

FFID: TN497152057000
Size: 642 acres
Mission: Store and distribute clothing, food, medical supplies, electronic equipment, petroleum products, and industrial chemicals
HRS Score: 58.06; placed on NPL in October 1992
IAG Status: Federal Facility Agreement signed in March 1995
Contaminants: Pentachlorophenol, PCBs, chlorinated solvents, petroleum/oil/lubricants, pesticides, heavy metals, and chemical warfare agents
Media Affected: Groundwater and soil
Funding to Date: \$30.0 million
Estimated Cost to Completion (Completion Year): \$7.0 million (FY2008)
Final Remedy in Place or Response Complete Date for BRAC Sites: FY2004



Memphis, Tennessee

Restoration Background

In September 1995, the BRAC Commission recommended closure of Defense Distribution Depot Memphis. The installation closed in FY97.

Site studies beginning in FY81 have identified more than 120 sites at the installation. Between FY86 and FY89, underground storage tanks (USTs) were removed from the installation. In FY90, Remedial Investigation and Feasibility Study (RI/FS) activities were accomplished for 40 sites. Upon placement of the installation on the National Priorities List (NPL) in 1992, all CERCLA and the remaining UST sites were divided into four operable units (OUs). In FY95, the installation completed additional RI/FS work plans for all four OUs.

In FY85, an Interim Remedial Action (IRA) was completed to remove a pentachlorophenol (PCP) wood preservative treatment vat, a UST used for PCP storage, and contaminated soil in the area. By 1999, all of the remaining USTs had been removed or closed in place.

In FY94, groundwater monitoring was performed. In FY95, the interim Record of Decision (ROD) for groundwater contamination at Dunn Field was completed. In FY97, initial RI/FS fieldwork was completed and monitoring wells were installed at Dunn Field. An Environmental Baseline Survey, version 1 of the BRAC Cleanup Plan, and the local reuse authority's redevelopment plan were also completed.

In FY98, fieldwork in support of an Engineering Evaluation and Cost Analysis (EE/CA) for the removal of suspected chemical warfare material sites at Dunn Field was accomplished. Removal Actions were performed in three areas of the main installation.

Dieldrin-contaminated soil was removed from housing (Site 73), polychlorinated biphenyl (PCB)-contaminated soil was removed from around the cafeteria (Site 48), and two remaining USTs were removed from Site 57.

Also in FY98, a groundwater IRA began operation at Dunn Field to prevent off-site migration and achieve product recovery. The city of Memphis sewer system is treating the effluent water. A preliminary risk evaluation (PRE) was finalized, recommending up to 16 sites for no further action (NFA). A Parcel 3-specific risk assessment was developed. All RI work from the main installation was reviewed by the BRAC cleanup team, and each of the approximately 150 BRAC property parcels was assigned an appropriate CERFA Environmental Condition of Property designation.

Community relations activities, starting in FY94, have included development of a Community Relations Plan and establishment of a Restoration Advisory Board. A bimonthly informational publication was started in FY98. All members of the Depot Restoration Team were given risk communication training.

FY99 Restoration Progress

The EE/CA for removal of chemical warfare material at Dunn Field was completed. The contractor's work and safety plans are being reviewed. The EE/CA for early removal at Sites 29 and 31 (the paint shops and sand blast areas) was completed. The erosion control, dust prevention, and revegetation project at Site 64, the former Bauxite piles, was completed. An NFA document for the 16 sites recommended for NFA in the PRE, and for other sites recommended for NFA (solid waste management units addressed in RCRA Facility Assessment) was prepared and forwarded to regulators. The risk assessment was completed and a draft final RI was submitted for the

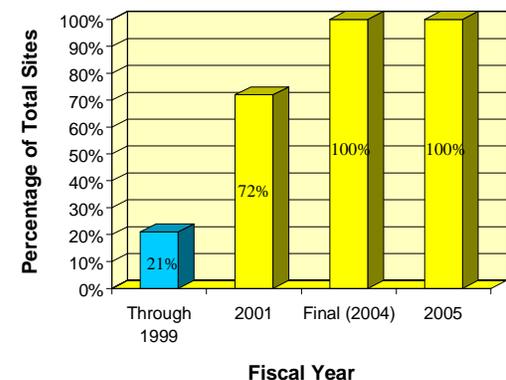
main installation. Fieldwork for the Dunn Field RI/FS was performed. The internal draft RI for Dunn Field was prepared and distributed. The use of bioremediation for dieldrin-contaminated soil on the golf course was evaluated and determined to be a viable alternative if remediation is required. All Finding of Suitability to Lease documents for the main installation were completed.

