INTRODUCTION

A successful compliance program ensures that the Department of Defense (DoD) can implement its mission in an uninterrupted and cost-effective manner, while protecting the health and safety of DoD personnel and their families. The objective of DoD's Compliance Program is to ensure effective and efficient compliance with all Federal, state, and local environmental laws and regulations. DoD responds swiftly to new laws and regulations by providing compliance guidance to the DoD Components.

DoD focuses on protecting mission readiness from compromise during the development of laws and regulations, and ensures that laws and regulations provide achievable protection at a reasonable cost. DoD strives to ensure that regulators understand the implications of their decisions on mission readiness and training ability.

DoD policy clearly supports pollution prevention as the preferred method to achieve compliance. To maximize returns on investments in environmental compliance, DoD has developed a program to address the full spectrum of the compliance life-cycle, from legislative and regulatory development through implementation of regulations. This program includes determining compliance requirements and measuring progress in meeting these requirements. As DoD reviews and assesses its own progress, it makes adjustments to ensure full and sustained compliance. The Compliance Program absorbs the largest percentage of the Fiscal Year (FY) 2004 Environmental Quality budget request, at **83** percent.

HIGHLIGHTS OF ACTIVITIES IN FISCAL YEAR 2002

DoD's Compliance Program continues to demonstrate success, as the following performance metrics for FY 2002 illustrate—Clean Water Act (CWA) and National Pollutant Discharge Elimination System (NPDES) permits, Consumer Confidence Reports (CCRs), compliance enforcement actions, and fines and penalties. DoD is proud of its accomplishments in complying with environmental laws and regulations, and continues to improve compliance across all DoD Components.

Water Quality

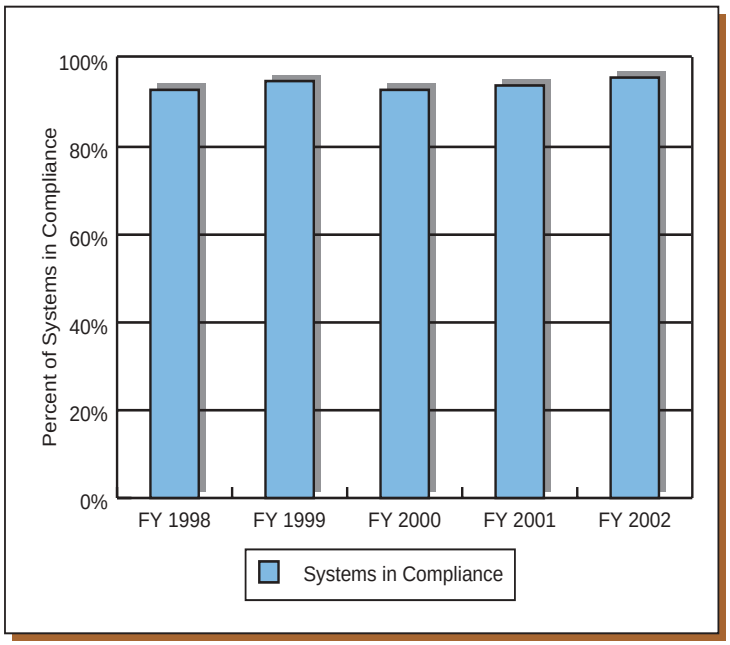
Water quality is important to DoD and the success of its mission—providing drinking water of the highest quality ensures that troops, their families, and other DoD personnel are healthy and able to perform their important functions. Ensuring water quality is also critical to DoD's ability to be a good neighbor in the communities where DoD personal live and work. Therefore, the Department works

hard to comply with all relevant regulations governing the quality of drinking water and other bodies of water. Each state adopts water quality standards approved by the U.S. Environmental Protection Agency (EPA). The standards describe the way a particular body of water may be used and establish the water quality criteria to protect designated uses.

Compliance with Clean Water Act Permitted Systems

The CWA is the principal law governing pollution control and the water quality of the nation's waterways. The objective of the CWA is to restore and maintain the chemical, physical, and biological integrity of the nation's waters. In commemoration of the 30th anniversary of the Clean Water Act, President Bush proclaimed October 18, 2002 as the beginning of the "Year of Clean Water."

