



DLA RESTORATION STATUS AND PROGRESS

DLA's values reflect how we treat our people, our community, and our environment. We respect our people's safety and diversity, the communities surrounding our installations and their development, and the natural and cultural environment in which we live.

—Vice Admiral Keith W. Lippert, Supply Corps, United States Navy, Director,
Defense Logistics Agency

The Defense Logistics Agency (DLA) is a combat support agency headquartered at Fort Belvoir, Virginia. DLA is responsible for providing the Department of Defense (DoD) and other federal agencies with a variety of logistics, acquisition, and technical services, including—

- ❑ Inventory management, procurement, warehousing, and distribution of spare parts, food, clothing, medical supplies, construction materials, and fuel
- ❑ Reutilization and disposal of material that is obsolete, worn out, or no longer needed.

Associated with some of these services is the responsibility for environmental compliance and cleanup. Under DLA's Defense National Stockpile program, unique environmental issues arise in relation to storage, disposal, and sale of materials such as asbestos, lead, mercury, and thorium nitrate. The primary contaminants of concern at DLA sites are fuels, solvents, polychlorinated biphenyls (PCBs), and heavy metals. DLA also is involved in the cleanup process at 40 active third-party sites where contamination has resulted from improper disposal or transfer of DoD hazardous wastes.

Program Execution

DLA has a staff of 354 environmental specialists located throughout the world. DLA's hierarchy is illustrated in the organizational structure on page 111. DLA's specialists ensure that the agency's activities are conducted in full compliance with applicable environmental requirements. Two hundred ninety-nine DLA staff members work on Defense Reutilization and Marketing Service missions. This logistical mission gives the agency special opportunities to provide services and support that are critical to the environmental programs of DLA's military service customers.

The goal of DLA's environmental restoration program is to reduce risk to human health and the environment by expediting remediation of sites where hazardous materials were managed in the past. DLA is progressing in its environmental restoration program and is meeting DoD cleanup goals on time and, in some cases, ahead of schedule. These goals and DLA's progress at active and BRAC installations for remedy in place, response complete, and interim actions are summarized in the bar charts on pages 112 and 113. The U.S. Army Corps of

DLA Facts

Through Fiscal Year 2001...

- ❑ DLA has 651 sites at 18 installations.
- ❑ 384 of DLA's 651 active sites are active-installation sites and 267 are Base Realignment and Closure (BRAC) sites (see Active and BRAC Site Status pie charts).
- ❑ Investigations are complete at 588 sites and under way at 63 sites.
- ❑ DLA has completed 135 interim actions at 80 sites; 10 interim actions are under way at 5 sites.
- ❑ Response complete status has been achieved at 520 sites; 28 sites have remedial operations under way.

DLA ALSO PROVIDES COMPONENTS AND THE NATION WITH SEVERAL ENVIRONMENTAL SERVICES, INCLUDING—

- ❑ Hazardous waste disposal
- ❑ Technical information on hazardous waste
- ❑ Fuel services
- ❑ Management of the ozone-depleting substances reserve
- ❑ Storage and maintenance of stockpiles of strategic and critical materials for national defense.

Engineers is responsible for a majority of DLA's restoration program, often administering cost-reimbursement-type contracts for the cleanup efforts. Performance-based contracting is used at all DLA sites, promoting innovation and increasing cost-effectiveness. The Defense-wide Environmental Restoration Account funds DLA cleanup efforts at active installations; efforts at closing installations receive funds from the BRAC account.

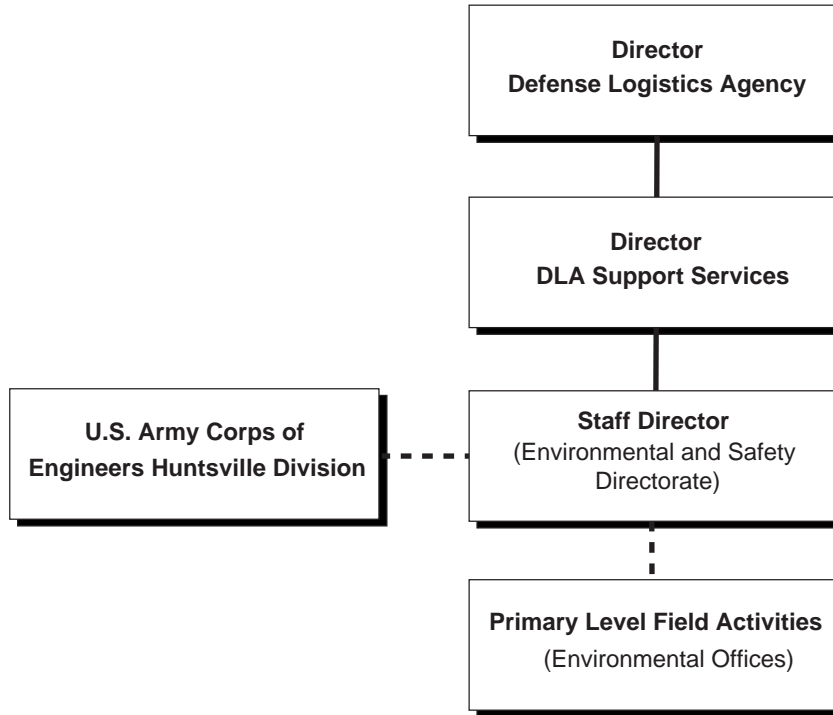
Program Accomplishments

The accomplishments of the DLA cleanup program reflect the program's complexity and its many diverse goals. In particular, these achievements illustrate how DLA advances and harmonizes the competing needs of conserving limited funds, reusing property at closing installations, and above all, safeguarding human health and the environment. DLA continues to perform relative-risk ranking at its active and BRAC installations (see pie charts on page 114). Several initiatives illustrate DLA's success in these areas.

