01. In FY03, the installation completed the draft 5-year review.

Studies at the installation have identified nine CERCLA sites and two UST sites. The cleanup progress at Trenton Naval Air Warfare Center for FY99 through FY02 is detailed below.

In FY99, off-site residential well sampling was performed. The environmental baseline survey (EBS) Phase II report was finalized, and remediation was completed at the remaining EBS area of concerns. Cleanup of mercury-contaminated sediment continued.

In FY00, the installation conducted an off-site ecological investigation and a storm sewer infiltration study. Off-site well installation was also completed. The classification exception area report was completed, as was the operating properly and successfully document for groundwater. The closeout report for mercury was also drafted. Long-term management of mercury was initiated. A finding of suitability to transfer (FOST) for Parcel B was completed.

In FY01, the installation completed FOSTs for Parcels A and D. Off-site groundwater investigations continued. The report on mercury monitoring was completed. Operations and maintenance (O&M) of the Site 1 treatment plant was underway.

In FY02, the installation continued groundwater monitoring. O&M continued, and Parcel B was transferred. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation continued O&M.

The installation completed the draft 5-year review report; however, real estate issues delayed the final 5-year review report.

FY03 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 are grouped below according to program category.

IRP

- Continue O&M in FY04.
- Complete 5-year review in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|-------------------------|
| FFID: | AZ957282593400 and AZ957172462900 | Media Affected: | Groundwater and soil |
| Size: | 84 acres | Funding to Date: | \$11.6 million |
| Mission: | Provide Air National Guard training | Estimated Cost to Completion (Completion Year): | \$56.1 million (FY2021) |
| HRS Score: | 57.86; placed on NPL in September 1983 | Final RIP/RC Date for IRP Sites: | FY1997 |
| IAG Status: | Federal facility agreement signed in October 1994 | Five-Year Review Status: | Underway/Planned FY2008 |
| Contaminants: | TCE, tetrachloroethylene, chromium, petroleum hydrocarbons, and POLs | | |



Progress to Date

Tucson International Airport provides training for the Air National Guard and was placed on the NPL in September 1983. A federal facility agreement was signed 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 and chromium also have affected groundwater to a lesser extent. In addition, total petroleum hydrocarbons have been detected in soil at the installation. To aid in environmental cleanup, the installation has established successful partnerships with citizens and regulators through the Unified Community Advisory Board (UCAB). A Restoration Advisory Board (RAB) was formed at this installation. In FY03, a 5-year review was completed. The cost of completing environmental restoration at this installation has changed significantly due to regulatory issues.

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 International Airport for FY99 through FY02 is detailed below.

In FY99, the groundwater extraction and treatment system continued to operate. RAB activities with UCAB, as well as partnering efforts with EPA Region 9 and the Arizona Department of Environmental Quality (ADEQ), were successful.

In FY00, RAB activities with the UCAB and partnering efforts with EPA Region 9 and the ADEQ continued. One well was added on the western side of the base to improve plume capture.

In FY01, the installation continued a partnership with EPA Region 9 and ADEQ. Operation of the groundwater extraction and treatment system continued. Participation in the UCAB continued.

In FY02, the installation continued a partnership with EPA Region 9 and ADEQ. Operation of the groundwater extraction and treatment system continued. Participation in the UCAB continued. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

Air Force

FY03 IRP Progress

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 5-year review was completed.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

Plan of action items for Tucson International Airport are grouped below according to program category.

IRP

- Continue partnership with EPA Region 9 and ADEQ in FY04.
- Continue operating the groundwater extraction and treatment system in FY04.
- Continue participation in the UCAB in FY04.

MMRP

There are no MMRP actions scheduled for FY04.

| | | | |
|----------------------|--|--|---|
| FFID: | CA917302478300 | Media Affected: | Groundwater and soil |
| Size: | 1,603 acres | Funding to Date: | \$56.2 million |
| Mission: | Formerly supported operations of the Third Marine Aircraft Wing | Estimated Cost to Completion (Completion Year): | \$34.3 million (FY2035) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2010 |
| IAG Status: | Federal facility site remediation agreement signed in August 1999 | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | VOCs, dichloroethane, dichloroethene, TCE, TCP, BTEX, naphthalene, petroleum hydrocarbons, pentachlorophenol, and MTBE | | |



Progress to Date

In July 1991, the BRAC Commission recommended closure of Tustin Marine Corps Air Station with retention of the family housing and related personnel facilities to support El Toro Marine Corps Air Station. In FY93, El Toro was recommended for closure, which included those support facilities retained at Tustin. A Restoration Advisory Board (RAB) and a BRAC cleanup team (BCT) were formed in FY94. The Navy regularly updates two administrative records and two information repositories. The installation signed a federal facility site remediation agreement in August 1999.

Studies since FY85 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 two Records of Decision (RODs), with two additional RODs scheduled for signature in FY04. The installation has also transferred over 1,300 acres of property. The cleanup progress at Tustin Marine Corps Air Station for FY99 through FY02 is detailed below.

In FY99, a new operable unit (OU), OU 4, was formed, comprising 11 groundwater sites that were formerly part of OU 2. All USTs were removed, and cleanup of 15 RCRA sites was completed. The three RCRA Part B permitted storage facilities were clean-closed. Another 42 AOCs received no further action (NFA) concurrence from the BCT, and a draft Community Environmental Restoration Facilitation Act basewide environmental baseline survey was issued. The feasibility study (FS) for OU 2 was completed.

In FY00, the installation completed the proposed plan (PP) and the NFA ROD was signed for OU 2. An amended action memorandum (AM) and a draft closure report for Site 9A/9B were issued. The methyl tertiary-butyl ether (MTBE) plume at UST Site 222 was delineated. OU 1 was split into OU 1A (Site 13 South) and OU 1B (Sites 3 and 12). Of the original 288 AOCs, 266 have received NFA designations, 3 have achieved remedy-in-place status, 7 were being reviewed by regulators for NFA designations, and the remaining 12 require additional evaluation or fieldwork.

In FY01, the AM for OU 1A (a trichloropropane plume) was finalized and the fieldwork began. This fieldwork is linked to the cleanup of the MTBE plume (UST Site 222). A two-phase corrective action plan encompassing both areas was finalized. Interim remedies were

designed and installed beginning in FY01 with operations commencing in FY02 for both sites. Data from these interim remedies show plume stabilization and containment.

In FY02, interim actions were coordinated at UST Site 222 and OU 1A. Also for OU 1A, data from the interim action was used to support a draft final FS in FY03 for a permanent remedy. The OU 1B PP was issued. The OU 3 ROD was also finalized, and the long-term operation and management (O&M) plan and land use control implementation and certification plan (LUCICP) were drafted for agency review. Additional data gathering was also conducted at low-risk sites to support the OU 4 FS. Finally, over a decade of environmental actions and data were used to support the economic development conveyance (EDC) transfer of 1,152 acres to the City of Tustin in FY02 and the EDC transfer of 24 acres. Other support was provided for the public sale of 235 acres in FY02 and the deed transfer in FY03. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation issued the OU 1A FS evaluating the permanent remedy and the draft ROD which includes enhancement of the interim groundwater removal action treatment system along with a soil and groundwater hotspot removal. The installation continued operations and exploring 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 includes a groundwater treatment and soil removal remedy at two sites, after modifications to incorporate the recent Navy-EPA LUC Principles and Procedures Agreement. The installation implemented the OU 3 O&M Plan/LUCICP and completed the operating properly and successfully certification. The installation completed revising the remedy strategy at ST-16A/B to a petroleum corrective action for polyaromatic hydrocarbons. The installation completed developing the removal strategy at the arsenic AOC site in partnership with redevelopment activities by the City of Tustin. The installation also completed new sampling at several OU 4 sites to support a dual exit strategy for these low-risk sites.

In FY03, the RAB continued to meet regularly, participating in document review.

FY03 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

- Sign and implement the OU 1A ROD and prepare the draft RD in FY04.
- Complete additional soil removal and treatment system enhancements at the UST Site 222 MTBE site in FY04.
- Continue development of the OU 1B remedial design in FY04.
- Complete the petroleum corrective action at ST-16A/B and removal action at the arsenic AOC site in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|--|
| FFID: | MN521382090800 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 2,370 acres | Funding to Date: | \$150.0 million |
| Mission: | Modified caretaker; provide support to Department of Defense tenants; formerly manufactured small-arms ammunition and projectile casings | Estimated Cost to Completion (Completion Year): | \$44.7 million (FY2040) |
| HRS Score: | 59.60; placed on NPL in September 1983 | Final RIP/RC Date for IRP Sites: | FY2010 |
| IAG Status: | Federal facility agreement signed in August 1987 | Five-Year Review Status: | Completed FY2000/ Planned |
| Contaminants: | VOCs, PCBs, and heavy metals | | |



Progress to Date

Twin Cities Army Ammunition Plant (AAP) formerly manufactured small-arms ammunition and projectile casings, and currently supports DoD tenants. Past waste disposal practices released contaminants into soil, groundwater, and sediment, which migrated into the Minneapolis-St. Paul groundwater supply. Ammunition-related metals, volatile organic compounds (VOCs), and polychlorinated biphenyls (PCBs) are the primary soil contaminants at the installation. In 1983, EPA placed the installation on the NPL. The installation signed a federal facilities agreement in August 1987. In FY95, the installation completed an unexploded ordnance (UXO) sweep in support of the CERCLA site cleanups. Twin Cities AAP established a technical review committee in 1985 and a Restoration Advisory Board (RAB) in FY96. 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 secured a technical assistance for public participation (TAPP) contract to support the RAB in FY99. The Army completed five-year reviews of Operable Units (OUs) 1, 2, and 3 in FY00.