The Removal Action for Sites 29 and 31 was not completed because of contract delays and an extension of the public comment period for the EE/CA. The Removal Action for Site 38 was not completed due to lack of EPA support. EPA has deferred any Remedial Action at this site until the ROD is finalized. The FS was not completed because of contractor delays.

Plan of Action

- Perform removals at Sites 29 and 31, the former paint shop and sand blast areas, in FY00
- Perform removal at two chemical warfare material suspect sites at Dunn Field in FY00
- Finalize RIs for the main installation and Dunn Field in FY00
- Prepare FSs, Proposed Plans, and RODs for the main installation and Dunn Field in FY00
- Develop Remedial Designs for the main installation and Dunn Field in FY00 and FY01
- Sign RODs for the main installation and Dunn Field in FY01

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: CA997152083200
Size: 724 acres
Mission: Receive, store, and distribute supplies, materials, and equipment
HRS Score: 42.24; placed on NPL in July 1987
IAG Status: IAG signed in March 1989
Contaminants: VOCs, heavy metals, petroleum/oil/lubricants, and pesticides
Media Affected: Groundwater and soil
Funding to Date: \$49.0 million
Estimated Cost to Completion (Completion Year): \$45.7 million (FY2015)
Final Remedy in Place or Response Complete Date for All Sites: FY2001



Lathrop, California

Restoration Background

This facility began operation in 1941 as a supply and maintenance center. Activities at the installation have included overhauls, repairs, painting, paint stripping, metal finishing, and degreasing of aircraft and heavy equipment. Investigations have identified 152 sites: 8 groundwater plumes and 144 contaminated or potentially contaminated soil or building sites.

A Remedial Investigation and Feasibility Study (RI/FS) for groundwater was completed in FY91, and a Record of Decision (ROD) was signed in FY93. Per ROD requirements, the two interim groundwater extraction and treatment (air-stripping) systems were upgraded to treat and control the migration of trichloroethene (TCE) plumes. A third system using air stripping and carbon adsorption went into operation in FY95 to capture the depot's central area plume.

Between FY85 and FY98, 71 underground storage tanks (USTs) and sumps underwent removal and corrective actions and 57 sites were closed. Approximately 10,000 cubic yards of contaminated soil was removed and disposed of during this period.

In 1995–1996, approximately 500 cubic yards of pesticide-contaminated soil was removed from the former pesticide mixing area. An installationwide RI/FS and a risk assessment were completed, and the Proposed Plan was prepared. The final ROD for Operable Unit (OU) 2, the sitewide remedy, was signed.

During FY97, the installation completed a Removal Action for lead- and chromium-contaminated soil at Sharpe's former industrial waste treatment plant pond and submitted the final closure report. Long-term monitoring and operations and maintenance at the sitewide groundwater treatment systems

continued. The design of the lead and chromium soil Removal Action stipulated in the OU2 ROD was completed. Four USTs were removed and two were closed. Two other sites required further action. A study was initiated to determine the best in situ technologies for remediating UST sites where soil contamination had migrated beneath a building or other structure. The installation completed design of the in situ vapor extraction remedy for TCE-contaminated soil.

During FY98, a pilot in situ bioventing project was completed at UST Site 17, and a natural attenuation study began. Lead- and chromium-contaminated soil was removed from Sites S-3 and S-26. Analysis of Sites S-30, S-36, and S-33/29 showed that Remedial Action (RA) was not required. Installation of in situ soil vapor extraction (SVE) systems was also completed, and the SVE systems began operation at TCE and volatile organic compound (VOC) Sites P-1A, P-1B, P-1C, P-1E, and P-6A. Analysis of 10 TCE/VOC sites showed that RA was not required per ROD criteria. Setup of the Sharpe 3-D groundwater model began. A dense nonaqueous phase liquid (DNAPL) study, completed at Site P-6A, indicated no locatable DNAPL pools and recommended installation of an additional groundwater extraction well.

