

STATEMENT OF  
ELSIE MUNSELL  
DEPUTY ASSISTANT SECRETARY OF THE NAVY  
(ENVIRONMENT AND SAFETY)  
BEFORE THE  
SUBCOMMITTEE ON READINESS  
SENATE ARMED SERVICES COMMITTEE  
ON  
LAND WITHDRAWALS  
AND  
FY-2000 DEPARTMENT OF THE NAVY ENVIRONMENTAL PROGRAM

13 APRIL 1999

Good day, Mr. Chairman and members of the Committee, I am Elsie Munsell, Deputy Assistant Secretary of the Navy for Environment and Safety. I appreciate the opportunity to speak to you today on the Department of the Navy's (DON) FY-2000 environmental program. I also welcome the Committee's interest in discussing land withdrawal issues for military purposes.

My statement covers a number of areas:

- Land withdrawals at Naval Air Station Fallon, Nevada and at the Barry M. Goldwater Range in Arizona;
- Military readiness and the environment;
- An overview of our FY-2000 budget request;
- A more detailed discussion of the highlights of our environmental cleanup, compliance, pollution prevention, conservation and technology development efforts.

## **LAND WITHDRAWALS**

### **Need for Land Withdrawals**

Since the earliest days of warfighting, the military services have required land areas to learn and practice their warfighting skills. The adage of "train like you fight and fight like you train" is as true today as it was centuries ago. The advent of modern military aviation and weapon systems with deep strike capabilities has increased the need for access to large tracts of land that allow warfighters to perfect their skills in realistic environments. To be effective, modern training operations must simulate enemy threat environments, counter attacks, and complex targeting scenarios. This is accomplished through the use of fixed and mobile electronic warfare systems, adversary aircraft squadrons, and the construction of realistic, flexible target complexes.

The military services have gained access to these training areas either through purchase of the land, or shared use of public lands managed by other federal agencies such as the Bureau of Land Management (BLM) and the Forest Service. Many of the training ranges in use today by the Navy and Marine Corps had their origins during or immediately after World War II, and have been in continuous use since that time. The BRAC process closed some training ranges increasing usage at the remaining ranges.

Yet, as the need for military training ranges has grown, so have concerns about population encroachment, noise from overflights, ordnance landing off-range, and the impact on wildlife. In 1986, the Congress passed Public Law 99-606, which withdrew 7.2 million acres of public lands for use by the military services as training ranges. The law provided a 15-year withdrawal, and

required the military services to follow a prescribed process to renew the withdrawal at the end of that term. The authority to use these withdrawn lands ends in November 2001.

The DON has two withdrawal actions and involvement with the Department of the Air Force in another withdrawal action for consideration by this Congress:

- Renewal of withdrawal under PL99-606 for 21,600 acres known as Bravo-20 at Naval Air Station Fallon, Nevada;
- Renewal of the Barry M. Goldwater Range (BMGR) under Public Law 99-606;
- New Range Safety and Training (RS&T) withdrawal of 127,000 acres at Naval Air Station Fallon, Nevada.

Each of these withdrawals is critical to the Navy and Marine Corps ability to perform its national military mission.

### **Bravo-20 Renewal**

Naval Air Station (NAS) Fallon is the Navy's premier aviation warfare training range. It has four geographically separate air-to-ground training ranges all within 35 miles of the base and 10,000 square miles of corresponding airspace. In use for over 50 years, it has a well developed infrastructure to support the 1,500 to 2,000 pilots, instructors, maintenance crews and other support personnel who occupy the base during carrier air wing training evolutions. It is the only Navy range that supports simultaneous training immediately prior to deployment of an entire naval air wing comprised of up to 90 aircraft. BRAC 93 directed the Navy to move its TOPGUN fighter weapons school and TOPDOME Airborne Early Warning School from NAS Miramar to NAS Fallon. That move was completed in 1996.

Bravo-20 consists of a checkerboard pattern of about 21,600 acres of withdrawn land and 19,400 acres of land acquired by the Navy in 1982. The topography is flat and remote. Bravo-20 contains two conventional bull's eye targets, two strafe targets, one target for laser weapon training, and one target of a simulated "surfaced" submarine. It is the only Navy range that allows delivery of 2,000 pound live ordnance.