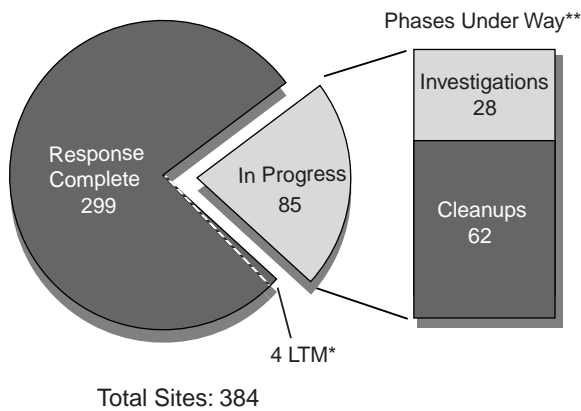
Remedial Process Optimization Initiative

DLA initiated its Remedial Process Optimization (RPO) program in FY00 to review the agency's pump-and-treat systems and all other remedial systems that require long-term management (LTM). This initiative is a systematic, iterative process for technically evaluating existing or planned remediation systems, with the goal of improving their effectiveness and reducing overall site cleanup costs.

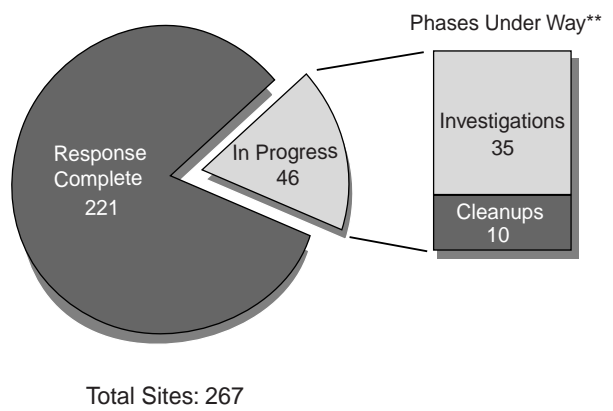
Defense Logistics Agency



Active Site Status
(as of September 30, 2001)



BRAC Site Status
(as of September 30, 2001)

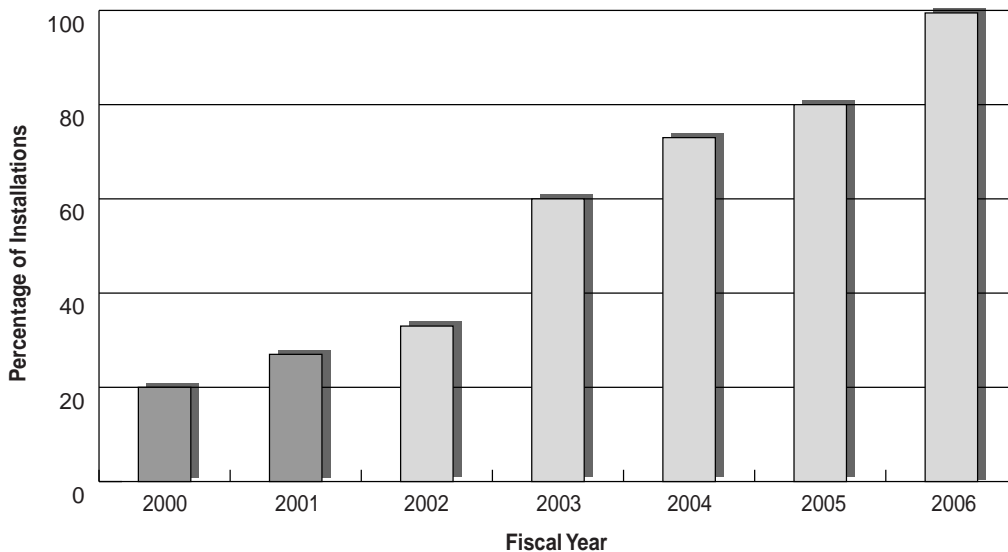


*LTM is a subset of Response Complete.

**Phases Under Way may not add up to Sites in Progress because some sites have multiple phases under way.

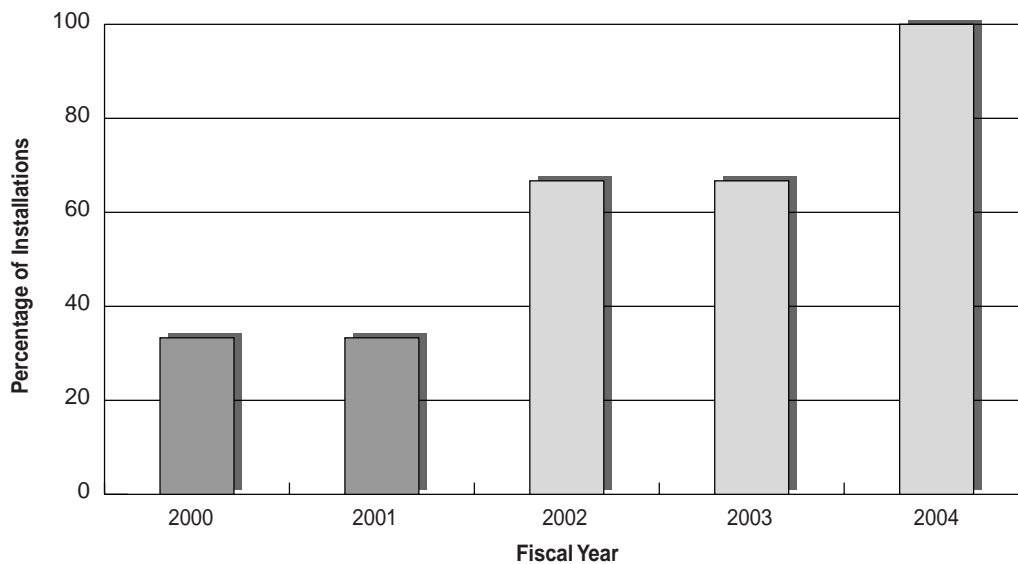
**Active Installations Achieving Final Remedy in Place or Response Complete
(cumulative and projected, FY00 through completion)**