FY99 Restoration Progress

Operation of the SVE system continued at the five TCE/VOC-contaminated soil sites. Preparation of RA reports recommending no further action (NFA) began at the 3 metals sites and 10 TCE/VOC sites. Preparation of an RA report for Sites S-3 and S-26 also began. Finalization of the RA reports was delayed by a regulator request for additional information. The addition of the extraction well was delayed so that the well could be included in the groundwater modeling scenarios. Setup of the Sharpe 3-D

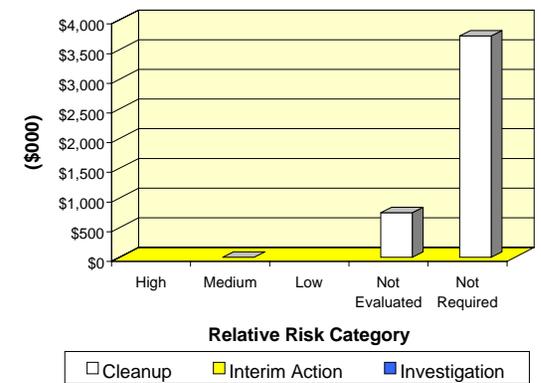
groundwater model was completed despite delays in obtaining regulatory agency approval. The Water Management Plan was finalized. The in situ oxygen release compound pilot study at Site 147 began. Nine USTs were removed at the installation's fuel station. Groundwater treatment and monitoring programs continued. The updating of the environmental Web site began.

Sharpe's Technical Review Committee met quarterly during FY99.

Plan of Action

- Complete RA report for 3 metals NFA sites and for 10 TCE/VOC NFA sites in FY00
- Complete RA reports for metals Sites S-3 and S-26 and for Sites P-1A, P-1B, P-1C, P-6A, and P-1E in FY00
- Implement in situ technology or natural attenuation at remaining UST sites in FY00
- Continue operation of three groundwater extraction, treatment (air-stripping), and disposal systems in FY00
- Run optimizing scenarios on 3-D groundwater model and implement optimizing recommendations by FY01
- Complete in situ SVE at six TCE/VOC-contaminated soil sites by FY01
- Complete OU1 interim groundwater RA report in FY01
- Complete OU2 installation wide preliminary closeout report in FY02
- Complete 5-year review in FY03

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID: CA997150682700
Size: 908 acres
Mission: Store and distribute medical, textile, food, electronic, industrial, construction, chemical, and other supplies and equipment
HRS Score: 37.16; placed on NPL in August 1990
IAG Status: Federal Facility Agreement signed in 1991
Contaminants: Chlorinated solvents, heavy metals, pesticides, petroleum/oil/lubricants, and VOCs
Media Affected: Groundwater and soil
Funding to Date: \$75.3 million
Estimated Cost to Completion (Completion Year): \$33.5 million (FY2040)
Final Remedy in Place or Response Complete Date for All Sites: FY2002



Tracy, California

Restoration Background

Studies have identified 65 sites at this installation, including 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 in on-site and off-site groundwater.

In FY86, a Remedial Investigation and Feasibility Study (RI/FS) was initiated to address the groundwater and soil contamination. Between FY88 and FY91, 32 USTs were removed, along with 1,060 cubic yards of contaminated soil. In FY92, bottled drinking water was supplied to two nearby farm residences where wells were threatened by the groundwater plume. The depot also installed a pump-and-treat system consisting of an air-stripping plant with carbon absorption, five extraction wells, and three injection wells.

A Record of Decision (ROD) for the remedy of groundwater contamination was signed in early FY93 and modified in FY95 to allow natural attenuation of a portion of the contaminant plume outside the installation.

In FY95, an environmental geographic information system (GIS) was established, which facilitates RI/FS and Remedial Design and Remedial Action (RD/RA) work. The installation removed more than 1,000 cubic yards of contaminated soil at the child-care facility. The installationwide risk assessment was completed, and the Proposed Plan was prepared and provided to the public for comment.

In FY96, an Engineering Evaluation and Cost Analysis and an Action Memorandum for removal of pesticide-contaminated soil from the former industrial pond and pipeline sites were concurred in by the regulatory agencies. Design work for this Removal

Action and installation of extraction wells and infiltration galleries for the Operable Unit (OU) 1 groundwater air-stripping pump-and-treat system began.