The Navy began the legislative process for renewing the withdrawal of Bravo-20 by publishing a notice of intent to prepare a Legislative Environmental Impact Statement<sup>1</sup> (LEIS) in the Federal Register and in local newspapers in November 1997. Public scoping meetings were held in three locations in December 1997 where the Navy received written and oral comments on the

---

<sup>1</sup> A detailed statement required by law to be included in a recommendation or report on a legislative proposal to Congress.

renewal. The Navy held public hearings on the draft LEIS at two locations in July 1998. A final LEIS was issued in December 1998 that recommended renewal of Bravo-20 under the same constraints as currently in place. BLM has not identified any concerns regarding renewal of Bravo-20. We are working with BLM as they prepare their preliminary findings and recommendations on the withdrawal renewal as required under 43 CFR 2310.3.

### **Barry M. Goldwater Range Renewal**

BMGR was withdrawn under PL 99-606 and assigned to the Secretary of the Air Force to manage. Approximately one third of the western portion of BMGR's 2.7 million acres includes the Cabeza Prieta National Wildlife Refuge, so the military withdrawal and wildlife refuge coexist. The Marine Corps is the primary user and operationally schedules the western portion of the BMGR.

The USF&WS is responsible for the surface management of the Cabeza Prieta. The Desert Wilderness Act of 1990 (PL 101-628) affirmed the dual use of the Cabeza Prieta for military use and wilderness area. Military use of the Cabeza Prieta is primarily for overflights with restrictions on minimum flight altitudes; military use of the Cabeza Prieta surface is limited to five remote sites where electronic instruments are used to track and evaluate military aircraft training activities. No aerial gunnery or air-to-surface ordnance delivery occurs in the Refuge.

Use of the BMGR is critical to Marine Corps combat training and combat readiness. The Marine Corps conducts basic and advanced bombing and strafing using live fire with inert munitions; applied and advanced ground attack tactics using simulated bomb drops; basic and advanced air to air tactics; forward airfield helicopter and fixed wing operations; ground based air defense, air command and control; and large scale force on force operations integrating air to ground battlefield. The Marine Corps portion of the range had over 9,400 sorties flown last year.

The Air Force issued a notice of intent to prepare a LEIS for BMGR in February 1996 and a draft LEIS in September 1998. Public hearings were held in November, 1998 at eight locations in Arizona. The Air Force has had extensive consultations with the Native American groups who live in or near the BMGR. They are now working to complete the final LEIS. The DoD is proposing that withdrawal of BMGR be made with one portion reserved for the Secretary of the Air Force, and the other reserved for the Secretary of the Navy based upon usage and management requirements.

## **Range Safety and Training Withdrawal**

In addition to land withdrawal renewals under PL 99-606, the Navy is also seeking a Range Safety and Training (RS&T) Withdrawal of approximately 127,000 acres surrounding NAS Fallon.

Changes in technology and military strategy require that NAS Fallon improve its operational and strategic combat training. Additional visual cuing devices, electronic warfare, and tactical aircrew combat training sites are needed to enhance combat training. Existing withdrawal footprints and electronic warfare site locations do not allow for the threat presentation required to maintain combat readiness.

Four studies conducted by the Navy since 1990 have outlined the need for an additional 40,000 acres of land to expand buffer and safety zones around existing NAS Fallon training ranges. Off-range sweeps have found surface ordnance surrounding the Bravo-16, -17, and -19 training ranges. Additionally, weapons impact hazard footprint studies have identified the need for public land outside off-range hazard areas. There have also been concerns about noise levels.

The Navy published a notice of intent to prepare an EIS for the RS&T withdrawal in May 1995, and held public scoping sessions in Reno, Nevada and Fallon, Nevada in June 1995. A draft EIS was provided for public and agency review in July 1997. Public hearings were held in Reno, Fallon, and Austin, Nevada in September 1997.

A final EIS was published in April 1998 that addressed all comments received on the draft EIS. Three alternatives, which would have withdrawn between 127,000 to 189,000 acres, were identified that would meet the intended purpose and need for the withdrawal. A no action alternative was also considered. The preferred alternative withdraws 127,000 acres of land. It would establish two categories of land:

- Category A consists of about 40,000 acres that has potential ordnance hazards. It would be fenced off for exclusive Navy use.
- Category B consists of the remaining 87,000 acres that would provide for joint Navy and public use.