Total Installations = 15



**BRAC Installations Achieving Final Remedy in Place or Response Complete
(cumulative and projected, FY00 through completion)**

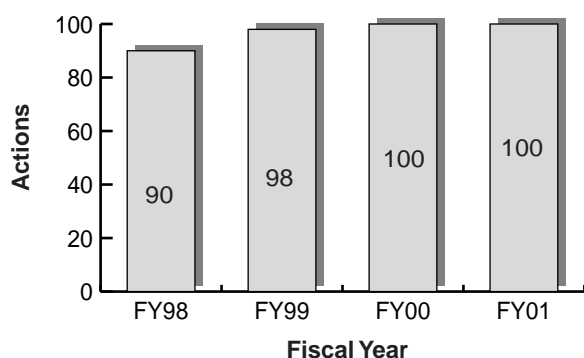
Total Installations = 3



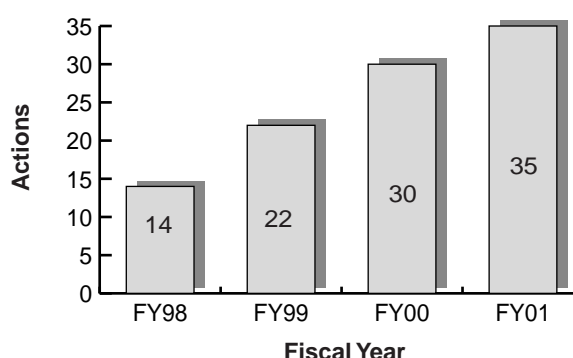
In FY01, DLA completed detailed Phase II RPO evaluations at two BRAC and two active installations. The BRAC installations include the former Defense Distribution Depot Memphis, Tennessee (DDMT), and the former Defense Distribution Depot Ogden, Utah (DDOU). The active installations include the Defense Distribution Depot San Joaquin (DDJC), California, Sharpe and Tracy installations. The

Phase II evaluations assessed the technical-effectiveness and cost-effectiveness of remedial programs, systems, and environmental monitoring plans. RPO recommendations for each installation were prepared. In addition, potential cost savings associated with implementation of the recommendations were identified, and implementation plans were outlined.

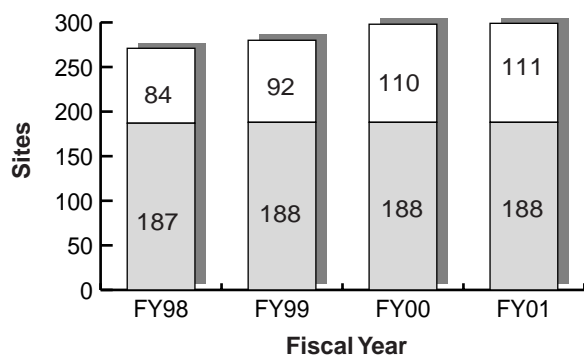
Cumulative Interim Actions Completed at Active Sites*



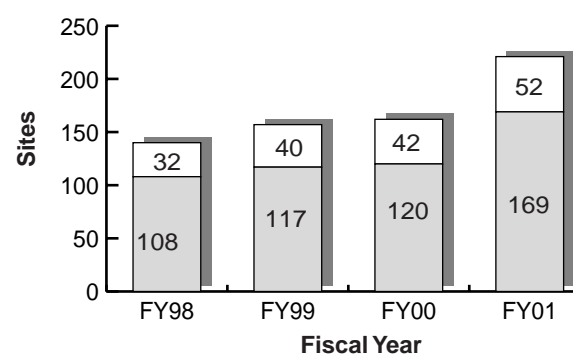
Cumulative Interim Actions Completed at BRAC Sites*



Active Sites with Response Complete*



BRAC Sites with Response Complete*



Sites reaching Response Complete from Cleanup
 Sites reaching Response Complete directly from Investigation

*FY98 through FY00 totals have been updated since the previous Annual Report to reflect new and revised data as of FY01.

In addition to the Phase II evaluations, DLA began the initial phase of the RPO process at two active installations, Defense Supply Center Richmond, Virginia (DSCR) and Defense Distribution Depot Susquehanna, Pennsylvania, with a review of site cleanup objectives, remedial system performance, and progress toward cleanup goals. As part of the initial RPO evaluation at DSCR, an installationwide conceptual site model (CSM) is being developed. The CSM provides a basis for understanding the location and movement of water and contaminants at the site, incorporating the geologic and hydrologic information necessary to guide site investigations and subsequent remediation activities.

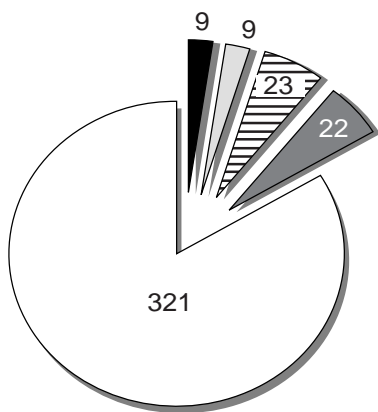
Significant optimization opportunities have been identified at each of the DLA installations evaluated under the RPO program. DLA is currently working to implement the RPO recommendations to realize the greatest possible benefit from each dollar spent on the environmental programs.