Twenty-five sites, including former landfills, burning and burial grounds, ammunition testing and disposal sites, industrial operations buildings, and sewer system discharge areas, are grouped into three OUs. To date, three Records of Decision (RODs) have been signed. The cleanup progress at Twin Cities AAP for FY99 through FY02 is detailed below.

In FY99, the Army completed remedial design (RD) for five sites and performed remedial action construction (RA-C) for six sites at OU 2 (A, E, H, 129-5, grenade range, and outdoor firing range). The Site F closure report received regulatory approval. The installation completed characterization of two dumps. The installation secured a TAPP contract to provide a technical review of restoration documents and summarize reports in non-technical terms.

In FY00, the Army completed the 5-year review of OUs 1, 2, and 3. RD concluded for two sites. The Army reduced pumping rates at the OU 3 containment boundary and sought regulator approval for shutting down the OU 3 system. RA-C was completed at Sites A, 129-5, grenade range, and OU 1. RA-C started at Sites C and 129-3. Remedial action

(RA) closeout began for soil vapor extraction (SVE) systems at Sites D and G. Removal site investigations (SIs) began at two sites. The Tier II ecological risk assessment surface water and sediment investigations and the amphibian report were completed.

In FY01, operations and maintenance of all RAs at OU 1 and OU 3 began, and the extraction well for OU 3 was shut down. The Army completed the closeout report for Site B and RA-C fieldwork at Sites E and H. Fieldwork continued at Sites 129-3 and 129-15. The Army completed construction and system startup for the SVE air-sparging system at Site A and began RA operations. It also completed construction for a groundwater containment system at the Site C phytoremediation demonstration area and began operations.

In FY02, the Army completed 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 RD and RA workplan for Site D metals were completed. 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 SI. The SI work commenced at the Building 135 Primer/Tracer area. Thirty-one unused monitoring wells were abandoned, both on and off the installation. The regulators approved closeout reports for the Grenade Range and the Outdoor Firing Range.

FY03 IRP Progress

The Army completed RA-C fieldwork at Site A (VOC soils), Site D (metal soils), and the removal of the corrective action management unit. The respective closeout reports were submitted. The regulators approved the closeout reports for Site 129-3 and Site 129-15, with the exception of land use control requirements. The regulators approved the reconfiguration plan for the TGRS. The installation completed the site inspection 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, a work plan was approved and additional characterization work was performed. The Army commissioned a Phase I/Phase II environmental site assessment to support future property transfers.

FY03 MMRP Progress

The Army conducted an inventory of closed, transferred, and transferring ranges and sites with UXO, discarded military munitions, or munitions constituents in FY03. No Military Munitions Response Program (MMRP) sites were found at the installation.

Plan of Action

Plan of action items for Twin Cities AAP are grouped below according to program category.

IRP

- Complete RA-C fieldwork at Site G and the 1900 Yard Range in FY04.
- Obtain regulatory approval for a revised remedy at Site C in FY04.
- Obtain regulatory approval of the SI reports for the 135 and 535 Primer/Tracer areas in FY04.
- Resolve land use control issues and develop ROD Amendments for various sites in FY05.

MMRP

No MMRP activities are scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---------------------------------|
| FFID: | FL457152412400 | Media Affected: | Groundwater, soil, and sediment |
| Size: | 28,824 acres | Funding to Date: | \$11.3 million |
| Mission: | Provide advanced F-15 and F/A-22 fighter training | Estimated Cost to Completion (Completion Year): | \$97.4 million (FY2037) |
| HRS Score: | 50.00; placed on NPL in April 1997 | Final RIP/RC Date for IRP Sites: | FY2009 |
| IAG Status: | Pending | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | POLs, chlorinated solvents, pesticides, metals, PCBs, and general refuse | Five-Year Review Status: | N/A |



Progress to Date

Tyndall Field was activated in 1941 as the Flexible Gunnery School of the U.S. Army Air Corps of Engineers. The installation became Tyndall Air Force Base (AFB) in 1947. The current mission is F-15 and F/A-22 training under the 325th Fighter Wing. The installation was placed on the NPL in April 1997. The primary site responsible for the base's inclusion on the NPL, OT029 Shoal Point Bayou, has DDT contamination in the bayou sediments. Tyndall AFB was involved in a Florida partnering initiative with EPA, the state, and natural resource trustees, with meetings held every 6 to 8 weeks serving as the installation's technical review committee (TRC). In FY94, FY97, and FY00, there were efforts to establish a Restoration Advisory Board (RAB), but public response indicated a high level of trust and no need for a RAB. The TRC includes community members providing public input into the restoration process. The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

Environmental studies, beginning in FY81, have identified 37 Environmental Restoration Account sites. An FY95 RCRA facility assessment identified 58 solid waste management units and 18 areas of concern; many fell under the Installation Restoration Program (IRP). The cleanup progress at Tyndall AFB for FY99 through FY02 is detailed below.

In FY99, initial remedial investigation (RI) fieldwork for Landfill 006 (LF006), LF007, FT017, and OT029 was completed. A baseline risk assessment (BRA) was initiated for all sites. Regulatory concurrence was received for contamination assessment reports for Sites SS015, SS019, and FT023, and work on associated remedial action (RA) plans began. A preliminary draft public health assessment was completed. Relative risk levels were reduced for four sites.

In FY00, the draft RI/BRA for Site FT017, basewide background study, and the pesticide reference study were completed. New draft community relations plans were completed.

In FY01, the installation developed a petroleum contamination agreement with the Florida Department of Environmental Protection to establish cleanup procedures for petroleum sites. RIs were completed for Sites LF006, LF007, and FT017. Draft RIs were completed for Sites SS026 and OT029. A feasibility study (FS) was completed for FT017, and draft FSs were completed for LF006 and LF007. A comprehensive range

inventory was initiated. This inventory was designed to be an annual, iterative effort. To supply data for the inventory, a detailed questionnaire was completed for each range that collected data on the types of munitions used, the range's environmental status, and the type and level of external stakeholder interest.

In FY02, the installation finalized the FSs for LF006 and LF007. Sites OT004, LF009, LF010, LF012, OT024, LF02, and OT025 received no further RA planned regulatory concurrence. Draft RI/BRAs were completed for SS026 and OT029. The final RI/BRA for SS026 will be incorporated into an FS upon completion. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria and technical issues. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. MMRP sites have been identified at this installation. Several additional members were added to the TRC to increase public input.

FY03 IRP Progress

A source removal pilot project was initiated at petroleum Sites SS015 and FT023. A final proposed plan and draft Record of Decision (ROD) were developed for Sites LF006, LF007, FT017, and SS026. The OT029 RI/BRA was finalized in FY03 and post RI/FS work began.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

Plan of action items for Tyndall AFB are grouped below according to program category.

IRP

- Submit federal facility agreement and three RODs (Sites FT017, LF006/LF007, and SS026) in FY04.

- Complete remedial designs for three sites (FT017, LF006, and LF007) in FY04.
- Initiate RAs at seven sites (LF006, LF007, SS015, FT 016, FT017, SS019, and FT023) in FY04.

MMRP

- Begin MMRP preliminary assessments for four sets of ranges (SR169, SR170, SR171, and SR179) in FY05.

| | | | |
|--|---|--|--|
| FFID: | MA121382063100 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 78 acres | Funding to Date: | \$31.8 million |
| Mission: | Research and develop food, clothing, equipment, and materials for military operations | Estimated Cost to Completion (Completion Year): | \$19.3 million (FY2029) |
| HRS Score: | 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2011 |
| IAG Status: | None | Five-Year Review Status: | Planned |
| Contaminants: Pesticides, herbicides, pentachlorophenol, solvents, PCBs, and VOCs | | | |



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, trichloroethylene (TCE), carbon disulfide, benzene, and chloroform. Site types include contaminated buildings, spill sites, storage areas, disposal pits, dry wells, and underground storage tanks. After EPA placed the installation on the NPL in 1994, the installation made efforts to partner with state and federal regulators and to communicate with the community. The installation established a Restoration Advisory Board (RAB) in FY95.

To date, the installation has signed one Record of Decision (ROD). 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 FY99 through FY02 is detailed below.

In FY99, the installation issued draft remedial investigations (RIs) for the gymnasium site and the water well supply site. The installation also held a public hearing on the Building T-25 groundwater proposed plan. The final focused feasibility study (FS) and treatment study of the Building T-25 area was completed.

In FY00, the installation prepared a draft ROD for Building T-25 groundwater. Tier II ecological RI activities were concluded for the installation outfalls, which indicated the need for a Tier III ecological investigation. RI activities began at Building 22.