Most of the land in question is currently managed by BLM, with smaller portions managed by the Bureau of Reclamation (BOR) and the Department of Energy (DOE). The lands unaffected by potential off-range ordnance are primarily used for recreation, grazing and mining, and are primarily undeveloped except for roads and utility corridors. The EIS found that the most significant impact of the proposed withdrawal is on existing mining rights. The Navy is prepared to explore compensation of mining claims. Compensation for

livestock grazing will be handled under the Taylor Grazing Act. Any compensation for mining claims and grazing would of course be subject to Congressional Authorizations and Appropriations. The EIS did not find any significant adverse impact to endangered and threatened species. Proposed mitigation includes no ground or low level helo flights below 500 feet within ½ mile of any springs and water troughs.

## **MILITARY READINESS AND THE ENVIRONMENT**

### **Complying with the Law**

Congress has enacted many environmental laws in the last few decades, and federal agencies like the Environmental Protection Agency and the U. S. Fish and Wildlife Service have issued numerous implementing regulations. States and localities enact environmental standards addressing their own unique concerns. These environmental standards have made tremendous strides in cleaning the air that we breathe, ensuring that the water we drink is safe, and reducing or eliminating risks resulting from past contamination.

The DON understands that the nation wants both a strong Navy/Marine Corps and a protected environment. Our environmental program is designed to comply with all federal, state and local environmental standards using cost-effective solutions. We try to work closely with the regulatory community to ensure that any unique military needs are considered before a proposed rule is enacted. We expect to meet the same environmental standards as does private industry. Environmental compliance is the law of the land and of the sea; we must obey.

### **Ensuring Access**

The DON is the steward for 3.5 million acres of land in the United States. Maintaining compliance with all environmental standards ensures our continued access to training ranges and operating areas on land, in the air, and at sea. We recognize that many of our actions, whether they are to train new Sailors or Marines, maintain readiness of combat forces, or test new weapons systems, have an impact on the environment. We need to understand those impacts and take appropriate actions to minimize them. Beyond the strict interpretation of the law, we have a moral and ethical responsibility to conserve the natural resources entrusted to us for future generations.

### **Cost-effective Solutions**

While we must and will comply with environmental standards, we want to do so in the most cost-effective, businesslike manner. Where new environmental standards are being considered, the nation must use sound scientific data to balance the environmental cost of compliance with the environmental benefit that is obtained. Where environmental standards have

been established, we carefully weigh the life cycle cost of different alternatives. Often that means adopting a pollution prevention solution.

## **FY-2000 ENVIRONMENTAL BUDGET**

### **Budget Overview**

The DON FY-2000 environmental budget will allow us to clean up contamination at active and reserve bases; comply with current environmental standards; invest in pollution prevention; conserve our natural and cultural resources; develop new environmental technologies; and fund environmental efforts at base realignment and closure (BRAC) locations. It also allows us to continue efforts to clean up residual ordnance at Kaho’olawe Island in Hawaii.

From a peak of over \$1.7 billion in FY-1996, our budget request has now stabilized at about \$1.4 billion, a decline of nearly 18 percent. Yet within our overall environmental budget, some budget lines remain steady, while others have significant changes.

(\$M)	FY-98	FY-99	FY-00
Cleanup	276	274	284
Compliance	710	680	563
Pollution Prevention	102	102	97
Conservation	23	21	19
Technology	55	94	93
BRAC	342	275	382
Kaho’olawe	35	25	15
<b>Total</b>	<b>1,543</b>	<b>1,471</b>	<b>1,453</b>

### **Stable Cleanup Funding**

The Environmental Restoration, Navy (ER,N) account funds cleanup at active and reserve (i.e., non-BRAC) Navy and Marine Corps bases located in the U. S.

We remain faithful to our efforts to retain a stable funded cleanup program at about the \$300 million level. The \$10 million increase in FY-2000 consists of \$4 million in price growth and \$6 million in program growth. Three million dollars of the program growth supports a new initiative in FY-2000 to identify unexploded ordnance (UXO) on closed, transferring, or transferred ranges. The remaining \$3 million program increase supports additional actual cleanups at high relative risk sites. Management and support costs represent 13 percent of the program value, and includes funding for state assistance of our cleanup efforts under the Defense and States Memorandums of Agreement (DSMOA), and health risk assessments conducted by the Agency for Toxic Substances and Disease Registry (ATSDR).

This level of funding will protect human health and the environment, focus funding on the most contaminated sites using risk management, and continue our commitment for a consistent and predictable level of cleanup effort.