Remedial Progress at the Former Defense Depot Memphis, Tennessee

In FY01, DLA used its RPO program to review selected aspects of the remedial and monitoring efforts at DDMT. The review included efforts to help develop a test design for a potential new treatment system and to create an outline of the decision-making process to improve depot programs. Specific tasks included—

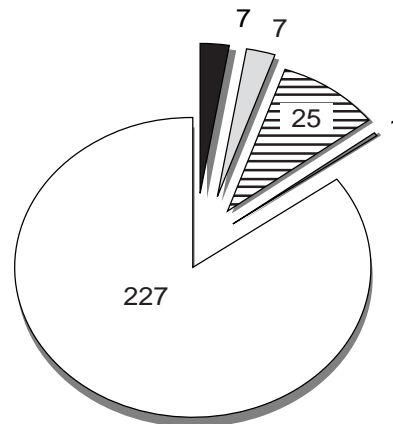
- ❑ Assisting in the development of an optimized soil vapor extraction (SVE) pilot test to accelerate installation and operation of a pilot system
- ❑ Developing decision trees (see figure on the following page) to establish clear operational and closure strategies for all remedial action and groundwater monitoring activities
- ❑ Assessing the use of vegetable oil injection for enhanced bioremediation

Relative-Risk Ranking for Active Sites in Progress



Total Sites = 384

Relative-Risk Ranking for BRAC Sites in Progress



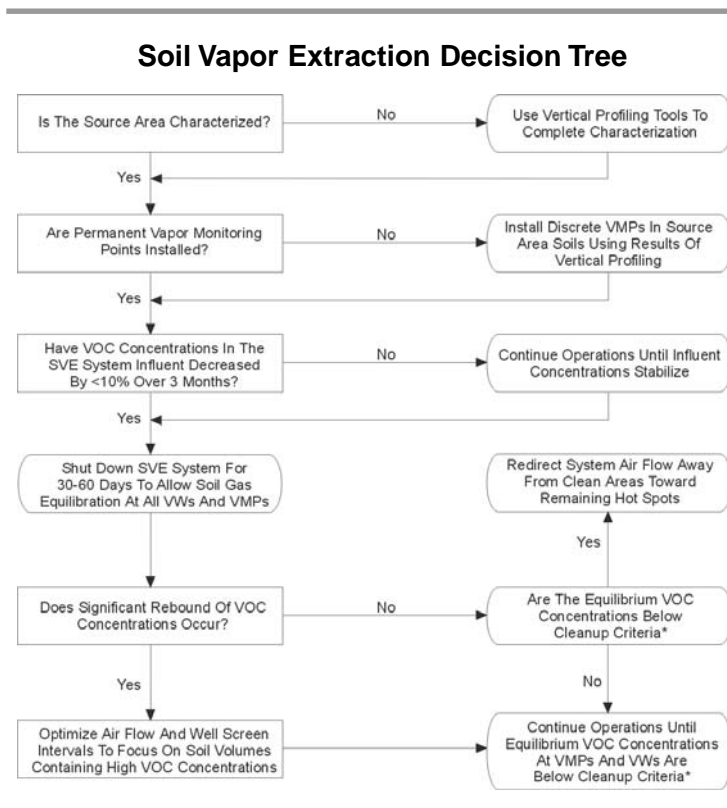
Total Sites = 267

- ❑ Evaluating the stability of a chlorinated solvent plume via modeling and statistical analysis
- ❑ Reviewing the existing groundwater monitoring program for optimization opportunities
- ❑ Developing cost-to-complete estimate and a schedule-through-completion estimate for the remedial program to aid in future planning
- ❑ Reviewing the appropriateness of cleanup goals and remedial action objectives.

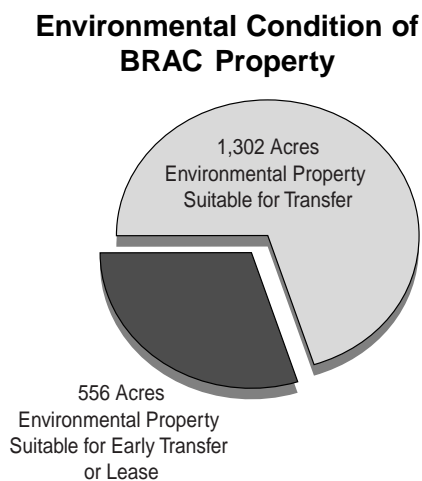
As a result of these tasks, eight recommendations were made to enhance the technical- and cost-effectiveness of the RPO program, including a recommendation that the depot perform an enhanced bioremediation pilot test for solvent-contaminated groundwater.

If all optimization recommendations are implemented, an estimated total cost savings of \$1.6 million could be realized. The RPO results and recommendations have been well received by regulators, and most will be implemented. Because the RPO evaluation for the northern portion of the installation (Dunn Field) was conducted relatively early in the remedial planning process, the optimization recommendations can be incorporated into the pending Record of Decision (ROD).

In addition to the RPO accomplishments, the ROD for the main installation was signed, and the soil removal action at a suspected chemical warfare materiel site at Dunn Field was completed. A significant milestone was achieved with the transfer of 2 properties,



totaling approximately 22 acres. The Environmental Condition of BRAC Property figure below summarizes DLA’s progress toward property transfer.



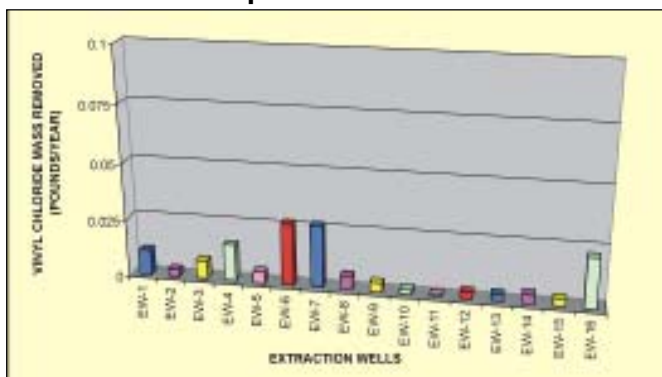


FOCUS ON THE FIELD:

Former Defense Depot Ogden, Utah, Makes Progress in Cleanup and Site Closure/Transfer

Former Defense Depot Ogden, Utah, (DDOU) made substantial progress in optimizing and completing remediation activities and obtaining site closure agreements in FY01. All soil remediation required under the federal facility agreement was completed, and the remaining remediation activities are focusing on groundwater cleanup monitoring. Regulatory closures were obtained for 4 storage tank sites, 68 groundwater monitoring wells that were no longer necessary were abandoned, and the installation's 5-year Record of Decision review was accepted by the state. Required documentation to obtain regulatory

Operable Unit 1



concurrency on implementation of monitored natural attenuation at the Parade Ground Area was submitted to the state, which will allow the existing groundwater extraction and treatment system to be shut down.