Figure 16
CWA Permitted Systems Compliance Rate



DoD is working to achieve 100 percent compliance with the CWA, which includes the NPDES permit system. Overall DoD currently holds 1,942 CWA permits for 2,895 systems, including discharges to publicly-owned treatment works, domestic and industrial wastewater treatment plants and storm water systems. In FY 2002, 95.8 percent of DoD's wastewater systems were in compliance with their CWA permits (Figure **16**)[1].

Clean Water Act Total Maximum Daily Loads

The Clean Water Act requires states, territories, and tribes to develop lists of impaired waters that do not meet established water quality standards. These entities will then determine the maximum amount of a pollutant that each impaired water body can receive to meet water quality standards and submit these determinations to EPA. This is known as the total maximum daily load (TMDL). EPA issued TMDL

[1]This compliance rate number is different from EPA's report of DoD's compliance rate. EPA measures only major NPDES permits, DoD measures all CWA permitted systems.

Focus on the Field

Navy Marina Earns "Clean Marina" Status

Captain Lawrence S. Cotton, Commanding Officer of Naval Air Facility (NAF) Key West, was presented with a plaque and a flag during a March 28, 2002 ceremony at the Boca Chica Marina, Florida. Boca Chica Marina, located on NAF Key West, has become the first Federal marina in the Florida to earn the "Clean Marina" designation.

Clean Marina is a voluntary program established by the Florida Department of Environmental Protection to recognize marinas that have successfully addressed environmental management issues such as sensitive habitat, waste management, storm water control and spill prevention, and emergency preparedness. Less than one percent of all Florida marinas are designated as Clean Marinas.

"The facility not only met regulatory environmental standards, they surpassed them," Cotton said. Areas where the facility surpassed standards include eliminating discharge of gray water, sewage, fish waste, petroleum products, and hazardous materials.

Originally a fuel barge wharf, Boca Chica Marina was built in "outstanding Florida waters," which have the strictest waters use regulations in the state. These regulations require any building project to have zero impact on water quality.

In order to protect water quality, the marina design team replaced creosote pilings and pressure-treated wood with concrete pilings and recycled plastic lumber, then added a pump-out facility to reduce the potential for pollutants to get into the marine environment. The marina design also included the removal of a large number of Australian pines, an exotic invasive plant species that was suffocating indigenous species.

"This designation is another example of the Navy's commitment to protecting our environment, and we encourage others to pursue it," Cotton said. "We are proud to have a staff that understands the importance of preserving the delicate Florida Keys ecosystem for all of us to enjoy and that our efforts to be good stewards have been recognized."

regulations in 1985, 1993, and 2000. The impaired water bodies remain listed until the TMDL is approved by EPA and the specific water quality is achieved.

TMDLs may require military installations on or near impaired waters to further reduce sources of water pollution. Several installations are working with regulators early in the TMDL development process to ensure pollutant allocations assigned to military sources are fair and achievable.

Watershed assessment and management tools help determine water quality impacts and provide necessary information to participate early and meaningfully in the rulemaking process. The Army, in cooperation with the DoD Components, developed the "DoD Watershed Impact Protocol" as a tool for assessing

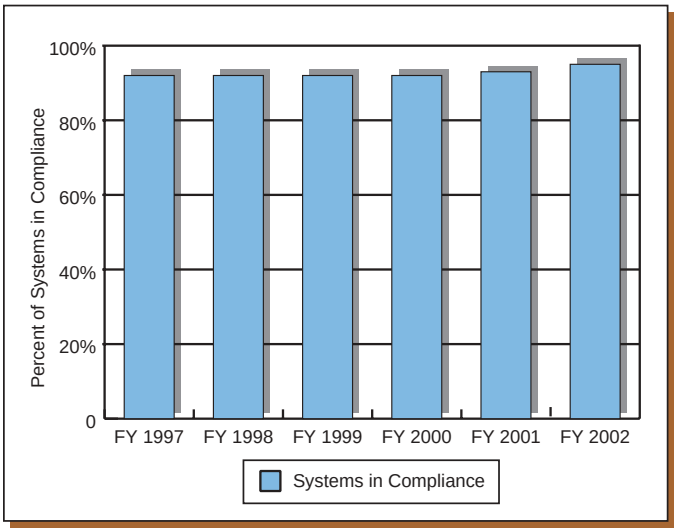
various installation activities and their impact on water quality. The protocol is also designed to propose best management practices for reducing water quality impacts.