## **Declining Environmental Compliance Funding**

Our environmental compliance budget request will allow us to comply with all known environmental standards at a much lower cost; we have reduced environmental compliance funding by \$117 million in FY-2000. This represents a 17 percent reduction below the FY-1999 authorized and appropriated level, a very significant accomplishment!

In general terms, this reduction is the result of significantly fewer one-time compliance projects, while holding our total recurring<sup>2</sup> costs steady at about \$320 million. There are several factors at work here:

- We are now reaping the benefits of past investments in pollution prevention which have reduced or eliminated future compliance costs;
- BRAC related closures have consolidated our infrastructure, and thus, minimized the number of facilities that must attain compliance;
- There are fewer new environmental standards that we must comply with; and most importantly;
- After many years of effort and the application of significant resources, we have either achieved compliance or made significant progress in a number of specific areas.

The compliance reductions span most of the environmental appropriations:

- \$57 million reduction in Operations and Maintenance (O&M) funds – we have completed upgrades and repairs to hazardous waste storage facilities under Subtitle C of the Resource Conservation and Recovery Act (RCRA); we have met the Underground Storage Tank (UST) standards under Subtitle I of RCRA; we have turned the corner on Clean Water Act (CWA), Clean Air Act (CAA), and Safe Drinking Water Act (SDWA) investments;
- \$36 million reduction in Military Construction funds – we have completed nearly all the large investments needed to replace or upgrade our domestic and industrial wastewater and sewage treatment plants and connections; we have nearly completed construction on new hazardous storage facilities;
- \$15 million reduction in Other Procurement funds – we have completed the installation of plastic waste processors on our surface ships, and are well underway in installing pulpers and shredders that process solid waste;
- \$9 million reduction in Navy Working Capital funds – for the same reason as I described for our O&M account.

---

<sup>2</sup> Includes civilian manpower salaries and benefits, environmental training, and routine/recurring costs for permits, fees, sampling, analysis, monitoring, hazardous waste disposal etc., in compliance, conservation and pollution prevention.

### **Maintained a Focus on Pollution Prevention**

Pollution prevention is our first choice to meet environmental standards. Our overall pollution prevention budget is down \$5 million compared to FY-1999. This is primarily the result of the Navy approaching completion of one-time projects for shoreside ozone depleting substance (ODS) conversions and the Hazardous Substance Management System (HSMS).

I would like to point out that we are investing a greater share of the overall environmental quality<sup>3</sup> program in pollution prevention; pollution prevention represents 14 percent of the FY-2000 program compared to 12 percent in the FY-1998 program.

### **Reassessed Conservation**

Although the conservation budget is relatively small, it provides enormous leverage in our ability to use air, land and water resources for military training and readiness purposes. The \$2 million decline in the conservation program is the result of having completed some of the Integrated Natural Resource Management Plans (INRMP) required by the Sikes Act of 1998.

### **Maintained Technology Funding**

We continue to fund environmental technology efforts to develop more cost-effective solutions to meet existing environmental standards, and to develop solutions for anticipated future standards. We have added \$9 million in FY-2000 to support the development of liquid waste treatment technologies. These technologies will also support Phase II of the Uniform National Discharge Standards rule making. These liquid waste treatment technologies include improved oily waste membrane polishers, sewage and graywater treatment systems and development of vortex incinerators as the key component of the Integrated Liquid Waste Discharge System (ILDS) for future surface ships. The increase in liquid waste is offset by two environmental technology projects added by the Congress in FY-1999 which will be completed this year and are not continued in FY-2000.

### **Increased BRAC Environmental Funding**

We have added \$107 million in FY-2000 to accelerate cleanup at BRAC locations. This represents the single highest level of BRAC environmental funding since inception of the BRAC program in 1988. This financial commitment underscores the DON's efforts to cleanup BRAC property consistent with the needs and priorities of the Local Redevelopment Authorities. Details on our BRAC environmental efforts and financing were part of my testimony before this Committee last month on the DON MILCON program.

---

<sup>3</sup> Environmental quality consists of environmental compliance, conservation, and pollution prevention.

**Continued Kaho’olawe Cleanup**

Our budget request includes \$10 million for the continued cleanup of the former naval bombing range at Kaho’olawe Island in Hawaii under the terms prescribed in the 1994 Department of Defense Appropriations Act, and the subsequent memorandum of agreement signed with the State of Hawaii. We begin actual clearance of UXO this year.