In FY01, the Army awarded the contract to begin interim removal actions at the gymnasium site and fieldwork was scheduled. The Tier II ecostudy of the installation outfalls indicated the need for a Tier III ecostudy and the Army awarded a contract for the ecostudy. The interim remedial action (RA) at the Boiler Plant site was completed. The Army and EPA signed the Building T-25 ROD, which contained a unique partnering cooperative agreement involving the Town of Natick, the Massachusetts Department of Environmental Protection (MDEP), EPA,

and the Army. RAs resulted from the ROD. The cooperative agreement between EPA, MDEP, the Town of Natick, and the Army greatly increased public participation and produced cost savings for the Army. Meetings were held twice a month with regulators to review progress and reports.

In FY02, the Army completed the interim removal action at the former proposed gymnasium site. Revegetation of the grounds behind the Boiler Plant site was completed. Fieldwork associated with the RI/FS for Building 22/36 continued. The installation initiated the RI/FS for Building 13/14.

FY03 IRP Progress

The Army installed three groundwater extraction wells and placed them in service.

The installation submitted a draft Tier III deterministic environmental risk characterization report for the facility outfalls, but regulatory issues delayed the final report. Regulatory issues delayed the proposed ROD for the Boiler Plant site until FY06.

The RAB met five times and provided comments on all draft and final reports. The Soldier Systems Center continued a cooperative work relationship with EPA and MDEP.

FY03 MMRP Progress

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.

Plan of Action

Plan of action items for the Soldiers Systems Center are grouped below according to program category.

IRP

- Install four additional off-site monitoring wells to track and monitor the T-25 area plume location in FY04.
- Update the sitewide groundwater model to reflect additional monitoring and recovery wells in FY04.
- Complete the Tier III ecological study in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|-------------------------|
| FFID: | OR021382091700 | Media Affected: | Groundwater and soil |
| Size: | 19,729 acres | Funding to Date: | \$53.6 million |
| Mission: | Store ammunition | Estimated Cost to Completion (Completion Year): | \$10.3 million (FY2023) |
| HRS Score: | 31.31; placed on NPL in July 1987 | Final RIP/RC Date for IRP Sites: | FY2003 |
| IAG Status: | Federal facility agreement signed in October 1989 | Final RIP/RC Date for MMRP Sites: | FY2005 |
| Contaminants: | Explosives, UXO, heavy metals, pesticides, and nitrates | Five-Year Review Status: | Planned FY2004 |



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 1987. Identified sites include explosives-washout lagoons, an open burning and open detonation area, pesticide disposal pits, a deactivation furnace, and landfills. In December 1988, the BRAC Commission recommended realignment of the installation. A federal facility agreement was signed in October 1989. In FY93, the installation transferred its conventional weapons mission to another installation. In FY94, the commander formed a BRAC cleanup team (BCT) 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. Significant remedies completed include bioremediation of explosives contaminated soil from a number of sites, landfill closure capping, and removed all underground storage tanks.

Environmental studies have identified 119 sites at this installation, grouped into nine operable units (OUs). The Army has signed eight Records of Decision (RODs) to date. The cleanup progress at Umatilla Chemical Depot for FY99 through FY02 is detailed below.

In FY99, the installation completed an environmental baseline survey and a finding of suitability to lease for the 100/200 Series warehouses. It also completed the remedial action (RA) report for the Bomb Washout Plant OU. BRAC cleanup plan version 5 and the statement of work for additional soil sampling at the Ammunition Demolition Activity Area (ADA) OU sites were completed. The Army completed a depotwide 5-year review, with a recommendation to continue the groundwater pump and treat systems operation.

In FY00, the installation completed ADA OU supplemental soil sampling. The installation concluded dispute resolution with EPA Region 10 regarding the ADA OU unexploded ordnance (UXO) issues.

In FY01, the BCT conducted informal dispute resolution regarding the 60 percent design document for the supplemental soil cleanup in the ADA OU (Site 19). The Army completed the 100 percent design and prepared an explanation of significant differences for the ADA ROD. Geophysical mapping of the Quality Assurance Function Range (Site 39) was completed.

Army

In FY02, the Army completed soil remediation at Site 19.

FY03 IRP Progress

The installation completed the function range intrusive investigation. The RA report for ADA OU was completed. The cost of completing environmental restoration at this installation has increased significantly due to estimating criteria issues.

Technical issues delayed the RA report for groundwater.

FY03 MMRP Progress

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 (Site UMAD-001-R). The installation completed an engineering evaluation and cost analysis for the range.

Plan of Action

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

IRP

- Complete the addendum RA report for ADA Sites 19E and 19F in FY04.
- Complete the 5-year review for ADA and groundwater OUs in FY04.
- Complete the groundwater RA report in FY04.

MMRP

- Complete the proposed plan and ROD for Quality Assurance Function Range in FY04.
- Begin UXO cleanup of Quality Assurance Function Range in FY04.

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|----------------------|---|--|--|
| FFID: | VA321382093100 | Contaminants (cont'd): | PCBs, photographic wastes, and asbestos |
| Size: | 696 acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: | Provide logistical support for assigned signal intelligence and electronics warfare weapon systems and equipment; provide communication jamming and intelligence fusion material capability | Funding to Date: | \$10.6 million |
| HRS Score: | N/A | Estimated Cost to Completion (Completion Year): | \$3.5 million (FY2004) |
| IAG Status: | None | Final RIP/RC Date for IRP Sites: | FY2004 |
| Contaminants: | Metals, cyanide, VOCs, petroleum hydrocarbons, pesticides, PAHs, | Five-Year Review Status: | Planned |



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 in FY95 and officially closed on October 1, 1997.

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 is complete and all remediation is completed or in progress at Vint Hills Farms Station as of FY03. The Army has now transferred the entire 696 acres, including the final 5.3 acres transferred in FY03. Detailed progress on the environmental efforts for FY99 through FY02 is detailed below.

In FY99, the installation completed investigation at most of the sites and completed five decision documents (DDs) and two closure letters. Additional work was required at eight sites. The Army completed the first finding of suitability to transfer (FOST) for 686 acres (of a total 696 acres) and transfer by deed of those acres.

In FY00, an additional four DDs and one closure letter were completed leaving three sites for additional remedial action. During investigations at the Intelligence Materiel Management Center (IMMC) photo neutralization pit, the Army discovered groundwater contamination in a portion of the property transferred in FOST 1. The installation designated the additional site AREE 34.

In FY01, the Army investigated groundwater contamination in AREE 34. The Army completed the Phase II FOST and transferred an additional five acres, leaving only five acres nontransferred.

In FY02, the Army completed remedial actions at three of the remaining four sites, concluding cleanup of the remaining nontransferred acres.

Army

FY03 IRP Progress

The Army completed FOST 3 and transferred the remaining five 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. The Army determined that the site has low risk due to limited exposure potential, but will require remedial action due to the exceedence of groundwater standards. The cost of completing environmental restoration at this installation has increased significantly due to technical issues.

Technical issues delayed the second supplemental RI.

FY03 MMRP Progress

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).

Plan of Action

Plan of action items for Vint Hills Farms Station are grouped below according to program category.

IRP

- Complete DD for AREE 34 in FY04.
- Complete the remedy for AREE 34 in FY04.

MMRP

No additional response is required under the MMRP.

| | | | |
|----------------------|--|--|---|
| FFID: | PA317002454500 | Contaminants cont'd: | and sewage sludges, non-industrial solid wastes, paints, and PCBs |
| Size: | 817 acres | Media Affected: | Groundwater and soil |
| Mission: | Perform research, development, testing, and evaluation for naval aircraft systems and antisubmarine warfare systems; perform associated software development | Funding to Date: | \$22.5 million |
| HRS Score: | 57.93; placed on NPL in October 1989 | Estimated Cost to Completion (Completion Year): | \$22.8 million (FY2030) |
| IAG Status: | Federal facility agreement signed in September 1990 | Final RIP/RC Date for IRP Sites: | FY2001 |
| Contaminants: | VOCs, heavy metals, firing range wastes, fuels, industrial wastewater | Five-Year Review Status: | The installation completed 5-year review and the remedy remains protective. |



Progress to Date

In July 1991 and July 1995, the BRAC Commission recommended that Warminster Naval Air Warfare Center 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 in September 1990. The installation's technical review committee, formed in FY88, was converted to a Restoration Advisory Board in FY94. The installation also completed a community relations plan and established an administrative record in FY94. In FY02, the installation completed a 5-year review.

The installation has identified 10 sites and has signed Records of Decision (RODs) for Operable Unit 1 (OU 1), Area A, and Sites 6 and 7. In addition, no further action (NFA) RODs have been signed for Site 8, Site 4 (OU 6), Areas B and D, and Site 5. The cleanup progress at Warminster Naval Air Warfare Center for FY99 through FY02 is detailed below.

In FY99, the Navy and EPA signed an explanation of significant differences for the groundwater in Area C. A removal action was completed, and the Navy and EPA signed an NFA ROD for soil, surface water, and sediment at Site 8. In addition, the Navy completed a source removal at Sites 1, 2, and 3. An environmental baseline survey for transfer (EBST) and draft findings of suitability to transfer (FOSTs) for the public benefit conveyance (PBC) and the economic development conveyance (EDC) parcels for Phase I were prepared.