Compliance of NPDES Permitted Systems

As authorized by the CWA, National Pollutant Discharge Elimination System (NPDES) permits regulate point (identifiable, stationary) sources that discharge pollutants into waters of the United States. Industrial, municipal, and other facilities must obtain NPDES permits if their discharges directly enter surface waters.

DoD currently holds 1,239 NPDES permits for 2,000 systems, including domestic and industrial wastewater treatment plants and storm water systems. NPDES permits are a subset of CWA permits; therefore, DoD's compliance rate with NPDES permits is included in the overall compliance rate for CWA permits. For each of the past five years, DoD has achieved greater than 90 percent compliance with its NPDES permits. In FY 2002, 95 percent of DoD's wastewater systems were in compliance with their NPDES permits (Figure 17). A variety of factors may contribute to a given system's temporary noncompliance with its NPDES permit. The majority of noncompliance incidents are due to administrative issues, such as late reporting to regulators, rather than system operating errors.

Figure 17
NPDES Permit Compliance



Uniform National Discharge Standards

Section 312 of the CWA regulates vessel sewage discharge. Enacted in 1972, Section 312 requires EPA to set national standards of performance for marine sanitation devices (MSDs) used to prevent the discharge of untreated or inadequately treated sewage. Section 312 further requires the Secretary of Defense, in the case of DoD vessels, to create regulations regarding the design, construction, installation, and operation of MSDs that will meet EPA standards.

In 1996, Congress extended the Section 312 model to discharges (other than sewage) incidental to the normal operation of armed forces vessels. Subsection 312(n) of the CWA requires the Secretary of Defense

Focus on the Field

Naval District Washington Puts LID on Storm Water Runoff Concerns

Naval District Washington installed small-scale storm water management controls throughout the Washington Navy Yard (WNY) to control storm water runoff into the Anacostia River. As part of a Low-Impact Development (LID) pilot project, there are ten types of mitigation systems in place at seven locations on the installation.

Bioretention is one mitigation method used for this project. Bioretention uses landscaped areas with a special mix of soils and plants to filter pollutants, control peak runoff rates, and reduce the amount of runoff entering surrounding waters and wetlands. Other LID practices include paved areas that store water and release it slowly, rain barrels that reduce runoff, and storm drain inlets fitted with devices to control runoff timing.

The two main LID areas at WNY are the Willard Park and dental clinic parking lots. Willard Park demonstrated how an existing parking lot can be fitted with these devices with minimal disturbance and no loss of parking spaces. The dental clinic parking lot has bioretention islands as well as sand filter gutter strips. Permeable pavers, which are individual paving blocks with gravel-filled gaps between the bricks, have also been fitted between parking rows. This allows storm water to seep into a stone-filled storage area below the pavement, changing the timing or peak runoff rates of storm water.

"It's very gratifying to be leading an effort to increase the awareness of Low-Impact Design techniques and improve water quality," said Paul Miller, environmental restoration program manager for Naval District Washington. "These LID demonstration projects showcase the Navy's commitment to blend environmental improvements into the management of their facilities in a sustainable manner."

and the EPA Administrator to establish Uniform National Discharge Standards (UNDS) governing discharges to water from the operation of such vessels. The Secretary of Defense delegated his authority for this joint rulemaking with EPA to the Secretary of the Navy.

UNDS discharges are all non-sewage liquid discharges incidental to the normal operation of Armed Forces vessels.

One of the purposes of UNDS is to "enhance the operational flexibility of vessels of the Armed Forces..." UNDS will protect ship Commanding Officers from having to interpret different rules for each port. UNDS involves a complex rulemaking process to address 35 discharges from 7,000 Armed Forces vessels after consideration of seven factors.

The Navy and EPA are using a phased approach to implement the UNDS requirements—

- Phase I, completed in June 1999, characterized 39 discharges. The characterization process included determining flow rates, constituents, concentrations, mass loadings, and assessing the potential of each discharge to have an adverse environmental effect. Of the 39 discharges characterized,

EPA and the Navy determined that 25 discharges were of sufficient environmental consequence that the use of a marine pollution control device (MPCD) may be warranted.

A marine pollution control device may be either hardware or a management practice.

- Phase II involves developing Federal MPCD performance standards for each discharge requiring control from Phase I.
- Phase III, the final phase of the UNDS rulemaking process, will include creating rules governing the design, construction, installation, and use of the MPCDs established in Phase II.