**CLEANUP AT ACTIVE BASES**

**Program Overview**

The installation restoration program, more simply called cleanup, investigates, characterizes, and cleans up contaminated sites on Navy and Marine Corps installations. Two federal laws are the primary drivers: the Comprehensive Environmental Response, Compensation and Liability Act (CERCLA) and RCRA.

Forty-three Navy and Marine Corps active bases are listed on the EPA National Priorities List (deemed the most seriously contaminated), while 154 bases are non-NPL. Since

Cleanup Sites at Active Bases			
	Sept 96	Sept 97	Sept 98
Response Complete	1,198	1,450	1,570
Remedy in Place	41	59	168
Study Underway	1,201	988	951
Cleanup Underway	228	187	120
No Current Action	730	766	659
<b>TOTAL</b>	<b>3,398</b>	<b>3,450</b>	<b>3,468</b>

the DON cleanup program began in 1980, we have identified 3,468 contaminated sites, an increase of 18 sites over what was reported in our FY-1999 budget request. This is the smallest increase in the number of new sites we have ever recorded. Most of the new sites were RCRA corrective actions at Naval Weapons Station Charleston, SC. While only 18 new sites were added, 229 sites achieved response complete/remedy in place last year, a 15 percent increase over the previous year. The primary contaminants found on our bases are, in order of frequency: petroleum products, solvents, heavy metals, and PCBs.

**Project Identification and Prioritization**

The Naval Facilities Engineering Command (NAVFAC), and its Engineering Field Divisions and Activities execute the cleanup program for both the Navy and Marine Corps activities. NAVFAC remedial project managers work closely with installation cleanup personnel to prioritize work to be done. Regulator desires and inputs from community members are also considered. Program requirements are

FY-2000 Program	# Sites	% of Funds
High	324	62
Medium	75	6
Low	32	3
Not Evaluated	11	2
RAO/LTM*	323	14
Mgt and Support		13
<b>Total</b>	<b>765</b>	<b>100%</b>

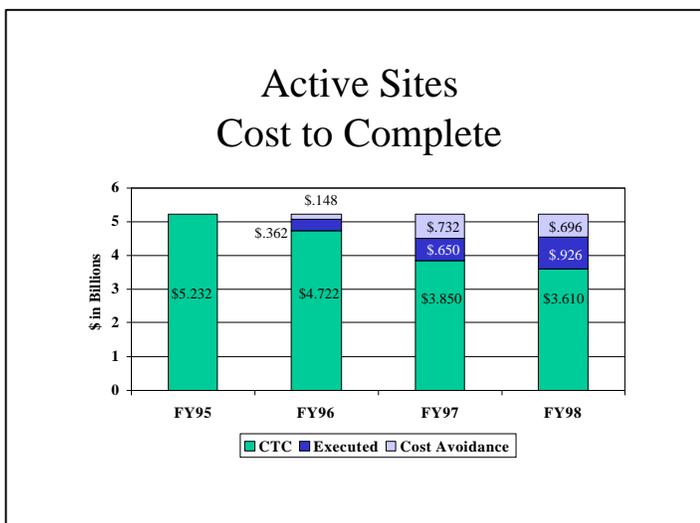
\*Remedial Action Operation/Long-term Monitoring

generated for each contaminated site on the base using parametric cost estimates and relative risk site evaluation standards developed by the Office of the Secretary of Defense. Relative risk considers the relationship between the contaminant(s), the pathway(s) that the contaminant may travel, and the receptor(s), i.e., human, animal and plant that can be adversely affected. Sites are then grouped in categories of “high,” “medium,” and “low.” Since we cannot reasonably and financially do everything first, relative risk seeks to first assign those sites that pose a greater health and safety risk. As the table displays, we are applying the bulk of our funds to high-risk sites. However, while we fund high-risk sites first, it is only one of the criteria used by the Department to assign priorities. Others include execution, regulator and public concerns and mission impacts.