In FY00, a final NFA ROD was signed for soil, surface water, and sediment at Site 4 (OU 6). Final no-action RODs were also signed for Areas B and D and Site 5. RODs were signed for Area A and Sites 6 and 7. The operating properly and successfully documentation for Areas A, C, and D groundwater was completed and concurrence was received. EBSTs and FOSTs for the remaining PBC and EDC parcels were completed.

In FY01, the installation consolidated perimeter and offbase monitoring with long-term management (LTM) of the extraction well network, collectively known as the performance monitoring of the remedial action operations. On-base and off-base wells that were no longer needed were abandoned. The installation monitored and maintained groundwater treatment systems, a soil cap, and erosion and excavation controls. A

5-year review was conducted. A pump and treat optimization study was completed.

In FY02, the installation maintained groundwater treatment systems, a soil cap, and erosion, excavation, and institutional controls. The 5-year review was completed. The perimeter and offbase monitoring was conducted. Sampling of the groundwater treatment system was conducted. The installation continued to optimize the treatment system through the evaluation of data. The Navy has completed an inventory of all Military Munitions Response Program sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The Navy continued its quarterly perimeter and off-base monitoring program, as well as the monthly sampling of the groundwater treatment system. The installation started the 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.

FY03 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 are grouped below according to program category.

IRP

- Conduct perimeter and off-base monitoring according to the LTM plan in FY04.
- Conduct sampling of groundwater treatment system in FY04.
- Maintain and optimize groundwater treatment system in FY04.
- Maintain and operate land use controls in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | DC317002431000 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 63 acres | Funding to Date: | \$19.5 million |
| Mission: | Provide resources, including administrative space, housing, training facilities, logistical support, and supplies, for Washington Navy Yard tenants and other assigned units | Estimated Cost to Completion (Completion Year): | \$13.1 million (FY2022) |
| HRS Score: | 48.57; placed on NPL in July 1998 | Final RIP/RC Date for IRP Sites: | FY2014 |
| IAG Status: | Federal facility agreement signed in June 1999 | Final RIP/RC Date for MMRP Sites: | FY2012 |
| Contaminants: | PCBs, pesticides, solvents, and metals | Five-Year Review Status: | The installation has not completed a 5-year review. |



Progress to Date

Investigations at the Washington Navy Yard (WNY) have previously identified 18 sites, and 3 leaking underground storage tank (UST) 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, has been added into WNY’s federal facility agreement, which was signed in June 1999. A community relations plan was developed in FY99.

The installation has identified 27 sites. The cleanup progress at WNY for FY99 through FY02 is detailed below.

In FY99, the installation completed a time critical removal action for Site 16, which contained mercury-contaminated soil. A final closure report for the site was completed and submitted to the EPA. The engineering evaluation and cost analysis for Site 10 was finalized. The fieldwork for an investigation of Sites 4, 6, and 14 and a groundwater operable unit (OU) began. A CERCLA site management plan was submitted to EPA, Washington, DC (EPA/DC). A corrective action plan for two UST sites at WNY, Buildings 111 and 71, was submitted for approval.

In FY00, the installation completed a human health risk assessment (HHRA) for soil at Site 16. A removal site evaluation report was submitted for Sites 7, 11, and 13. A technical memorandum summarizing the river sediment sampling results was completed and submitted to EPA/DC. A remedial investigation (RI) was initiated for soil at Site 5. A screening-level ecological risk assessment (ERA) for Sites 4, 6, and 14 and sample data for the groundwater operable unit investigation were submitted. An internal Navy draft RI report was submitted for Site 16. Repairs and replacements to the base storm sewer system continued. Master project plans were submitted to EPA/DC.

In FY01, the installation completed a data gap investigation for the RI report regarding the groundwater OU and Sites 4, 6, and 14. The draft HHRA and ERA were also submitted for review and comment. The RI report for Site 16 was submitted for review. The evaluation of 10 areas of concern was completed, and a report detailing the remaining requirements was approved. The sites that required further investigation were combined with the current site screening areas (SSAs), and an SSA work plan was submitted for comment. The Phase II RI, which

includes the 11 remaining sites, began. The final master project plans were submitted and approved. Storm sewer rehabilitation was completed.

In FY02, the final draft RI for Sites 4, 6, and 14 was completed and submitted to regulators. The work plan was approved for new SSAs and fieldwork began. The Site 16 final RI was completed. 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.

FY03 IRP Progress

The installation completed the draft work plan for investigation of fill as an SSA and completed the RI for 2 sites and a draft RI for 9 sites. In addition, the installation began fieldwork for the Site 10 removal action and a facilitywide groundwater data gaps investigation.

FY03 MMRP Progress

No work was performed on MMRP sites at this installation.

Plan of Action

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

IRP

- Initiate fieldwork for fill as an SSA at the installation in FY04.
- Complete feasibility study for 3 sites and prepare a no further action ROD for one site in FY04.
- Continue removal action for Site 10 in FY04.
- Conduct fieldwork for facilitywide groundwater data gaps in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|--|--|---|
| FFID: WV39799F346100 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 2,704 acres | Funding to Date: | \$64.2 million | |
| Mission: Manufactured TNT | Estimated Cost to Completion (Completion Year): | \$20.1 million (FY2034) | |
| HRS Score: 35.72; placed on NPL in September 1983 | Final RIP/RC Date for IRP Sites: | FY2022 | |
| IAG Status: First IAG signed in September 1987; second IAG signed in July 1989 | Final RIP/RC Date for MMRP Sites: | FY1995 | |
| Contaminants: TNT, DNT, and organic compounds | Five-Year Review Status: | Completed FY2000/Planned FY2008 | |

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, DNT, 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." West Virginia Ordnance Works was placed 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 (RAB) in FY98. USACE completed a 5-year review in FY00 and EPA partially delisted a 509-acre parcel from the NPL in FY03.

The property is now divided into 13 operable units (OUs). To date, the Army and EPA have signed a Record of Decision (ROD) for OU 11 and no further action (NFA) RODs for OU 10 and OU 12. The cleanup progress at West Virginia Ordnance Works for FY99 through FY02 is detailed below.

In FY99, the USACE completed the OU 1 burning ground investigation and the proposed plan (PP) for OU 12. A feasibility study (FS) for OU 4 alternatives analysis was completed. They initiated a removal action at expanded site inspection (ESI) 8. An underground storage tank (UST) confirmation study was also completed.

In FY00, USACE submitted the PP for the OU 5 and OU 2 ROD amendment. Final decision documents (DDs) were completed for ESIs 3, 5, 7, and 8. USACE completed the OU 4 corrective action remedial design and the UST removal at ESI 6. ESI 6 site closure was approved. USACE completed construction of 30 acres of aquatic and wetland habitat for mitigation and began filling ponds. EPA approved the 5-year review report. The Army and EPA approved the final OU 11 ROD.

In FY01, based on additional samples of surface soil, USACE developed PPs for OU 10 and OU 12. USACE awarded a contract for revising the human health risk assessment for ESI 1, OU 8, and OU 9. Groundwater issues for ESI 9 were resolved and a DD was signed. West Virginia Department of Environmental Protection approved the pilot study discharge points for OU 4 and pump and treat facilities were operated for the entire year. USACE completed the DD for ESI 10 and

revised the inventory project report for two new projects. Ponds 7 and 11 were filled for wetland mitigation. USACE, EPA, and West Virginia Department of Environmental Protection implemented formal partnering, including Tier II review.

In FY02, USACE completed the corrective action at the OU 1 burning grounds. It also completed an interim FS for OU 8 (soils) and OU 9 (groundwater) in the TNT manufacturing area. EPA and USACE signed the ROD for OU 12, which required NFA. USACE continued long-term management (LTM) as planned and completed LTM on the OU 11 property. The supplemental sampling at ESI 6 was completed. The use of the consensus agreement approach, which was implemented using a formal facilitated partnering process with EPA, state regulators, the Biological and Technical Assistance Group, and USACE members and contractors, enhanced the decision making ability of the team and resulted in both time and cost savings.

FY03 IRP Progress

The USACE signed NFA DDs for ESI 1, ESI 4, and ESI 6. The removal action at Area of Concern (AOC) 18 was completed and the removal action at OU 5 was underway. During the removal action at AOC 18, the team used a new method of disposal that allowed a savings of approximately \$138,024. An additional \$100,000 was saved during the disposal of wastewater at the composting operation by utilizing the OU 4 treatment system. A NFA ROD was signed 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 978 acres.

Regulatory issues delayed the transfer of OU 11 to the State. The removal action at OU 5 as well as the FS for OU 8 and OU 9 were not completed due to technical issues.

The RAB met as needed to present the DD and PP for OU 10.

FY03 MMRP Progress

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 found no Military Munitions Program (MMRP) sites.

Plan of Action

Plan of action items for West Virginia Ordnance Works are grouped below according to program category.