In FY97, the industrial pond soil Removal Action design was completed and the implementation contract awarded. A Removal Action for pesticide-contaminated soil began. The final sitewide RI/FS was completed. Contaminated-soil Removal Actions were performed at five former UST sites, and approximately 376 cubic yards of contaminated soil was removed. Construction of the new OU1 air stripper, extraction wells, and installation galleries began.

During FY98, a sitewide comprehensive ROD was signed, the Removal Action for industrial pond soil was completed, the RD for the remaining sites was prepared, and the contract for cleanup of the remaining sites was awarded. The full-scale, low-flow groundwater-sampling system was installed and put into operation.

FY99 Restoration Progress

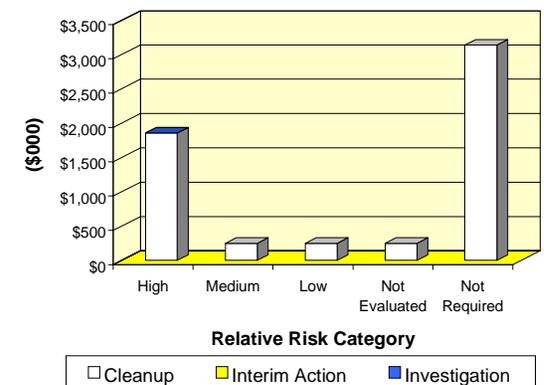
Construction of the OU1 groundwater extraction and treatment (air-stripping) system (Treatment Plant [TP] 2) was completed, and the system was put into operation. Operation of TP-1 and the associated well-monitoring program continued. Modifications of TP-1 and TP-2 were started to provide additional disposal capacity. The design of the OU2 trichloroethene (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. Institutional controls were implemented at several OU2 sites, and RD was completed for the rest of the sites. Installation of wet-season controls at the stormwater pond also was completed. A groundwater model was

developed for the Tracy Site to allow system optimization and future 5-year review. The RA for part of the OU2 soil-removal sites was delayed because of lack of sufficient funds. Implementation of bioventing and other in situ technologies at UST sites also was delayed because of lack of funds and the sites' low relative risk.

Plan of Action

- Complete modification of groundwater treatment systems at TP-1 and TP-2 in FY00
- Continue operation of TP-1 and TP-2 in FY00
- Perform SVE at TCE- and VOC-contaminated soil sites in FY00
- Implement soil removals, per OU2 ROD, at metals and pesticide sites in FY00
- Complete implementation of institutional controls, per OU2 ROD requirement in FY00
- Implement in situ technology (bioventing, oxygen release compound) or natural attenuation at UST sites in FY00 and FY01
- Prepare RA reports for OU2 RA sites in FY01
- Prepare interim groundwater RA report in FY02
- Prepare installationwide closeout report in FY03
- Complete 5-year review in FY04

FY00 FUNDING BY PHASE AND RELATIVE RISK



FFID:	PA397154266500
Size:	87 acres
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
HRS Score:	NA
IAG Status:	None
Contaminants:	Petroleum/oil/lubricants, PCBs, pesticides, and asbestos
Media Affected:	Groundwater and soil
Funding to Date:	\$15.3 million
Estimated Cost to Completion (Completion Year):	\$2.5 million (FY2010)
Final Remedy in Place or Response Complete Date for BRAC Sites:	FY2000



Philadelphia, Pennsylvania

Restoration Background

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 Aviation Supply Office in North Philadelphia, Pennsylvania. The BRAC Commission also recommended closure of the Defense Clothing Factory and the Defense Contract Management District Mid-Atlantic.

Environmental studies identified underground storage tanks (USTs), aboveground storage tanks, pesticide management areas, hazardous waste management areas, polychlorinated biphenyl (PCB)-containing transformers, asbestos-contaminated areas, and former railroad track areas. A plume, primarily JP-4 jet fuel, underlies large portions of the installation. Studies indicate that the plume originated off site and migrated onto DSCP.

The installation completed cleanup of a PCB-contaminated sewer site in 1991 before the BRAC Commission's recommendation of closure. Remedial Investigation and Feasibility Study (RI/FS) and Remedial Action (RA) activities began at the clothing factory in FY94 in preparation for interim leasing to the City of Philadelphia. RA activities included cleanup of DDT in two buildings and removal of two USTs and contaminated soil associated with the use of DDT. A hazardous waste management area was closed, and asbestos remediation was completed in one building of the clothing factory. RI activities to determine the extent and source of petroleum contamination underlying the installation are complete.