### Cost-to-Complete Index

We established a DON Cost-to-Complete (CTC) index in 1995 to measure progress in reducing the overall cost of cleanup. Using the beginning of FY-1996 as the baseline, we have reduced our CTC for active bases from \$5.2 billion to

\$3.6 billion. Some of that reduction is the result of having spent \$926 million of appropriated funds. The remaining \$700 million is a direct result of our efforts to reduce costs. For example, we are making better use of bio-remediation, where the tradeoff is longer time for full cleanup but less costly initial actions. Using better data and more realistic assumptions in risk



assessments have allowed us to determine, in cooperation with community representatives and regulators, that some sites do not require cleanup. New technologies during the characterization and analysis phases have allowed us to better define the problem and thus select a more cost-effective cleanup solution.

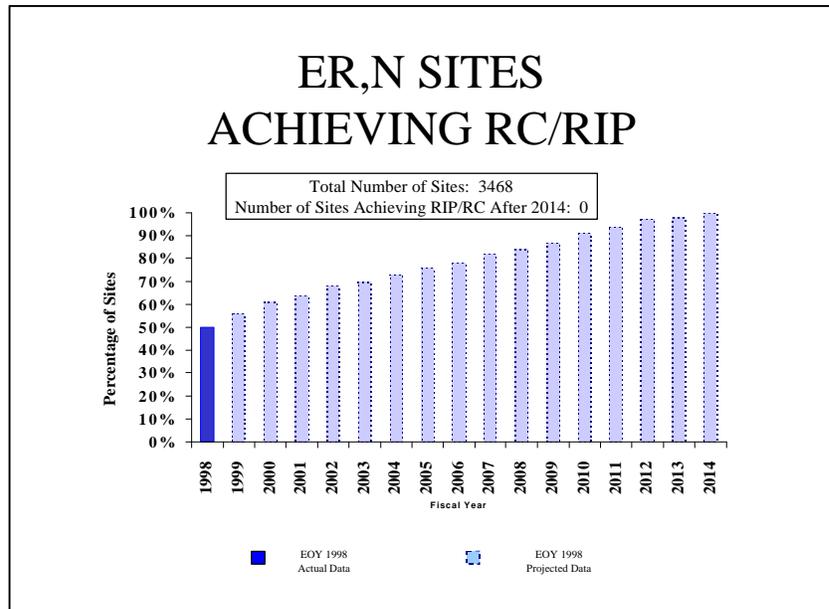
The decline in cost avoidance is not a reflection of declining interest in this metric, but a reflection of the increasing challenge to identify and incorporate further efficiencies. Our solution is to make sure that our remedial project managers (RPMs) are properly trained, highly motivated, and have the latest information at their disposal:

- We have enhanced RPM training to include ecological and human health risk assessments, and how best to achieve remedy selection and closure;

- We provide remedial innovation technology seminars to highlight promising new technologies;
- We have instituted quarterly teleconferences to allow our RPMs to share their experiences with other RPMs;
- We are using the Internet to disseminate cleanup case studies, technological applications and limitations, and other cleanup information;
- We are recognizing and rewarding RPMs who cut red tape, employ new procedures and technologies, work skillfully with regulators and the community, and pursue opportunities to better leverage our resources.

**Cleanup Goal: Site and Installation Closeout**

Our objective is to close-out contaminated sites consistent with relative risk and regulator concurrence in the quickest and most cost-effective manner possible. We are making significant progress. We have already achieved close-out on 45 percent of our active sites, representing 48 of the 197 active (non-BRAC) installations. Cleanup is underway at 36 percent of the remaining sites, while only 19 percent of our sites are deferred for future action.



We expect to have remedy-in-place/response complete (RIP/RC) for 63 percent of all high-risk sites at active base sites by the end of the year 2002, exceeding the DoD goal of 50 percent, and to complete the program by the year 2014.

**COMPLIANCE ASHORE**

**Program Overview**

The compliance program allows current operations and industrial process to meet existing environmental standards. Our policy is to take whatever management actions are necessary to get into compliance. The principal challenges are under the:

- Clean Water Act, which regulates wastewater treatment and other discharges into waterways;

- Clean Air Act, which regulates air emissions;
- Resource Conservation and Recovery Act, which regulates hazardous waste, solid waste, and USTs;
- Act to Prevent Pollution from Ships, which regulates shipboard discharges.

**Monitoring Compliance**

Under the leadership of DoD, we use a number of different metrics to monitor compliance. New enforcement actions issued by regulators is one such measure.