The Navy and EPA have identified numerous potential MPCDs for evaluation during Phase II and will evaluate each MPCD to determine whether it is sufficiently proven in the marine environment. The MPCDs passing the screening process will then undergo detailed feasibility and environmental analyses on vessels that represent the range of different vessel types generating the discharges. Information from these analyses serves as the basis for developing performance standards.

Navy and EPA concluded that conducting these analyses for all 25 discharges at the same time is not practical and are discussing conducting the analyses in "batches" of no more than five discharges at a time. The priority discharges are deck runoff, bilge water, hull coating leachate, and underwater ship husbandry. The Navy expects to complete the final rule detailing the performance standards for the present batch of four discharges in September 2005.

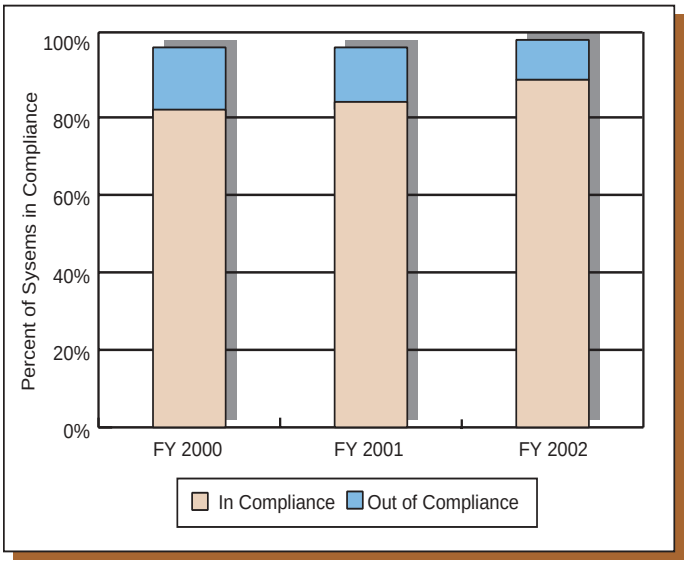
In FY 2002, the Navy completed technical analysis and a draft performance standard for deck runoff. The Navy also completed feasibility analyses and initiated environmental effects analyses for bilge water. The Navy prepared draft characterization reports and initiated feasibility and environmental effects analyses for hull coating leachate and underwater ship husbandry.

Compliance with Safe Drinking Water Act Requirements

DoD drinking water systems are crucial to military readiness. Any compromise of the integrity of these systems or the quality of the water supply threatens the health of the men, women, and children living on, working on, or visiting DoD installations.

Congress enacted the Safe Drinking Water Act (SDWA) in 1974, and amended the Act in 1986 and 1996. The purpose of the law is to protect the population by maintaining drinking water and groundwater standards. EPA has set national drinking water standards for public water systems, including DoD's drinking

Figure 18
Drinking Water System Compliance



water systems. These standards apply to water contaminants including physical, chemical, biological, and radiological constituents and properties.

The SDWA requires any operator of a community water system, including DoD, to publish annual Consumer Confidence Reports (CCR) to promote public awareness of drinking water quality. Operators send reports to all households for which they provide drinking water. CCR detail the quality of drinking water throughout the previous calendar year. All operators of community water systems, including DoD, must publish their CCRs by July 1 of each year.

DoD has 260 community water systems, serving more than 2.1 million people, which are subject to CCR requirements. The rest of DoD's population obtains water from other municipal water systems. During CY 2001, approximately 10.3 percent of DoD's community water systems were out of compliance with drinking water requirements at some point during the year (Figure 18). DoD brought most of these systems back into compliance quickly and continues to make every effort to ensure that these systems are always in compliance to protect personnel.

DoD is committed to protecting the health of its personnel by providing safe drinking water. However, the challenge to do so grows as drinking water systems age and infrastructure deteriorates. Interim solutions are in place to address any immediate health concerns. Where necessary, DoD has developed long-term plans and projects to eliminate possible future health effects related to systems that are not in compliance.