IRP

- Transfer OU 11 property to the State of West Virginia in FY04.
- Complete OU 5 removal action in FY04.
- Complete second NPL partial delisting in FY04.
- Complete FS for OU 8 and OU 9 in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|--------------------|---|--|---|
| FFID: | WA017002336100 | Contaminants: | Chlorinated solvents, PCBs, and PAHs |
| Size: | 7,000 acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: | Training and operations center for two squadrons; Center for U.S. Marine Corps and Navy Reserve training in the Pacific Northwest | Funding to Date: | \$88.5 million |
| HRS Score: | 39.64 (Seaplane Base); placed on NPL in February 1990; delisted in 1995 48.48 (Ault Field); placed on NPL in February 1990 | Estimated Cost to Completion (Completion Year): | \$44.8 million (FY2031) |
| IAG Status: | Federal facility agreement signed in September 1990 | Final RIP/RC Date for IRP Sites: | FY2006 |
| | | Five-Year Review Status: | The installation completed a 5-year review and the remedy remains protective. |



Progress to Date

Whidbey Island Naval Station 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 and signed a federal facility agreement in September 1990. Past disposal practices from aircraft maintenance, vehicle maintenance, public works shop activities, and fire fighting training activities have contributed to contamination. In FY94, the installation converted its technical review committee to the Navy's first Restoration Advisory Board. The community relations plan was last updated in FY96. The Seaplane Base was delisted from the NPL in 1995.

Whidbey Island Naval Station has identified 91 sites. Investigations initially identified 52 sites at the installation, which were grouped into five operable units (OUs). The installation completed five Records of Decision. The cleanup progress at Whidbey Island Naval Station for FY99 through FY02 is detailed below.

In FY99, a project to upgrade pump and treat system controls and a natural attenuation study were initiated at OU 1, Area 6.

In FY00, soil removal at OU 2 was completed, and a closure report was prepared. EPA proposed delisting all sites in OUs 2, 3, and 5 and transferring lead-agency responsibility to the State. A closure report for Lake Hancock was submitted to the State. Confirmation sampling at Site 31, OU 5, was completed, and a closure report was submitted to EPA.

In FY01, interim removal actions were conducted at newly identified sources of contamination (Site 55, oil and acid pits) on OU 1. Treatment operations and groundwater monitoring continued at OU 1 and OU 5. The installation continued supporting EPA in its proposed delisting of Ault Field OUs 2, 3, and 5 from the NPL.

In FY02, the installation continued treatment operations. The installation completed a remedial investigation/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.

FY03 IRP Progress

The installation continued treatment operations at OU 1 and OU 5.

Regulatory issues delayed delisting Ault Fields OUs 2, 3, and 5. Regulatory issues delayed the development of an explanation of significant differences for all OUs. Regulatory and technical issues delayed the completion of the 5-year review.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Whidbey Island Naval Station are grouped below according to program category.

IRP

- Complete 5-year review in FY04.
- Continue treatment operations at OU 1 and OU 5 through FY04.
- Support EPA in delisting Ault Fields OUs 2, 3, and 5 in FY04.
- Complete development of the explanation of significant differences for all OUs by FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|---|
| FFID: | MD317002344400 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 710 acres | Funding to Date: | \$35.7 million |
| Mission: | Research, develop, test, and evaluate ordnance technology | Estimated Cost to Completion (Completion Year): | \$11.1 million (FY2011) |
| HRS Score: | N/A | Final RIP/RC Date for IRP Sites: | FY2010 |
| IAG Status: | None | Five-Year Review Status: | The installation has not completed a 5-year review. |
| Contaminants: | Explosive compounds, waste oil, PCBs, heavy metals, VOCs, and SVOCs | | |



Progress to Date

White Oak Naval Surface Warfare Center (NSWC) researched, developed, tested and evaluated ordnance technology. 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. In July 1995, the BRAC Commission recommended closure of White Oak NSWC. The facility closed in July 1997. The BRAC cleanup plan (BCP) and the CRP were updated in FY02.

White Oak NSWC has identified 37 sites. The installation has completed six Records of Decision (RODs) to date, including two in FY03. The cleanup progress at White Oak NSWC for FY99 through FY02 is detailed below.

In FY99, a draft RCRA facility investigation of Sites 2, 3, 4, 7, 8, 9, and 11 and a draft site screening report for Area of Concern (AOC) 2 for initial screening were completed. An inflow and infiltration study for solid waste management units 46 and 48 and a removal action at Site 46 were initiated. Draft engineering evaluations and cost analyses for Sites 1, 4, 28, and 33, and a removal action at Sites 4 and 33 were completed. Removal actions were completed at Sites 4 and 33. The Site 28 scrap yard was surface cleaned, and a remedial investigation (RI) report was initiated.

In FY00, remedial designs for Site 1 and 2 consolidation and capping were initiated. A draft Operable Unit (OU) 1 RI report was submitted. An exterior explosives survey was completed. An interim removal action at the centrifuge was expanded. Final delineation of bedrock aquifer contamination at Site 11 was initiated. Delineation of PCB contamination was initiated at Site 28 and for stream sediment behind Building 90. A draft corrective measures study (CMS) for Site 11 was submitted; the final CMS was in preparation. A draft proposed plan (PP) for Site 11 was also written. Partnering efforts continued.

In FY01, the proposed remedial action plan and RODs were completed for Sites 1 and 2, and remedial action was underway. Further investigations were carried out at Sites 3, 9, 11, 26, 27, and 28 and OU 1. The basewide ecological risk assessment was completed. A draft PP was prepared for Site 8. A removal action at Site 3 was completed.

In FY02, the site screening report was finalized and 24 sites were declared no further action (NFA). The NFA RODs for Site 11 soils and Site 8 were completed. Remedy implementation at Sites 1 and 2 was completed. Draft RI reports for Sites 5 and 13 were submitted to regulators. The removal actions at Site 28 and Building 90 ditch were completed. The final RI for OU 1 was submitted. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed a removal action at Site 7 and completed the final investigation report for AOC 2 sites. The installation completed and signed NFA RODs for Site 28 and Building 90 ditch. The installation submitted RODs for Site 7 and Site 11, which were under regulatory review. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Technical issues delayed the Site 3 and Site 9 RODs. Regulatory issues delayed the completion of RODs for Site 5 and 13. The Site 4 ROD was under review for signature. The installation began the certification/demilitarization process for ordnance shapes using innovative analysis.

The installation held quarterly RAB meetings. The community co-chairs provided RAB updates every six weeks. In addition, the RAB was involved in three investigative document reviews, all proposed remedial action plan reviews and received courtesy copies of sampling data. The BRAC cleanup team meetings were held approximately every six weeks, and the BCP was updated.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for White Oak NSWC are grouped below according to program category.

IRP

- Complete certification/demilitarization of ordnance shapes in FY04.
- Complete all remaining RODs in FY04–FY05.
- Completed remedies in place at Sites 4, 7, 11, and 13 in FY04–FY05.
- Complete all remaining remedies in place in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---|
| FFID: | FL417002324400 | Media Affected: | Groundwater, surface water, sediment, and soil |
| Size: | 3,842 acres | Funding to Date: | \$30.4 million |
| Mission: | Train student naval aviators | Estimated Cost to Completion (Completion Year): | \$21.7 million (FY2032) |
| HRS Score: | 50.00; placed on NPL in May 1994 | Final RIP/RC Date for IRP Sites: | FY2006 |
| IAG Status: | Federal facility agreement under negotiation | Final RIP/RC Date for MMRP Sites: | FY2011 |
| Contaminants: | Pesticides, PCBs, VOCs, heavy metals, and chlorinated hydrocarbons | Five-Year Review Status: | The installation completed 5-year review documents for two sites. |



Progress to Date

Studies at this installation, beginning in FY85, have identified sites at Whiting Field Naval Air Station (NAS) and the Outlying Landing Field (OLF) Barin. 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. The NAS formed a technical review committee (TRC) in FY89. The installation's community relations plan (CRP) was updated in FY93 and FY03. Whiting Field NAS formed a TRC for the OLF Barin in FY92; the OLF Barin's CRP was completed in FY93. The installation was placed on the NPL in May 1994. In FY95, both TRCs were converted to Restoration Advisory Boards (RABs). 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. The installation has signed Record of Decision (ROD) for Sites 1, 2 and 31. The cleanup progress at Whiting Field NAS for FY99 through FY02 is detailed below.

In FY99, remedial investigation (RI) reports were completed for 11 sites, draft RI reports were written for 6 sites, interim remedial actions (IRAs) were completed at 4 sites, and feasibility study reports and proposed plan were completed for 3 sites. RODs were signed for Sites 1 and 2, and a memorandum of agreement for land use controls (LUCs) was signed. NFA letters were completed for Sites 36 and 37. An instruction on LUCs was signed for the OLF Barin. Petroleum-contaminated soil cleanup was conducted along an abandoned fuel pipeline.

In FY00, the draft FFA for the installation was reviewed and commented on by all parties. Long-term management continued for Site 2894. Field investigation was completed at the seven remaining sites. IRAs were initiated at three sites.

In FY01, a solar remediation system (pilot study) for Site 4 NAS, North aviation gasoline (AVGAS) tank sludge disposal area, was installed. Initial design of the remediation system at UST 000002, previously Site 1438, was underway. Monitoring started at one and continued at three sites, an IRA was initiated at one site, and the Navy signed RODs for six sites. Continuing implementation of LUCs and use of existing paving or concrete to serve as caps have resulted in most sites requiring no

further remediation. The RAB voted to have a quarterly newsletter and to meet annually rather than quarterly, thereby saving money and gaining better information distribution.