DLA also completed a detailed RPO evaluation of two DDOU groundwater extraction, treatment, and reinjection systems (Operable Units 1 and 4). This review found that

most of the existing extraction wells were not effective in removing dissolved contaminants, and that most of the extracted water treated by the systems met cleanup requirements prior to treatment. The resulting optimization recommendations included substantially reducing the number of operating groundwater extraction and injection wells, bypassing the extraction trench treatment system when contaminant concentrations met cleanup requirements, and evaluating use of natural attenuation as a cleanup alternative.

Other significant accomplishments included pilot-testing use of vegetable oil injection to assess the cost-effectiveness of solvent bioremediation of groundwater; completion of a soil removal action at a possible chemical warfare materiel site at the Ogden Nature Center; and the legal transfer of Parcel 3. Much of the groundwork was laid for obtaining operating properly and successfully certifications for the groundwater extraction systems.

Cleanup Continues at the Defense Distribution Depot San Joaquin, California

Tracy Location

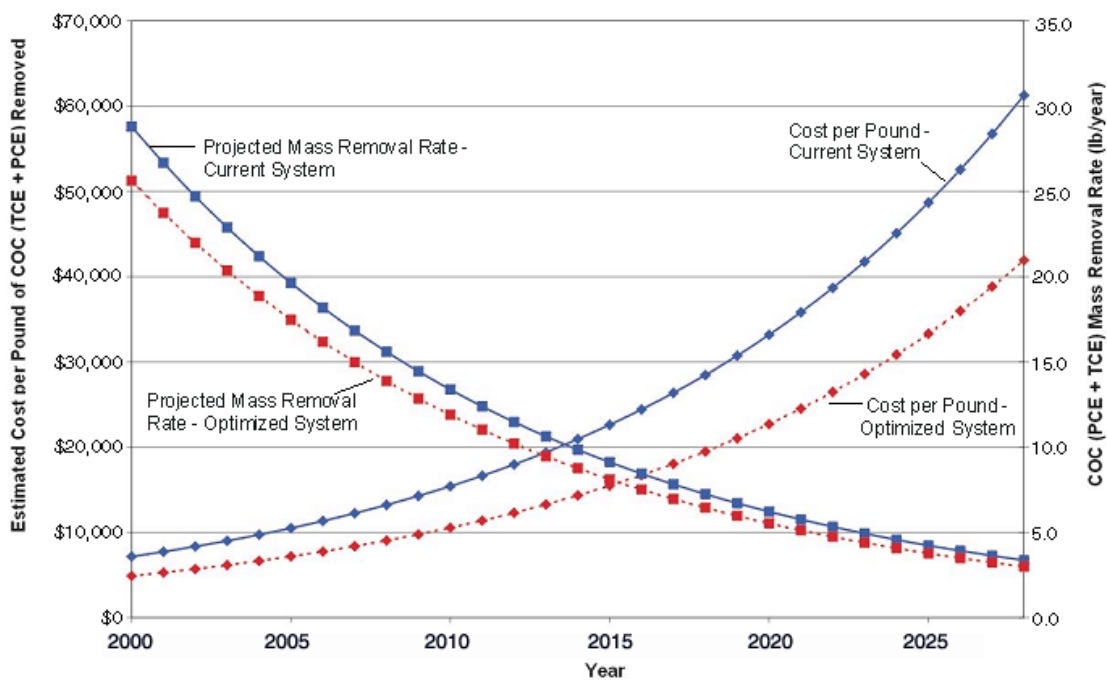
As part of the DLA RPO initiative, a 35-well groundwater extraction system, two groundwater treatment systems, and three SVE systems at the San Joaquin Tracy location were evaluated. The figure below compares the current SVE system to an optimized system. Potential cost savings of up to \$176,000 annually and up to \$2.8 million over the projected 28-year period of operation for the groundwater systems and 3-year period of operation for the SVE systems were identified. The optimized groundwater extraction and treatment systems would



Personnel evaluate the San Joaquin Tracy location as part of the RPO initiative.

continue to meet the removal objectives specified in the ROD. A framework for qualitative and statistical analyses, and the use of passive diffusion sampling for volatile organic compounds (VOCs) were recommended to optimize groundwater monitoring. The cost

Project Costs and COC Mass Removal Rates for Current and Optimized ETI Systems at the Tracy Location



savings resulting from implementation of these monitoring-related recommendations were estimated to be \$115,000 annually and up to \$3.4 million over the projected 30-year monitoring period.