National Emissions Standards for Hazardous Air Pollutants

This year the EPA is proposing 26 new Clean Air Act rules known as the National Emissions Standards for Hazardous Air Pollutants (NESHAPs). Each NESHAP will regulate one kind of industrial activity. Of these 26 new rules, seven will affect DoD operations between FY 2002 and FY 2005. A few installations will need to comply with new regulations for Institutional/Commercial/Industrial Boiler and Miscellaneous

Organics. The two most significant NESHAPs will be for Miscellaneous Metal Parts and Products (MMPP) and Plastic Parts and Products (PPP).

The MMPP and the PPP NESHAPs will impact coating operations for tactical ground vehicles, equipment, tanks, and munitions. They will also impact regulated coating materials such as topcoats, primers, cleaning solvents, surface preparations, rubber to metal bonding adhesives, and de-painting chemicals. Together, these new rules will affect operations on almost every DoD installation. Many of the tactical and non-tactical vehicles and equipment used today include metal and plastic parts, compelling DoD to suggest a separate subcategory to be added dealing with all surface coating operations not already covered by the Aerospace and Ship Repair NESHAP rules. It is difficult to meet one standard for metal parts painting and a different standard for the painting of plastic parts when many of the DoD's tactical vehicles include both.

DoD is working with the EPA during the development of these emissions standards to minimize the impact they have on the mission, while maximizing pollutant reduction. To approach this issue from a compliance perspective, capturing emissions would cost the military several hundred million dollars. Complying through pollution prevention (reformulating) may potentially save DoD millions of dollars.

EPA is considering other NESHAPs which would also impact DoD, including the reduction of lead emissions from Hazardous Waste Combustors and Miscellaneous Organic Chemical Manufacturing, which limits air emissions from explosives manufacturing plants and impacts production of energetics.

Sale of Air Pollution Emission Reduction Incentives

The FY 1998 National Defense Authorization Act established a two-year pilot program for the sale of emission reduction incentives by the Military Departments. The pilot program sought to assess the feasibility of the sale of economic incentives for the reduction of emissions of air pollutants attributable to a military installation.

The program both encouraged and rewarded air emission reductions by allowing Military Departments to retain the profits from selling emission reduction credits rather than sending the proceeds to the U.S. Treasury. The funds remaining, after costs, were made available to the military installation that generated the reductions. The military installation could use these funds for environmental compliance projects. Congress extended the program twice—until September 2001 by Section 325 of the FY 2000 National Defense Authorization Act, and an additional two years by the FY 2002 Authorization Act.

Location	Date	Quantity/Type of Pollutant Sold	Value	Buyer
March Air Reserve Base	1/99	12 lbs/day NOx (nitrogen oxides)	$58,971	NissinFoods(USA)
March Air Reserve Base	2/99	45000 lbs CY 1998 NOx (nitrogen oxides)	$6,247	Ultramar, Inc.
March Air Reserve Base	6/99	10 lbs/day PM10 (particulate matter)	$19,100	Mountain view Power Company
Vandenberg AirForce Base	11/02	8 tons NOx	$8,000	The Boeing Company

Only two military installations (March Air Reserve Base and Vandenberg Air Force Base) have participated in the pilot program with completed transactions totaling $88,318.

Unfortunately the program has not resulted in the incentives anticipated. The low participation rate has been due primarily to the lack of existing state and local emission reduction incentive programs in many parts of the country and the Department's need to retain credits to offset future growth. In order for emissions incentives programs to be successful, they will have to be established in areas in which military installations are located.

Incentive-Based Compliance

There is a growing trend within EPA and state inspection and enforcement programs toward incentive-based environmental compliance programs. Many of these programs offer significant benefits for DoD installations and activities, including reduced monitoring, streamlined permitting and reporting, positive recognition, and lower frequency of compliance inspections.

EPA set an example for the states with the National Performance Track Program (NPTP). This program recognizes, motivates, and rewards top environmental performers who employ a systematic approach to managing environmental responsibilities, extra efforts to reduce and prevent pollution, and good-neighbor actions.

The NPTP encourages states to establish or test their own programs. For example, the New Jersey Department of Environmental Protection (NJDEP) established "The Silver and Gold Track Program" in 1999. The program is made up of three levels—Silver Track, Silver Track II, and Gold Track. Membership benefits offer different degrees of regulatory flexibility and oversight based on demonstrated capabilities and environmental performance. Naval Air Systems Command Lakehurst, New Jersey, is the only DoD facility

so far to apply to the Silver Track Program. Lakehurst was accepted into the Silver Track Program in 2000. Lakehurst has since submitted a Community Outreach Plan and is developing an environmental management system plan. NJDEP recently accepted Lakehurst into the Silver Track II Program.