Viewed in the aggregate, we have achieved some remarkable

New Enforcement Actions						
	FY-93	FY-94	FY-95	FY-96	FY-97	FY-98
Navy	278	188	161	146	122	129
Marine Corps	345	39	24	18	39	44
Total	623	227	185	164	161	173

successes. However, there is still room for improvement. Both the Navy and Marine Corps are taking steps to reverse recent increases: strengthening environmental training and education programs in clean air, storm water, treatment plant discharges; refocusing environmental compliance self-evaluations performed by each activity; performing root cause analyses to identify situations or actions that lead to notices of violations; and most importantly, bringing senior management attention to the issue.

There are a number of other indicators whose accomplishments are particularly impressive over the period of 1992 through 1997 (the most recent reporting period):

- Hazardous waste disposal: the Navy has achieved a 56 percent reduction and the Marine Corps an 18 percent reduction;
- Non-hazardous waste disposal: the Navy has achieved a 22 percent reduction;
- Toxic Release Inventories: the Navy has achieved a 64 percent reduction in reportable releases and the Marine Corps a 92 percent reduction.

**Underground Storage Tanks**

There has been much media interest recently as private industry and government agencies sought to meet the December 1998 EPA deadline on conformity standards for USTs regulated under RCRA (Subtitle I). Tanks had to meet specific construction and leak detection standards. I am pleased to report that both the Navy<sup>4</sup> and Marine Corps met the standard.

<sup>4</sup> The Navy has a previously established agreement with the State of Florida that extends compliance to December 1999.

Ours was a formidable task begun in 1992. Many tanks had been abandoned and their whereabouts no longer clearly known. We eventually identified an inventory of about 3,000 Navy and 7,000 Marine Corps tanks, very few of which met the December 1998 standard. Further complicating matters were different state laws pertaining to UST closure, maintaining accountability with regulators, removing and closing USTs at BRAC bases only after reuse needs were known.

In the end, about 1,300 Navy and 300 Marine Corps USTs have been replaced or upgraded to meet the EPA standards. About 70 of the Navy tanks are in temporary closure until work is completed to bring them into compliance. Another 110 Navy and 65 Marine Corps tanks are still in the removal process.

Marine Corps Base Camp Pendleton, CA had the most difficult challenge. With an inventory of over 600 USTs, the County of San Diego had issued over 200 Notices of Noncompliance to the base in 1994. Camp Pendleton undertook a full court press to meet the December 1998 deadline. On December 15, 1998, the last of the USTs were brought into compliance; 580 of the tanks were permanently removed from service and 49 tanks were upgraded to meet the standard.

### **Clean Air Emission Credits**

The FY-1998 Defense Authorization Act established an emission reduction incentives pilot program that brings marketplace incentives for clean air act emission credits to military installations. It allows installations to use the proceeds from the sale of air emission credits for environmental projects on the base instead of depositing the money into the U.S. Treasury.

As the executive agent for Clean Air Act issues, the Navy drafted policy and procedures recently issued by DoD governing selling air emission credits. The first military installation to participate in the program was March Air Reserve Base, which retained \$59,000 in air emission proceeds to satisfy other environmental needs.

This pilot program is only in effect until 30 September 1999. The DoD has prepared a legislative proposal to extend the pilot program for two years. I urge your support for this initiative.

## **SHIPBOARD COMPLIANCE**

### **Plastic Waste Processors**

The FY-1994 Defense Authorization Act established deadlines for the Navy to outfit its ships with plastics processors and stop discharging plastics

waste overboard. The Navy has for many years been investing in research and development activities to bring new environmentally sound solutions to the unique needs of our ships. One such effort was the development of a Plastics Waste Processor (PWP) that heats and compresses plastic waste, including food contaminated plastics, into easily handled disks which are then sealed in special plastic bags for odor and pest control and stored aboard ship while at sea. The disks are then off-loaded in port for proper shoreside disposal or recycling.

I am pleased to report that the Navy met the 31 December 1998 deadline to complete fleet implementation of PWPs. This new equipment has been installed on 185 surface ships. Four additional ships are currently in a maintenance availability and will return to sea with PWPs. The total cost for research, equipment and installation was \$298 million.

As of 1 January 1999, Navy surface ships no longer discharge plastics into the ocean.
---

Research efforts continue to tailor a PWP for the unique space and atmosphere conditions on submarines. The Act sets 2008 as the deadline for submarine compliance. Submarine crews now eliminate as much plastic as possible before going to sea, and maintain the 3 day/30 day Navy storage policy for food contaminated/non-food contaminated plastic waste.