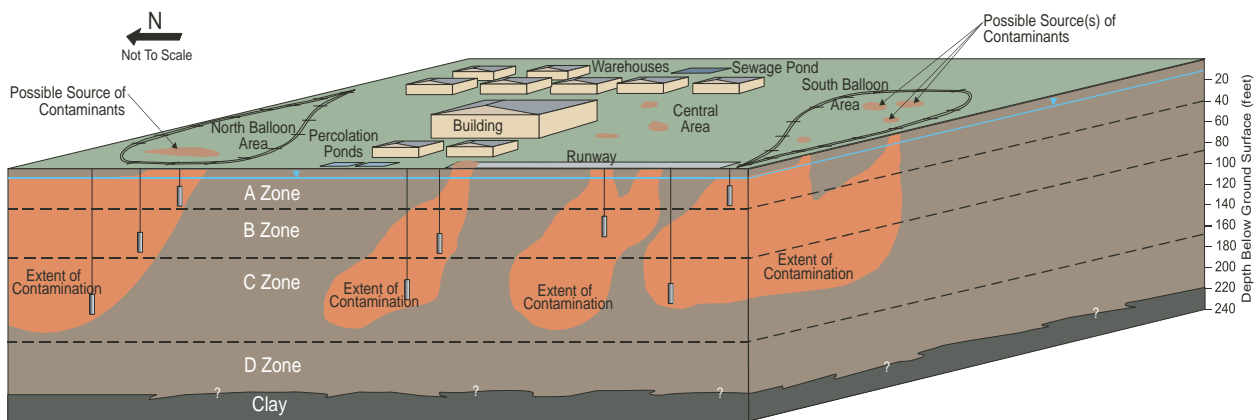
At a meeting in May 2001, regulatory agencies concurred on and began implementing the RPO recommendations. A ROD amendment is being prepared to incorporate the recommendations to modify the preferred remedy for groundwater contamination at the facility.

replaced with PCB-free transformers during upgrades to the electrical system.

Sharpe Location

At the Sharpe location, an RPO evaluation was performed to optimize three groundwater extraction and treatment systems, with a total of 45 extraction wells, and three SVE systems. During this review, refinement of the CSM, illustrated below, and capture-zone simulations for the facility enabled a more comprehensive

Conceptual Site Model for the Sharpe Location



Also at the Tracy location, an explanation of significant differences (ESD) was signed to change the remedy for Solid Waste Management Unit (SWMU) 4 (stormwater retention pond) from excavation to monitoring and institutional controls. This revision is expected to save approximately \$1 million in remediation costs. Construction and start-up of an SVE system in the SWMU 68 trichloroethene (TCE) hot-spot area were completed, and draft RA reports were prepared for four soil excavation sites in OU2. In addition, all PCB-containing transformers were removed from the facility in FY01 and were

understanding of the extent of VOCs in groundwater and provided information needed to optimize the groundwater extraction systems

The RPO evaluation identified potential cost savings of nearly \$240,000 annually, and more than \$9 million over the projected 75-year period of operation for the groundwater systems and 12-year period of operation for the SVE systems. Optimization of the groundwater extraction systems for plume containment and hydraulic control would allow 18 extraction wells and one treatment system to be removed from service. Evaluation of the monitoring well sampling

program using qualitative and statistical analyses identified potential cost savings of nearly \$350,000 annually and up to \$14.6 million over the projected 75-year monitoring period.

In May 2001, the regulatory agencies concurred on all of the RPO recommendations for Sharpe. Some recommendations have now been implemented. For example, the Central Area A-Zone groundwater extraction and treatment train was removed from service due to low removal rates, eliminating the need for costly treatment of naturally occurring arsenic concentrations, and implementation of the remaining recommendations is under way.

DLA also completed an RA report for Sharpe, recommending no further action for 3 sites contaminated with metals and 10 sites contaminated with VOCs (primarily TCE), and completed the OU1 interim groundwater RA report. The last two underground storage tanks remaining at the installation have now been removed and replaced with a single aboveground storage tank.

Progress at the Former Defense Depot Memphis and Continued Community Involvement

The motto for the environmental restoration program at the former DDMT, a BRAC installation, is *restore, reuse, and revitalize*. While environmental remediation forms a large part of this program, this is just the beginning. Getting the support of the neighboring community and regulators, and involving them in the program, while returning the facility to productive reuse, are also important accomplishments for the depot's team.

The restoration program is designed to ensure that all regulatory requirements are met and that adequate and cost-effective restoration activities are implemented in a timely fashion. The depot's base cleanup team works closely with the Depot Redevelopment Corporation to ensure that reuse priorities are included in the decision-making process. The cleanup team also works closely with contractors to determine appropriate investigation and remediation strategies.

The depot has completed findings of suitability to lease (FOSLs) for 578 acres and has cleaned up and completed findings of suitability to transfer (FOSTs) for 21.7 acres. Based on one FOST, the Army Materiel Command signed a deed for 6.5 acres in September 2001, completing the property transfer process and fulfilling the fast-track cleanup mission: returning property to the community for productive reuse.

DDMT created its strong partnership with its stakeholders by—

- ❑ Clearly identifying program milestones and updating these milestones as the program has progressed
- ❑ Effectively coordinating fast-track cleanup activities
- ❑ Exercising sound environmental and engineering judgment
- ❑ Using innovative sampling techniques.

Partnering, coordination, sound environmental judgment, and such innovative sampling techniques as rotonic well installation, soil vapor samplers, and diffusion bag samplers have helped the DDMT fill data gaps identified during remedial investigation fieldwork. These efforts ultimately streamlined the main

installation's feasibility study (FS) and proposed plan (PP) process and will streamline the upcoming development of the remedial design (RD). The efforts will similarly streamline the Dunn Field FS, PP, and RD.

The extensive community relations program implemented at the depot in support of its environmental program has established regular communication and interaction with the depot's stakeholders. This has been instrumental in helping the depot and its contractors overcome the stakeholders' initial distrust of, and skepticism about, the program, while building and maintaining the community's trust, understanding, and support during the environmental investigation and cleanup process.

Community involvement has contributed to the restoration program by encouraging the public to share their knowledge of historical activities at the depot, voice their concerns about and expectations for cleanup, and comment on cleanup decisions. In preparation for public questions, the depot and its cleanup team fully evaluate their fast-track cleanup activities to ensure that decisions are based on sound environmental and engineering judgment, and actively communicate information about the environmental restoration program to the community.