Compliance Enforcement Actions

Non-compliance can have a negative impact on DoD's mission. Failure to comply with environmental requirements can result in fines and penalties, wasting critical operating funds. Non-compliance can also directly impact DoD's ability to test new equipment, operate, and train. Regulatory agencies can limit or prevent the use of non-compliant facilities and equipment.

The number of new compliance enforcement actions is at their lowest level since its peak in FY 1993, even as the number of state and Federal inspections remains steady. This success is due to the use of internal auditing and assessments to identify and correct areas of noncompliance before inspections occur.

Since FY 1993, open enforcement actions have declined 81 percent and new enforcement actions have declined 77 percent. The number of open compliance enforcement actions has risen slightly since its lowest level in FY 1999 (Figure 19). Installations have completed the corrections for many of the open enforcement actions. However, they remain open due to legal issues, such as whether the Federal government has waived its sovereign immunity and can pay penalties to state or local regulators. Progress is being made to settle the legal disputes and allow the actions to be closed out.

DoD works hard to demonstrate to regulators, Congress, and the general public that the U.S. Armed Forces are excellent stewards of the environment and can be counted on to do the right thing. The DoD compliance program strives to prevent new enforcements actions and to correct violations as quickly as possible.

Guidance and tools are available to assist installations in identifying and addressing compliance issues, with an emphasis on using pollution prevention. For example, in October 2001, the Navy implemented a new web-based reporting system for enforcement actions that

Figure 19
Compliance Enforcement Actions

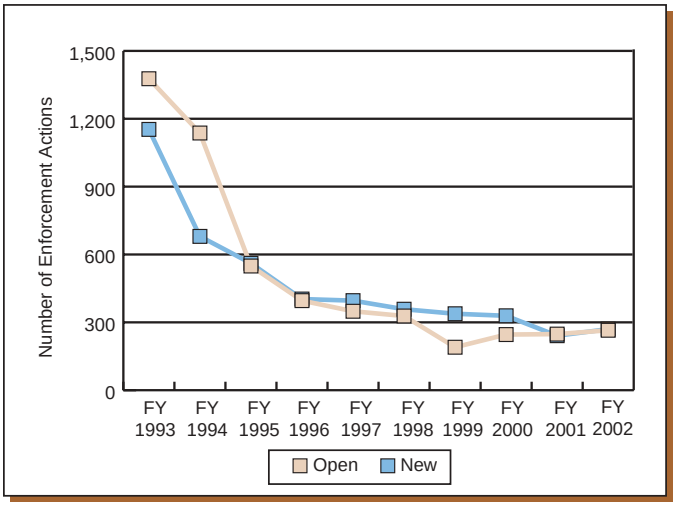
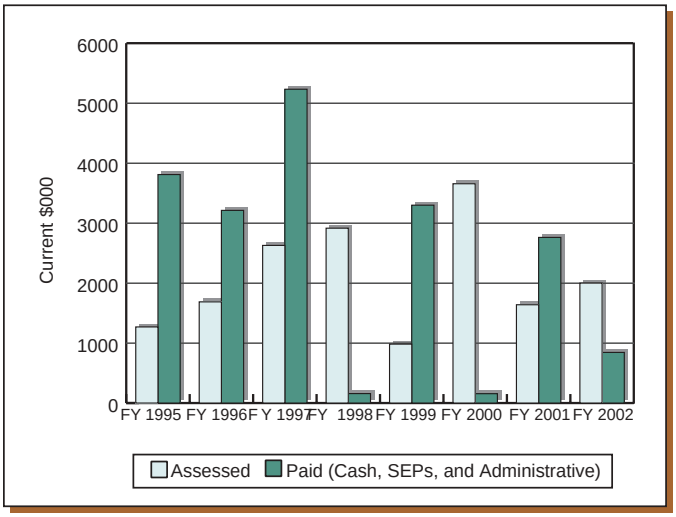


Figure 20
Fines and Penalties



provides activities, major claimants, and the Chief of Naval Operations with real time information. This enables the Navy to identify systemic problems sooner and take action to correct them. The system also highlights opportunities to use pollution prevention to eliminate existing and potential sources of enforcement actions.