The BRAC cleanup team (BCT), formed in FY94, provided information to the Base Transition Office and the Local Redevelopment Authority to support reuse plans for the

installation. The final Environmental Baseline Survey and the BRAC Cleanup Plan were completed, and an Environmental Assessment was prepared to evaluate alternatives for reuse of the clothing factory. In FY95, a Restoration Advisory Board (RAB) was established.

During FY95–FY96, RAs were completed at all known UST sites, nine USTs were removed, and one UST was closed in place. All 10 PCB-containing transformers were removed. Phase I of the basewide Expanded Site Inspection (ESI), previously known as the RI/FS, was completed. Baildown and recovery tests were completed for 12 on-site wells, and removal of free product from the surface of the groundwater began. A Consent Decree was signed between the installation, the Pennsylvania Department of Environmental Protection (PA DEP), and Sun Oil (a neighboring refinery), allowing the parties to collaborate on defining the extent of the plume and to develop a remediation plan.

In FY97, the Finding of Suitability to Lease for Building 13, portions of Building 9, and an adjacent parking area was completed, and the lease for these parcels was signed. A conceptual plan and a risk assessment plan for the installation were completed and approved by PA DEP. Nineteen Federal Facilities Compliance Act (FFCA) sites were identified, and two have been remediated and certified as closed by the BCT.

In FY98, the RAB applied for and received a Technical Assistance for Public Participation grant. Phase II of the ESI was completed. Skimming operations at DSCP produced 153,500 gallons of free product through FY98. Installation Restoration Program (IRP) Site 29, the PCB-containing transformers, was officially closed. All FFCA sites were remediated and certified as closed.

FY99 Restoration Progress

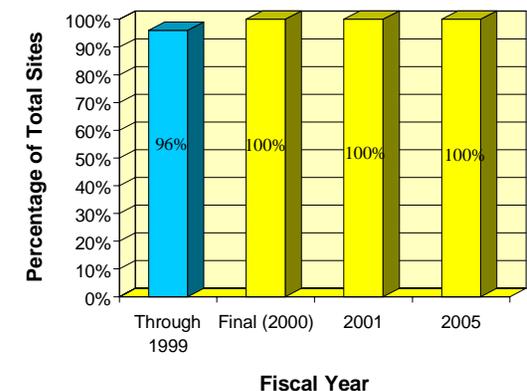
In FY99, DSCP generated a draft Human Health Risk Assessment (HHRA). DSCP participated in the RAB and the PA DEP plume forums and public information exchanges. It continued to share in the cost of Phase I plume remediation and turned over the management of the HHRA to Sunoco. Phase III of the ESI was completed. Thirty-five remediated IRP sites have been administratively closed by the BCT; 10 IRP sites remain.

The Finding of Suitability to Transfer (FOST) for Building 13 was completed and signed in January 1999. The transfer deed for Building 13 was completed but is still under review by the stakeholders. FOSTs for Building 9 (air rights only) and the parking lot have been completed and are being reviewed by regulators. The draft FOST for the balance of the property has been completed and is under review by all stakeholders. Negotiations began with the city to undertake a Cooperative Agreement to operate and maintain the former DSCP site until transfer. The demolition of four World War I-era warehouses also was completed.

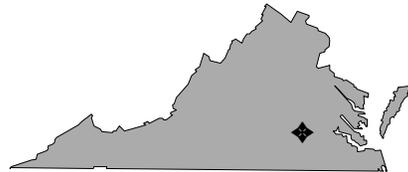
Plan of Action

- Transfer property to the City of Philadelphia in FY00
- Relocate DSCP environmental and site management personnel in FY00
- Facilitate DLA completion of the HHRA in FY00

SITES ACHIEVING RIP OR RC PER FISCAL YEAR



FFID: VA397152075100
Size: 565 acres
Mission: Manage general supplies for the Armed Services
HRS Score: 33.85; placed on NPL in July 1987
IAG Status: IAG signed in 1991
Contaminants: Phenols, solvents, paints and paint residues, corrosives, pesticides, refrigerants, antifreeze, photographic chemicals, and oils
Media Affected: Groundwater and soil
Funding to Date: \$28.8 million
Estimated Cost to Completion (Completion Year): \$18.4 million (FY2010)
Final Remedy in Place or Response Complete Date for All Sites: FY2003



Richmond, Virginia

Restoration Background

Preliminary Assessments and Site Inspections identified 31 sites at this installation. In FY91, sites were grouped into eight operable units (OUs). In FY92, a ninth OU was listed as an Interim Action site. Seven of the sites were considered to pose no hazard to the environment; four sites are not covered by CERCLA.