In FY02, the installation initiated IRAs at four sites. Monitoring continued for Sites 1, 2, 3, 4, 6, 30, 32, and 33 and UST 000005. The 5-year review began for Sites 1 and 2. One ROD was signed. An investigation of AVGAS Pipeline was initiated. The remedial action (RA) plan for UST 000002 was completed. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed an investigation of AVGAS Pipeline, 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 cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

The 5-year reviews for Sites 1 and 2 were underway.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

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

IRP

- Complete 5-year reviews for Sites 1 and 2 in FY04.
- Initiate RA at Site 7 in FY04.
- Continue monitoring Sites 1, 2, 3, 4, 6, 30, 32, and 33 and UST 000005 in FY04–FY05.
- Conduct remediation system RA operations at UST 000002 in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | |
|---|--|---|
| FFID: AZ957002858200 | Media Affected: Groundwater and soil |  |
| Size: 4,042 acres | Funding to Date: \$46.0 million | |
| Mission: Supported pilot training and ground equipment maintenance | Estimated Cost to Completion (Completion Year): \$15.1 million (FY2053) | |
| HRS Score: 37.93; placed on NPL in November 1989 | Final RIP/RC Date for IRP Sites: FY2004 | |
| IAG Status: Federal facility agreement signed in 1990 | Five-Year Review Status: Completed FY2001/Planned FY2006 | |
| Contaminants: VOCs, POLs, heavy metals, and pesticides and UXO | | |

Progress to Date

In July 1991, the BRAC Commission recommended closure of Williams Air Force Base (AFB), and in September 1993, the installation closed. Sites identified on the base include the liquid fuels storage area, Fire Protection Training Area No. 2 (FT-02), a collapsed stormwater line and the old pesticide/paint shop. The installation updated its BRAC cleanup plan in FY97. A 5-year review was completed in FY01. The cost of completing environmental restoration at this installation has changed significantly due to regulatory and technical issues.

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 2 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 OU 1, OU 2, OU 3, OU 4, and OU 5. The cleanup progress at Williams AFB for FY99 through FY02 is detailed below.

In FY99, remedial investigations (RIs) to address the tetrachloroethylene and trichloroethylene (TCE) contamination at LF-04 were initiated. Groundwater contamination in SS-17 was detected and the feasibility study (FS) was modified to address this detection.

In FY00, the signature process for the OU 4 ROD was completed. Discussions on the OU 2 focused FS and ROD amendment were underway.

In FY01, the follow-on RI for LF-04 was submitted. The 5-year review was completed. Regulator comments on the OU 3 ROD amendment were addressed and the ROD amendment will follow the OU 6 ROD. An action memorandum for a removal action was executed for soils at OU 6 (SS-17). The base initiated land farming of pesticide-contaminated soils at SS-17.

In FY02, groundwater monitoring continued at OU 1 Site LF-04, OU 2 Site ST-12, and compliance site Building 760. The base agreed to take more aggressive remedial actions at ST-12 and drafted an explanation of significant difference for the OU 2 ROD to take the action. The base continued the removal action (land farming contaminated soils) at SS-17. The cost of completing environmental restoration at this installation changed significantly due to unresolved land use control issues with regulatory agencies.

FY03 IRP Progress

The Air Force continued groundwater monitoring at OU 1 Site LF-04, OU 2 Site ST-12, OU 6 Site SS-017, and compliance site Building 760. In preparation for innovative Thermal Enhanced Extraction (TEE) treatment at OU 2 Site ST-12, the base obtained regulatory concurrence on a detailed conceptual site model of the complex site geology and facilitated a peer review of thermal technology through the Arizona State University. The base initiated an evaluation of the land farming removal action at SS-17.

Regulatory issues delayed the ROD for OU 6, and the ROD amendment for OU 3.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Williams AFB are grouped below according to program category.

IRP

- Complete the OU 3 ROD amendment in FY04.
- Complete the OU 6 ROD in FY04.
- Construct, operate, and evaluate the initial phase of TEE at OU 2 Site ST-12 in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | |
|---|---|
| FFID: VA317002460500 | Media Affected: Groundwater, surface water, sediment, and soil |
| Size: 1,578 acres | Funding to Date: \$5.6 million |
| Mission: Supply Atlantic Fleet ships and provide recreational opportunities to military and civilian personnel | Estimated Cost to Completion (Completion Year): \$20.3 million (FY2011) |
| HRS Score: 48.72; placed on NPL in December 2000 | Final RIP/RC Date for IRP Sites: FY2011 |
| IAG Status: N/A | Final RIP/RC Date for MMRP Sites: FY2011 |
| Contaminants: SVOCs, PAHs, metals, PCBs | Five-Year Review Status: The installation has not completed a 5-year review. |



Progress to Date

Williamsburg Fleet Industrial Supply Center (FISC) was proposed for placement on the NPL in February 2000 because eight of its Installation Restoration Program (IRP) sites are hydrologically connected to the Chesapeake Bay. Contaminants at the installation include semivolatile organic compounds (SVOCs), polyaromatic hydrocarbons (PAHs), metals, and polychlorinated biphenyls (PCBs). These primarily affect groundwater, surface water, and sediment. The Naval Weapons Station Yorktown Restoration Advisory Board meets 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 area of concerns (AOCs) 1 and 2 have been investigated. The cleanup progress at Williamsburg FISC for FY99 through FY02 is detailed below.

In FY99, a comprehensive site management plan was developed and a draft final no further response action plan (NFRAP) decision document (DD) was prepared for Site 9.

In FY00, field investigations of Site 4, Site 7, AOC 1, and AOC 2 were completed and ecological investigations were initiated at Site 1. A time-critical removal action for Site 1 was conducted in January 2000 to address erosion of the landfill perimeter.

In FY01, the remedial investigation and feasibility study (RI/FS) for Site 1 was conducted. A limited removal action for AOC 2 was performed; this site will be reassessed to further define limits of contamination.

In FY02, supplemental investigation at Site 1 was completed. 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 (ROD) for Site 1 was underway. A field investigation of Site 11 and a limited field investigation of Site 12 were conducted. A draft NFRAP DD began for Sites 2, 3, 5, 8, 9, 10, and 12. Drafts for the site screening level ecological risk assessment were completed. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

FY03 IRP Progress

The installation completed an NFRAP DD for Sites 2, 3, 5, 6, 8, and 10. The Cheatham Annex background study was completed. The installation also began an engineering evaluation/cost analysis and the soil removal action for Site 1. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Sites 9 and 12 were not included in the NFRAP DD, as they will require additional ecological investigations. Technical issues delayed the completion of the RI/FS for Site 11 and the ROD for Site 1.

FY03 MMRP Progress

A preliminary assessment is in progress for UXO 00001 (Marine Rifle/Pistol Range).

Plan of Action

Plan of action items for Williamsburg FISC are grouped below according to program category.

IRP

- Complete Site 1 soil removal action in FY04.
- Initiate Site 1 round 2 RI in FY04.
- Complete RI/FS for Site 11 in FY04.
- Finalize environmental geographic information system for Cheatham Annex in FY04.

MMRP

- Complete the preliminary assessment for UXO 00001 (Marine Rifle/Pistol Range) in FY04.

| | | | |
|----------------------|---|--|---------------------------------|
| FFID: | PA357122534900 | Media Affected: | Groundwater, sediment, and soil |
| Size: | 210 acres | Funding to Date: | \$3.8 million |
| Mission: | Train personnel for air transport and air evacuation activities | Estimated Cost to Completion (Completion Year): | \$1.4 million (FY2010) |
| HRS Score: | 50.00; placed on NPL in October 1995 | Final RIP/RC Date for IRP Sites: | FY2005 |
| IAG Status: | None | Five-Year Review Status: | N/A |
| Contaminants: | VOCs, chlorinated solvents, and jet fuel | | |



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. The installation was placed 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 fuel 8 (JP-8). The installation formed a Restoration Advisory Board (RAB). The cost of completing environmental restoration at this installation has changed significantly due to technical issues.

In FY84, seven Installation Restoration Program sites were identified. To date, a remedial action Record of Decision (ROD) has been signed for ST-01. The cleanup progress at Willow Grove ARS for FY00 through FY02 is detailed below.

In FY00, additional site inspections (SIs) at Sites SS-02, OT-03, SD-04, SS-05, OT-06, and OT-07 were required based on comments from EPA.

In FY01, the installation completed the evaluation of natural attenuation (NA) and the review of remedial alternatives for Site ST-01. The data indicated that NA was not effective at containing contamination. A supplemental SI, requested by EPA, was completed at Sites SS-02, OT-03, SD-04, SS-05, OT-06, and OT-07 with no further action recommendations. Removal action soil sampling at Site OT-03 indicated that the remaining contaminant concentrations are not of concern. The RAB met quarterly.

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 SI report for the multiple sites was submitted to the regulators for their review and concurrence. Three RAB meetings were held. The Air Force completed

an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. No MMRP sites were identified at this installation.

FY03 IRP Progress

The installation completed a pilot field test that provided the data needed to design the in situ chemical oxidation portion of the remedy. Injection wells were installed for interim implementation of the chemical oxidation process. The station also 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.