Fines and Penalties

DoD facilities must comply with Federal, state, and local environmental laws and regulations. These facilities may be subject to fines and penalties if they are found to be in noncompliance with these regulations. DoD makes every effort, including participating in incentive-based compliance programs and developing compliance assessment systems, to maintain compliance while ensuring the success of the mission.

The amount of fines and penalties paid during FY 2002 decreased over the amount paid in FY 2001 (Figure **20**). The majority of the fines and penalties that DoD paid in FY 2002 were originally assessed in FY 2001. A fine assessed in one year may not be paid until a later fiscal year. Therefore, the amounts paid are linked to the amount assessed in the original fine, regardless of the fiscal year assessed.

DoD pays fines either in cash or by funding supplemental environmental projects (SEPs). A SEP is an environmental project in lieu of paying a fine. The project must improve, protect, or reduce risks to public health or the environment. Appendix J, Summary of FY 2002 Environmental Quality Fines and Penalties Assessed and Paid, provides a list of the FY 2002 fines and penalties data and highlights trends over the past five years.

Munitions Action Plan

The purpose the Munitions Action Plan (MAP) is to identify initiatives that will help maintain the combat readiness of the U.S. Armed Forces by enhancing explosives safety and improving environmental stewardship. The MAP contains 29 specific initiatives that will result in faster, better, and cheaper accomplishment of

common munitions-related goals. The initiatives address all phases of the munitions life-cycle. Implementing the MAP is a significant part of sustaining DoD's test and training range operations.

The MAP is focused on—

- Protecting and enhancing readiness
- Maximizing safety and minimizing environmental impacts
- Promoting public support by demonstrating leadership
- Taking a life-cycle approach.

In the MAP, the munitions life-cycle consists of five phases—

- Acquisition and production of munitions
- Use of the munitions for training, testing, or military operations, and overall management of operational test and training ranges
- Stockpile management, including active stocks, the war reserve, and the demilitarization inventory
- Demilitarization of the inventory of excess, obsolete, and unserviceable munitions and waste munitions
- Responses to address unexploded ordnance (UXO), waste munitions, or munitions constituents stemming from the use of munitions on active and former DoD properties, except at operational ranges.

On March 20, 2002, the Deputy Secretary of Defense approved and issued the MAP to the DoD Components for implementation. Some actions identified in MAP were already under way, including—

- Developing a Munitions Response Directive for UXO and munitions constituents at other than operatoial ranges
- Finalizing a DoD Instruction for "material that presents a potential explosive hazard" for range residue, such as metal scrap generated by range operations
- Developing a DoD Range Clearance Policy for operational ranges
- Developing a stakeholder involvement strategy at the local, regional, and national levels.

Data Quality

To successfully comply with a broad range of environmental regulations and requirements, the DoD Components often must sample and test air, water, and soil. The resulting data collected are an important part of environmental decision-making.

Environmental Data Quality Working Group

In 1996, DoD established an Environmental Data Quality Work Group (EDQW) to develop and recommend policies for environmental program sampling and data quality analysis. In many cases, DoD Components contract with outside laboratories for analytical work. DoD is undertaking data quality initiatives because of past inappropriate laboratory practices, increasingly stringent cleanup criteria, inconsistent requirements across states and EPA regions, and EPA's Performance-Based Measurement System.

The EDQW, chaired by the Navy, includes representatives from each DoD Component. Its primary goals are to—

- Promote the generation of environmental data of known and documented quality
- Develop and recommend DoD policy affecting environmental sampling and testing operations
- Facilitate a coordinated response to legislative and regulatory issues
- Coordinate the exchange of technology and best management practices within DoD
- Improve overall performance.

The EDQW is also participating in several intergovernmental outreach and training initiatives with both DoD contractors and program managers. In May 2002, the EDQW released a revised progress report entitled *Best Practices for Data Quality Oversight of Environmental Sampling and Testing Activities*. The report documents best practices that DoD identified to ensure that quality data is collected to support environmental program decisions, including—

- Using data quality objectives
- Using a systematic planning process for data collection activities
- Improving policy, guidance, and documentation

- Improving laboratory oversight practices
- Refining management and contracting processes.

This report serves as the EDQW framework strategy for developing an environmental sampling and testing policy for DoD.