The community's input directly affected the non-stockpile chemical warfare material (NSCWM) removal action by encouraging the depot to use an innovative vapor containment structure and exhaust treatment process during excavation activities. In addition, knowing the community would have frequent questions about the NSCWM removal action, the depot conducted weekly briefings and hosted two

community information sessions and media days to provide up-to-date information to the public.

As intrusive work was completed, such as the NSCWM removal project, project knowledge of the environmental restoration program has increased significantly, and mistrust within the community has diminished. Previously combative relationships and negative interactions have been transformed into cooperative, interactive dialogue. As a result, the community relations program at the depot was awarded a Platinum Award for External Communications by the Canadian Public Relations Society and a Silver Leaf Award for Community Relations Programs by the International Association of Business Communicators.

DDMT's experiences showed that while existing environmental laws and military guidance concerning public involvement provide a valuable starting point for developing effective community relations programs, more effort may be required to satisfy the information needs of the community and repair past damage. The lessons learned in Memphis are now being successfully passed on to environmental restoration teams at other facilities.

The depot continues to keep the community involved through a variety of activities, some of which are discussed below.

Restoration Advisory Boards

The DDMT Restoration Advisory Board (RAB) includes representatives from the former depot community, including neighbors, public officials, local, state, and federal regulators, and interest groups. The RAB meets monthly to review and provide input for the environmental cleanup program, and several RAB meetings have been



FOCUS ON THE FIELD:

Expediting Lease and Transfer Actions at Closing DLA Properties Creates Jobs

DLA has been actively pursuing opportunities to return portions of its closing BRAC properties to local communities for beneficial reuse. To that end, DLA has expedited cleanup, while continuing to protect human health and the environment, to support leasing and transfer actions through the Army. This effort has enabled DLA to transfer properties at the earliest possible time to local communities to support rapid reuse and redevelopment. Positive results from these efforts include—

- ❑ 30 subleases in effect at DLA's facility in Ogen, Utah; providing about 675 jobs
- ❑ 18 subleases, providing about 990 jobs at the Defense Depot Memphis, Tennessee
- ❑ 1 sublease, providing about 300 jobs, at the Defense Supply Center, Philadelphia.

held off-site at locations within the community. RAB representatives also have been involved in educational opportunities, including visits to other cleanup projects in Ogden, Utah, and Spring Valley, Washington, DC, and have received training from EPA on the risk assessment process.

EnviroNews Newsletter

The former DDMT produces and distributes a bimonthly newsletter to more than 5,000 households and businesses in the neighborhoods surrounding the former depot. The newsletter includes updates on cleanup activities, technical and environmental findings, and announcements of upcoming depot events.

Media Releases and Fact Sheets

At significant points during the program, media releases have been prepared and distributed to all local print and electronic media. These media releases include program updates, findings to date, technical reports, notice of public

comment periods, and community information sessions. The information is also compiled into fact sheets, which are distributed to persons on the DDMT mailing list and made available at information repositories and at all public events, including RAB meetings.

Defense Energy Support Center Assists in Cleanup at Former Defense Supply Center, Philadelphia

The Defense Supply Center Philadelphia (DSCP) is responsible for the worldwide distribution of supplies for DoD. It was in south Philadelphia before it was relocated to northeast Philadelphia during 1998–1999. The former DSCP facility, which is in an industrial and residential area, has undergone closure under the BRAC process and has been transferred to the Philadelphia Industrial Development Corporation for redevelopment. The neighboring property includes a large refinery, housing



FOCUS ON THE FIELD:

Defense National Stockpile Center Establishes Community Advisory Boards

The centerpiece of the Defense National Stockpile Center (DNSC) environmental program is community involvement, as evidenced by the establishment of three Community Advisory Boards (CABs) in Voorheesville, New York; Binghamton, New York; and Somerville, New Jersey. The development of 10 community relations plans and DNSC participation in a myriad of small-group public meetings in the vicinity of DNSC storage sites provide further support. The CABs provide a representative cross section of the local communities (e.g., local town boards, community members, academe, and state health and environmental agencies).

DNSC's effective community involvement initiatives have led to the successful completion of a potentially controversial environmental assessment involving the overpacking of the mercury stockpile in Somerville, New Jersey. After listening to the concerns of the community, DNSC launched its initiative, frequently exchanging information with the Somerville CAB throughout the process. The overpacking project will essentially eliminate the possibility of mercury vapor escape into the atmosphere.

developments, and some light industrial and commercial facilities.

The Defense Energy Support Center, because of its experience with fuel cleanup projects, has taken over management of the final remediation site at the former DSCP. Contamination at the site consists mainly of a light nonaqueous phase liquid (LNAPL) plume located atop the shallow groundwater underlying the former DSCP facility and the Passyunk Homes housing area to the south. The water table and the LNAPL layer, where present, range from approximately 13 feet below grade in the eastern portion of the site to 20 feet below grade in the western and central portion of the Passyunk Homes area. The LNAPL plume, described as light naphthalene, extends across the southern area of the DSCP, under the Schuylkill Expressway, and beneath the northern portion of the Passyunk Homes area.

The apparent thickness of the LNAPL layer is up to 1.8 feet, and the plume extends over more than 60 acres.

To address this contaminant plume, two separate remediation systems were installed at the former DSCP and the Passyunk Homes area in February 1999, and the systems began operations in March 1999. The recovery systems consist of approximately 18 fixed recovery wells and 4 mobile systems that use skimmer pumps to remove product from the aquifer. This skimming technology removes the product but not water. By the end of calendar year 2001, 696,000 gallons of LNAPL had been recovered from the former DSCP and Passyunk Homes. Recent estimates using the geological parameters of the aquifer matrix and LNAPL thickness measurements obtained from wells indicate that approximately 1.0 million to 1.5 million gallons

of LNAPL, or free-phase oil, remains in the aquifer.