Regulatory issues delayed ROD/closure documents for Sites SS-02, OT-03, SD-04, SS-05, OT-06, and OT-07.

Two RAB meetings were held.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. No MMRP sites were identified at this installation during the inventory development and update.

Plan of Action

Plan of action items for Willow Grove ARS are grouped below according to program category.

IRP

- Full-scale implementation of chemical oxidation process on the selected areas of the petroleum/ oil, lubricants (POLs) site (ST-01) in FY04–FY05.
- Complete bio-sparging pilot test and implement in situ bioremediation process upon completion of chemical oxidation process in FY04–FY05.
- Complete baseline groundwater sampling in FY04–FY05.
- Hold quarterly RAB meetings in FY04–FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|---|--|---|---|
| FFID: PA317002231200 | Media Affected: | Groundwater, surface water, sediment, and soil |  |
| Size: 1,090 acres | Funding to Date: | \$6.3 million | |
| Mission: Serve as Reserve naval air station for aviation training activities | Estimated Cost to Completion (Completion Year): | \$10.7 million (FY2023) | |
| HRS Score: 50.00; placed on NPL in September 1995 | Final RIP/RC Date for IRP Sites: | FY2008 | |
| IAG Status: Federal facility agreement under negotiation | Five-Year Review Status: | The installation has not completed a 5-year review. | |
| Contaminants: Heavy metals, PCBs, POLs, and solvents | | | |

Progress to Date

Willow Grove Naval Air Station (NAS) Joint Reserve Base 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 an information repository. The installation was placed on the NPL in September 1995. 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 cleanup progress at Willow Grove NAS for FY99 through FY02 is detailed below.

In FY99, the Navy decided to break up the installation restoration (IR) sites and submit four separate Phase II remedial investigation (RI) documents. An interim remedial action for polychlorinated biphenyl (PCB)-contaminated soil at Site 1 was completed. Approximately 1,100 tons of soil was removed.

In FY00, a basewide water-level study was also completed. The Navy completed pump replacement on two production wells that are in the vicinity of Site 1 and supply potable and emergency water to the Willow Grove facility. This project also allowed the Navy to obtain valuable analytical data for Site 1 groundwater, as requested by EPA. Additional fieldwork was completed at Site 5.

In FY01, the installation continued operation of the light non-aqueous phase liquids recovery system at Site 10.

In FY02, the installation finalized the feasibility study report for Site 5 and submitted it to regulators and the RAB. The RI report for Site 1 was finalized and submitted to the 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.

FY03 IRP Progress

The installation completed fieldwork at 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.

Technical issues delayed the finalization of the preliminary remedial action plan (PRAP) and Record of Decision (ROD) for operable unit (OU) 2 groundwater at Site 5, as well as the no further action (NFA) ROD for OU 1, Site 1 soils and the RI report for Site 2. In addition, technical issues delayed the completion of IR Site 2, which will recommend NFA.

FY03 MMRP Progress

The Navy has identified no MMRP sites at this installation.

Plan of Action

Plan of action items for Willow Grove NAS are grouped below according to program category.

IRP

- Finalize Site 2 RI report in FY04.
- Prepare and submit NFA RODs for Site 2 soils and groundwater in FY04.
- Prepare and submit NFA ROD for Site 1 groundwater in FY05.
- Prepare and submit PRAP and ROD for Site 5 groundwater in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|--|--|---------------------------------|
| FFID: | OH757172431200 | Media Affected: | Groundwater and soil |
| Size: | 8,511 acres | Funding to Date: | \$184.8 million |
| Mission: | Serve as host to many organizations, including headquarters Air Force Materiel Command | Estimated Cost to Completion (Completion Year): | \$32.3 million (FY2028) |
| HRS Score: | 57.85; placed on NPL in October 1989 | Final RIP/RC Date for IRP Sites: | FY2006 |
| IAG Status: | IAG signed in March 1991 | Final RIP/RC Date for MMRP Sites: | N/A |
| Contaminants: | Waste oil and fuels, acids, plating wastes, VOCs, SVOCs, and solvents | Five-Year Review Status: | Completed FY1999/Planned FY2004 |



Progress to Date

Past activities at Wright-Patterson Air Force Base (WPAFB) 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); 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. The installation was placed on the NPL in October 1989 and an interagency agreement was signed in March 1991. In FY97, two new sites, Contaminated Groundwater Area A/C and Contaminated Groundwater Area B, were added to address commingled groundwater plumes and to expedite source area site closure. In FY00, the installation completed a 5-year review. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

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 8 and 10, groundwater remediation, and another 40 Installation Restoration Program sites. A no further action ROD was signed for 21 sites. The cleanup progress at WPAFB for FY99 through FY02 is detailed below.

In FY99, a ROD was signed for groundwater. A treatability study (TS) was initiated to determine the effectiveness of in situ chemical oxidation in treating the vinyl chloride plume. A removal action was completed at Heating Plant 5, and Phase I of monitoring-well abandonment began. A draft delisting petition was prepared for the soil portion of the base. A new source of trichloroethylene (TCE) contamination was discovered at a facility slated for demolition. The Agency for Toxic Substances and Disease Registry conducted a public health assessment, which concluded that WPAFB poses "no apparent public health hazard" and that all mitigating actions are in place to prevent human exposure to contaminants.

In FY00, the site inspection (SI) at Building 20059 was completed, and one known source of TCE was removed from the site. A preliminary assessment (PA) was completed at an AOC, Building 20079. A TS for in situ oxidation for the TCE plume was completed. A 5-year review was completed.

In FY01, the installation continued system operations and maintenance (O&M) and long-term management (LTM) activities. Phase II well abandonment resulted in 80 wells being abandoned. Restoration oversight of the demolition of Building 20059 was accomplished, removing approximately 300 tons of TCE-contaminated soil. The SI at Building 20079 was initiated. Preliminary data were sent to the regulators and the building was demolished. A partnership was formed between the installation and stakeholders to accomplish the successful site investigation, cleanup, and demolition of Building 20059. Also in FY01, a comprehensive range inventory was initiated. This inventory was designed to be an annual, iterative effort. To supply data for the inventory, a detailed questionnaire was completed that collected data on the types of munitions used, the range's environmental status, and the type and level of external stakeholder interest.

In FY02, the installation continued system O&M and LTM activities. A final report detailing restoration activities at facility 20059 was accepted by state and federal agencies. The installation completed site fieldwork at facility 20079 and submitted a draft report to the state confirming shallow TCE contamination in groundwater to the state. The Air Force completed an inventory of Military Munitions Response Program (MMRP) sites, including preliminary cleanup cost estimates for sites at eligible non-operational ranges. One MMRP site was identified at this installation.

FY03 IRP Progress

The installation completed the PA at an AOC, Building 20055. The removal action of contaminated soils at an AOC, Building 20025, was completed. Supplemental floating-product recovery through the use of a bioslurper was initiated. O&M and LTM continued throughout the year.

FY03 MMRP Progress

In FY03, the Air Force updated its MMRP inventory. Cost estimates and Risk Assessment Code (RAC) scores were updated for each MMRP site. The Air Force will prioritize these MMRP sites and perform response actions on each site beginning in FY05.

Plan of Action

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

IRP

- Complete the SI phase at Building 20055 in FY04.
- Conduct 5-year ROD reviews in FY04.
- Continue supplemental floating-product recovery using a bioslurper at the bulk-fuels storage area in FY04.
- Continue system O&M and LTM activities in FY04.

MMRP

- Begin PA in FY05.

| | | | |
|--|--|--|---|
| FFID: MI557002427800 | Media Affected: | Groundwater, wetlands, and surface water |  |
| Size: 4,627 acres | Funding to Date: | \$47.1 million | |
| Mission: Conducted tactical fighter and bomber training | Estimated Cost to Completion (Completion Year): | \$30.7 million (FY2032) | |
| HRS Score: 50.00; proposed for NPL in January 1994 | Final RIP/RC Date for IRP Sites: | FY2004 | |
| IAG Status: None | Five-Year Review Status: | Planned FY2004 | |
| Contaminants: Jet fuel and waste oil, spent solvents, VOCs, POL and UXO | | | |

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, transfer of KC-135 aircraft to the Air Reserve component, retirement of the assigned B-52G aircraft, and deactivation of the 379th Bombardment Wing. The installation closed on June 1993 and was proposed for the NPL in January 1994. Sites at the installation include a waste solvent underground storage tank, 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. To address cleanup efforts, a BRAC cleanup plan was developed.

The cleanup progress at Wurtsmith AFB for FY99 through FY02 is detailed below.

In FY99, the remedial design (RD) for OT-24 was completed. An interim action was executed to remove groundwater-discolored sand from the beachfront of the off-base YMCA camp. New free-product recovery pumps at the benzene plant removed several thousand gallons of fuel (JP-4) from the water table.

In FY00, the feasibility study and the decision document (DD) for landfill (LF) 30/31 were completed. Construction of two additional purge wells at the benzene pump and treat system at SS-06 was completed. The installation obtained regulator and Air Force concurrence on DDs for 8 Installation Restoration Program (IRP) sites and 12 areas of concern. A draft of the consolidated remedial action plan (RAP) document was reviewed.