In FY89, an underground storage tank (UST) program was implemented. Through FY95, 30 tanks were replaced and 20 tanks were eliminated.

Two Records of Decision (RODs) were signed in FY92, designating institutional controls (ICs) for contaminated soil at OU1 and a vapor vacuum extraction system as the Remedial Action (RA) for contaminated soil at OU5. Operations at a pilot plant indicated that contamination in the OU5 soil had decreased to undetectable levels, prompting OU5 closeout. In FY93, a ROD was signed requiring installation of an extraction and treatment system to remove volatile organic compounds from the groundwater at OU9. The system was implemented in FY96.

In FY95, a fourth ROD was signed, requiring a two-phase RA for soil at the National Guard Area. ICs and excavation and disposal of 150 cubic yards of contaminated soil were implemented. Six Expanded Site Inspections were completed. Three areas proceeded to the Remedial Investigation and Feasibility Study (RI/FS) phase and were designated OUs 10, 11, and 12. Another area was combined with OU4; the remaining two areas require no further action. During the RI/FS for OU7, another site (OU13) was identified. Exploratory trenching of soil at OU2 was conducted.

During FY96, investigations were completed at one UST site, the investigation was closed at an indoor pistol range, and an air-stripping system was implemented. The RIs for the fire training area (OU4 and OU7), the acid neutralization pits (OU8), and the fire training pit (OU7) were completed. A computer model of the contamination plume for the PX gas station was completed, and the Corrective Action Plan was modified.

In FY97, a recovery system for the gasoline phase on groundwater at the PX gas station was implemented. The remediation of soil at OU3 and the final FS for OU4 were completed. A work plan for removal of contaminated soil from OU2 and a draft Proposed Plan (PP) for OU4 were completed. A Treatability Study for groundwater at OU8 was started.

In FY98, a 5-year review of OU1; the FS; and drafts of the Action Memorandum, the PP, and the ROD for OU2 were completed. A draft PP and a ROD supporting dual-phase extraction were prepared for OU8. Draft PPs and RODs for OUs 10 and 11 were completed. Draft final RIs for OUs 12 and 13 and a draft FS for OU12 were issued. One UST project was completed.

FY99 Restoration Progress

A draft deletion document was issued for OU1. For OU2, a final FS and delineation of hydrocarbon-contaminated soil were completed, and the Remedial Design was initiated. The final PP was issued for OU4 and the ROD was signed. The Phase I pilot test of dual-phase technology was completed for OU6. A density-driven convection pilot test and a draft basewide creek sampling work plan for OU7 also were completed, and a draft FS addendum was issued. The draft FS, PP, and ROD were issued for OUs 10 and 11. The final RI was issued and the FS was completed for OU12. The final RI for OU13 was issued.

The final PP for OU2 was not issued as planned because EPA delayed the decision on whether to abandon or repair an existing sewer line. Final PPs were not issued for OU6 or OU8 because additional technologies were evaluated. Additional contamination was found at OU8. Final PPs were not issued as planned at OU10 and OU11 because of a change in EPA guidance.

Plan of Action

- Issue a residential risk assessment and a draft explanation of significant differences (ESD) to either delete construction sampling requirements for OU1 or permit delisting of the site in FY00
- Issue final PP, hold a public meeting, sign the ROD, and complete design for OU2 in FY00
- Issue ESD to allow site deletion to proceed for OU3 in FY00
- Complete Phase II of pilot test, natural attenuation studies, and FS and complete the draft PP and draft ROD for OU6 in FY00
- Complete additional site studies and a pilot test of in situ treatment technology; complete FS addendum; complete FS; and issue a revised draft PP and ROD for OU7 in FY00
- Complete additional performance evaluation and issue a revised final FS and a final PP for OU8 in FY00
- In FY00, issue final FS and PP and hold a public meeting for OUs 10, 11, and 12; sign ROD and initiate design for OU12
- Complete FS and issue draft PP and draft ROD for OU13 in FY00

FY00 FUNDING BY PHASE AND RELATIVE RISK