In May 2002, the EDQW received a Special Recognition Award through the Secretary of Defense Environmental Awards Program for outstanding work in improving the efficiency and effectiveness of environmental data collection activities and for enhancing the quality and reliability of data used to make environmental decisions throughout DoD.

FY 2002 Budget Execution

DoD's Compliance Program budget has declined by 6.4 percent from FY 1999 to FY 2004, allowing for inflation. During FY 2002, DoD invested $1.7 billion in compliance activities. Of this amount, DoD invested $. Recurring compliance costs are those relatively constant activities that an installation must accomplish to support the mission and maintain compliance with environmental regulations and permit requirements. These activities include routine sampling, analysis of discharges to air and water, and hazardous waste disposal. Other recurring costs include purchasing supplies, maintaining and operating equipment, managing NPDES permits and Clean Air Act inventories, and conducting self-assessments. Of the recurring investments, manpower is the largest single cost investment.

Figure 21
DoD Budget Summary: Compliance Recurring

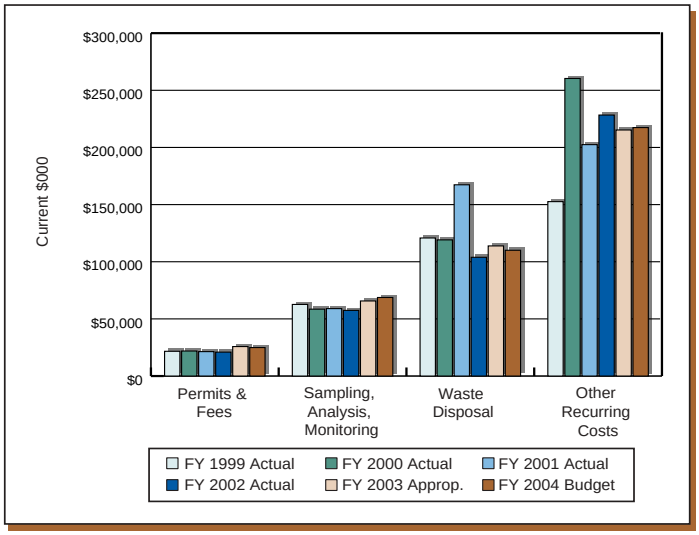
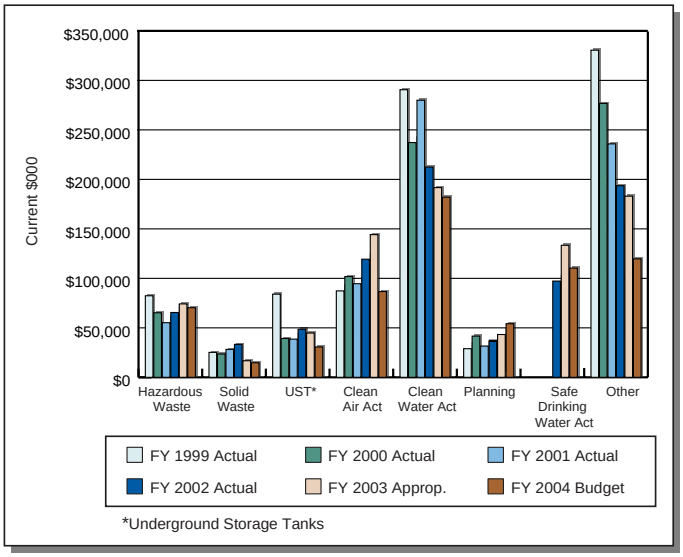


Figure 22
DoD Budget Summary: Compliance Nonrecurring



DoD invested 66 percent or $806 million, of the FY 2002 Compliance Program funds in nonrecurring projects, or one-time events, such as projects to maintain standards at wastewater treatment facilities or to install air pollution controls (Figure 22)[2]. One of the largest non-recurring investments that the Compliance Program makes each year is employing CWA regulations, which requires substantial infrastructure investments in wastewater treatment plants and storm water management.

FY 2004 Budget Request

The Compliance Program budget request is the largest percentage of the FY2004 Environmental Quality Program budget request at 82 percent. DoD's FY 2004 budget request for the Compliance Program is $143 million less than the FY 2003 budget, as appropriated by Congress.

[2] The SDWA compliance was reported separately from "other" beginning in FY 2002. This accounts for the decrease in funding in the "other" category.