In FY01, the installation completed construction of the OT-24 remedial action (RA) system. Construction of RA systems at FT-02, LF30, and LF31 was also completed. The contract for the RD for SS-57 was awarded, and the design was partially completed. The optimization study for the RA systems was completed. The RA system at SS-08 was shut down; RA goals were met.

In FY02, the basewide RAP was completed and submitted for regulatory review. Fieldwork for the supplemental remedial investigation (SRI) was completed and delivery of the draft SRI report is planned. Initial results from the field indicated no changes to the RAPs for sites WP-04 and

LF-23. The results for POI-20 led to the characterization of a small, chlorinated groundwater plume and the designation of IRP site SS-71. The RD was completed for SS-57 and the RA construction contract was awarded. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. Sampling and analysis costs for the operation and maintenance of the benzene treatment system were reduced by 75 percent due to a change in frequency of National Pollutant Discharge Elimination System required monitoring from weekly to monthly. Additional savings were captured through the sale and recycling of free product (JP-4), which was removed from groundwater at SS-06.

FY03 IRP Progress

The installation completed SRIs at several sites to verify the adequacy of implemented remedies. The investigation concluded that plume contaminants were 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 of seven sites. The Air Force also completed construction of the RA system at SS-57. A draft operating properly and successfully document for site SS-05 received concurrence contingent upon incorporating EPA comments. Final concurrence will allow the property to be transferred.

Funding issues delayed the decommissioning of RA systems at SS-08 and SS-06.

FY03 MMRP Progress

As of the end of FY03, no Military Munitions Response Program (MMRP) sites were identified or reported.

Plan of Action

Plan of action items for Wurtsmith AFB are grouped below according to program category.

IRP

- Complete CERCLA 5-year review in FY04.
- Implement feasible short-term remedial process optimization recommendations in FY04.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.

| | | | |
|----------------------|---|--|--|
| FFID: | VA317002417000 | Contaminants cont'd: | nickel, PAHs, VOCs, paint thinners, solvents, PCBs, varnishes, and waste oil |
| Size: | 10,624 acres | Media Affected: | Groundwater, surface water, sediment, and soil |
| Mission: | Provide ordnance technical support and related services; provide maintenance, modifications, production, loading, off-loading, and storage for the Atlantic Fleet | Funding to Date: | \$39.7 million |
| HRS Score: | 50.00; placed on NPL in October 1992 | Estimated Cost to Completion (Completion Year): | \$24.8 million (FY2013) |
| IAG Status: | Federal Facility Agreement signed in September 1994 | Final RIP/RC Date for IRP Sites: | FY2011 |
| Contaminants: | Acids, asbestos, explosives, cadmium, zinc, lead, mercury, | Final RIP/RC Date for MMRP Sites: | FY2011 |
| | | Five-Year Review Status: | The installation completed a 5-year review. |



Progress to Date

The installation provided ordnance technical support and related services to the Atlantic Fleet. The installation was placed on the NPL in October 1992 primarily because of six sites that are hydrologically connected to the Chesapeake Bay. 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. A community relations plan was updated in FY02. In FY02, the installation completed a 5-year review.

The installation has identified 49 sites. The installation has completed 11 Records of Decision (RODs), including two in FY03. The cleanup progress at Yorktown Naval Weapons Station for FY99 through FY02 is detailed below.

In FY99, RODs were signed for four sites. Remedial actions (RAs) were initiated at three sites and two site screening areas (SSAs) and completed at two sites and one SSA. Remedial investigation/feasibility study (RI/FS) activities were initiated at four sites and completed at two sites. All field investigations of the SSAs were completed. Removal actions were completed at two SSAs.

In FY00, the installation signed RODs for two sites. An RA was initiated at two sites and completed at three sites and one SSA. An RA Phase I was completed, and Phase II began at Site 6. An RI/FS was completed at two sites.

In FY01, the installation continued RA efforts for Site 6, as planned. Groundwater monitoring was conducted at six sites. The RI/FS for three sites was in progress.

In FY02, the installation continued RA efforts at Site 6 with Phase IV. The first 5-year review was completed. The RI for groundwater Operable Unit 1 (OU 1) began. Groundwater monitoring at all applicable sites continued. The cost of completing environmental restoration at this installation changed significantly due to estimating criteria issues. The Navy completed an inventory of all Military Munitions Response Program (MMRP) sites. One MMRP site was identified at this installation.

FY03 IRP Progress

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 RI for groundwater OU 1 continued. The installation signed the final RODs for two sites. The cost of completing environmental restoration at this installation has changed significantly due to estimating criteria issues.

Finalization of RI/FS for eight sites was delayed due to ecological issues. Technical issues delayed the RA planned for Site 24. Regulatory issues delayed the start of the RIs for groundwater OU 3 and groundwater OU 4. Technical issues delayed the final RODs for four sites and one SSA.

FY03 MMRP Progress

A preliminary assessment was initiated for UXO 000001 (NWSY Small Arms Range).

Plan of Action

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

IRP

- Sign RODs for three sites and one SSA in FY04.
- Initiate RAs at Site 2, Site 8, and SSA 14 and continue the Site 6 RA in FY04.
- Finalize an SSA report for 10 SSAs in FY04.
- Finalize RI/FS for seven sites and begin RI/FS for groundwater OU 4 in FY04.

MMRP

- Complete the preliminary assessment for UXO 000001 (NWSY Small Arms Range) in FY04.

| | | | |
|----------------------|---|--|---|
| FFID: | AZ917302449300 | Media Affected: | Groundwater and soil |
| Size: | 4,741 acres | Funding to Date: | \$48.5 million |
| Mission: | Support tactical aircrew combat training for Pacific and Atlantic Fleet Marine Corps Forces | Estimated Cost to Completion (Completion Year): | \$22.3 mill ion (FY2012) |
| HRS Score: | 32.24; placed on NPL in February 1990 | Final RIP/RC Date for IRP Sites: | FY2001 |
| IAG Status: | Federal facility agreement signed in January 1992 | Final RIP/RC Date for MMRP Sites: | FY2012 |
| Contaminants: | JP-5, petroleum hydrocarbons, SVOCs, trihalomethanes, and VOCs | Five-Year Review Status: | The installation completed a 5-year review for OU2 in FY02. |



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 FY02, the installation completed a 5-year review for Operable Unit 2 (OU 2).

To date, 32 sites have been identified at this installation. The installation signed the Record of Decision (ROD) for OU 2 and OU 1 for Areas 1, 2, 3, and 6. The cleanup progress for Yuma MCAS for FY99 through FY02 is detailed below.

In FY99, the remedial action (RA) for OU 2 was completed. Three Voluntary Environmental Mitigation Use Restrictions were submitted. The installation developed a long-term management (LTM) plan. Corrective action plans for the gas station and the fuel farm were submitted.

In FY00, the installation finalized the ROD and implemented the RA for OU 1. Active UST remediation was completed. A closure letter was received from the Department of Toxic Substances Control for Site 4 in the Chocolate Mountains Aerial Gunnery Range, concurring with Navy's no further action determination. A closure letter was also received for all USTs in the fuel farm. The installation abandoned 35 existing monitoring wells and finalized the LTM plan.

In FY01, the installation completed air-sparging/soil vapor extraction for the plumes in Areas 2, 3, and 6 of OU 1. The RA for site closures under the FFA assessment program was completed. The OU 1 ROD for Areas 1, 2, 3, and 6 was signed. LTM and institutional controls are in place for the remaining three plume areas. All 18 OU 2 soil sites proceeded through the remedial investigation phase and ROD. Sites 4, 7, and 9 underwent remedial design and RA and received closure concurrence.

In FY02, the installation finalized the land use control implementation plan (LUCIP) and an LTM plan. It also finalized Yuma Station Order 5090, which formally directs tenants and contractors to incorporate the land use controls provided in the LUCIP into the existing land use planning

and management systems. The installation master plan was updated. Institutional and land use restrictions to meet the intent of the OU 2 ROD were implemented. The first 5-year review was initiated for OU 2. Remedial action operations (RA-O) and operation and monitoring 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 land use and institutional controls. The Navy has completed an inventory of all Military Munitions Response Program (MMRP) sites. MMRP sites were identified at this installation. Funding is expected to be made available in FY11.

FY03 IRP Progress

Yuma MCAS completed and finalized the first 5-year review for OU 2. The installation completed optimization of one of the existing RA-O system at Plume Area 1. The installation met remediation goals for the other RA-O system at the leading edge of Plume Area 1. The installation will continue to monitor groundwater for rebound over the next two years before permanent shut down of system. In addition, the installation continued operating and monitoring one groundwater remedial system at OU 1. The installation also continued monitoring Areas 2, 3, and 6 of OU 1 under monitored natural attenuation and the applicable land use and institutional controls.

FY03 MMRP Progress

No work was performed on MMRP sites at this installation in FY03.

Plan of Action

Plan of action items for Yuma MCAS are grouped below according to program category.

IRP

- Complete closure of the groundwater plume Area 6 in FY04.
- Complete and finalize the first 5-year review for OU 1 and update the OU 2 5-year review in FY04.
- Finalize groundwater flow and transport model in FY04.
- Shut down RA-O system at leading edge of Plume Area 1 in FY05.

MMRP

There are no MMRP actions scheduled for FY04 or FY05.