A pilot study of vacuum-enhanced skimming was conducted at the former DSCP and Passyunk Homes to evaluate the technology's potential for increasing the LNAPL removal rates. The pilot study demonstrated that the LNAPL recovery rate could be doubled over the current rate by placing a low vacuum on the wells to draw LNAPL toward the wells. This vacuum-enhanced skimming not only removes free-phase LNAPL by pumping, but also volatilizes a portion of the LNAPL to aid in mass removal. A full-scale, vacuum-enhanced skimming system will be designed and installed. This system will use both existing wells and new recovery wells, and a new recovery building will be constructed to house blower units in order to create a vacuum and a thermal oxidizer that destroys the volatile vapors removed from the subsurface.

An additional accomplishment at the former DSCP involved completion of a draft health risk assessment (HRA). This was distributed to the stakeholders on July 19, 2001. Upon receipt of stakeholder comments, the HRA will be finalized; the final HRA is expected to be available to the public by mid-FY02. A community outreach program is now being developed to educate the community on the HRA approach, its findings and the meaning of those findings, and to address any questions concerning the document.

Funding

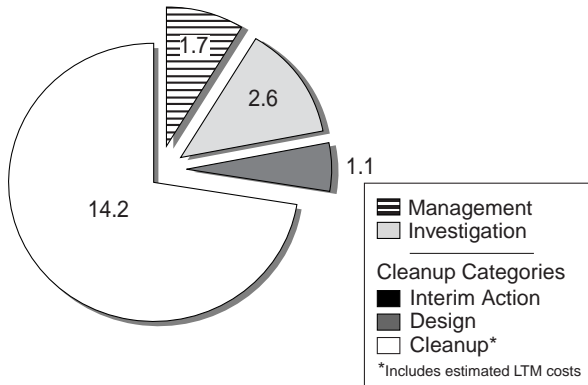
Since the devolvement of the Defense Environmental Restoration Account, funds for DoD's environmental restoration program have been distributed into five separate accounts, including one for DLA. In FY01, DLA obligated \$17.3 million for environmental restoration at its installations. The DLA Funding Profile on the following page details DLA's funding from FY00 through FY03. DLA's cost-to-complete funding trends are also shown in the bar graphs on the following page.

DLA Environmental Restoration Funding Profile

(in millions of dollars)

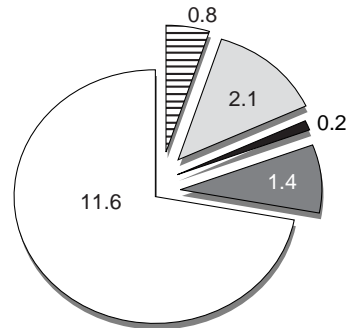
FY00 DLA Funds Obligated

Total = \$19.6 million



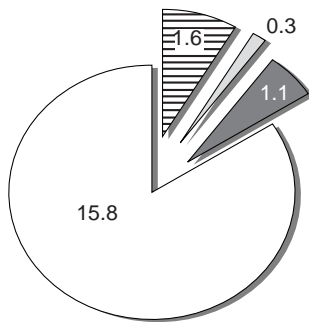
FY01 DLA Funds Obligated

Total = \$17.3 million*



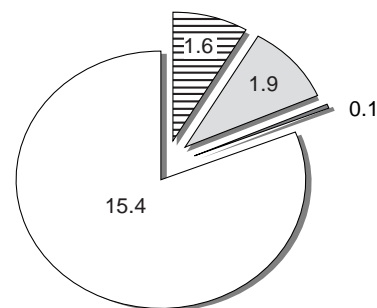
FY02 DLA Execution Planned

Total = \$18.9 million



FY03 DLA Planning Estimate

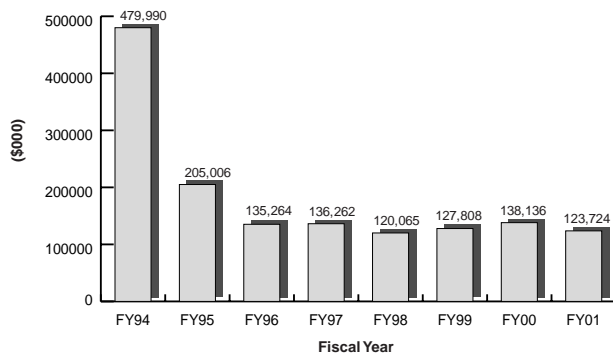
Total = \$18.9 million



Due to rounding, category subtotals may not equal fiscal year totals.
*Includes \$1.2 million in CNHC funds not shown in the pie chart.

DLA ER Cost-to-Complete Trends

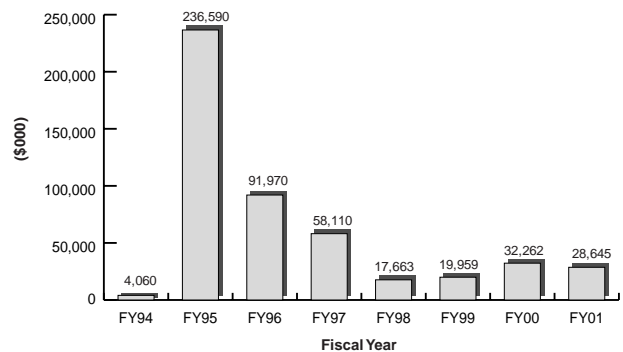
(in \$000)



Note: Funding represents site level data and does not include management and support or other miscellaneous costs not directly attributable to specific sites.

DLA BRAC Cost-to-Complete Trends

(in \$000)



Note: Funding represents site level data and does not include management and support or other miscellaneous costs not directly attributable to specific sites.