### **Pulpers and Shredders**

The FY-1997 Defense Authorization Act allows Navy ships to discharge pulped paper and food products and sinkable, shredded solid wastes other than plastics in “special areas” designated under international treaty. Navy research efforts developed two sizes of pulpers to process paper, cardboard, and food waste, and a shredder to process metal and glass. Shipboard installations of pulpers and shredders began in 1998. Installations have now been completed on 10 ships and are underway on another 21 ships. As required by law, all fleet installations will be completed by 31 December 2000. To meet this deadline, the Navy will install pulpers and shredders during ship availabilities in both public and private shipyards and by pier side Alteration Installation Teams. Consistent with our 1996 Report to Congress on Shipboard Solid Waste, the Navy will operate these new solid waste processing devices even outside of the “special areas.” The estimated cost for research, procurement and installation of these devices are \$317 million.

### **Uniform National Discharge Standards**

The FY-1996 Defense Authorization Act enacted legislation sponsored by the Navy and EPA to jointly establish Uniform National Discharge Standards (UNDS) for incidental liquid waste (other than sewage) on vessels of the Armed Forces.

With the Navy as the lead, all discharges subject to UNDS have been identified and initially characterized. A proposed rule was published in the *Federal Register* in August 1998 identifying 25 discharges requiring Marine Pollution Control Devices (MPCDs). We are now evaluating comments received on the proposed rule and expect to publish the final rule this summer.

The next major milestone in the UNDS rule making process is to establish MPCD performance standards, which will require some additional study of discharges and evaluation of shipboard control options. This will lead to establishing DoD regulations governing the design, construction, installation, and operation of MPCDs. Interested states have been involved in the UNDS effort since its inception.

It is premature to speculate on the impact of the final MPCD regulations, which will apply only in U.S. territorial waters. Standards for the 25 identified discharges could take the form of new control devices, management practices, new construction/application techniques, or some combination of these actions. We are confident that UNDS will meet the twin goals of fleet operational flexibility and environmental protection.

### **Ship Scrapping**

The Navy has traditionally sold obsolete ships to a scrapper who would dismantle the ship and sell the materials to recycling plants. With the number of deployable battle force ships being reduced from 568 in 1988 to 314 in FY-2000, the need for ship scrapping has increased dramatically: there are over 180 ex-Navy ships in the Navy Inactive Fleet and Maritime Administration (MARAD) inventory now awaiting disposal action.

Ex-Navy ships being disposed of by MARAD were sold to overseas scrappers. MARAD has not sold any vessels overseas since 1994. Both Navy and MARAD have since suspended any effort to use their export agreement with EPA in response to Congressional concerns on overseas working conditions and environmental issues. The current depressed domestic market for scrap metals and the increased cost of environmental and safety compliance has made this method unprofitable for the U.S. scrapping industry. A contract for conversion of seven ex-Navy ships was recently defaulted after conversion of only two ships. Another contract was defaulted after successfully scrapping one of two ships, while a third contract may be defaulted in the near future.

The presence of polychlorinated biphenyls (PCBs) aboard ex-Navy ships has exacerbated the disposal problem. The use, transfer and disposal of PCBs is regulated under TSCA. Liquid PCBs are removed relatively easily. Solid PCBs in materials such as insulation, adhesives, aluminized paints, and cable

insulation can only be removed while dismantling the ship. EPA has not yet issued guidance on the disposal of solid PCBs.

A DoD interagency ship-scraping panel report in April 1998 recommended that the Navy proceed with a pilot ship-scraping program to quantify the scope and costs of ship scrapping in private industry. The Navy issued a Request for Proposal for domestic ship scrapping in January 1999. Proposals were submitted on 30 March, with contract award expected this June. We have budgeted about \$10 million per year beginning this fiscal year to remove environmental hazards as they await scrapping.

### **Sinkex**

The Navy has also used obsolete ships for sinking exercises or "SINKEX" to train Sailors and test the effect of modern weaponry on ship design. This training is absolutely vital for maintaining the combat readiness of the men and women we send in harm's way. The Navy entered into a SINKEX agreement that allowed 16 ships to be sunk in deep water at least 50 miles from shore. This past October, the Navy asked EPA to extend the agreement for another 8 ships. EPA is currently reviewing the request.

## **POLLUTION PREVENTION**

### **Program Overview**

Pollution prevention (P2) program requirements are primarily driven by the Pollution Prevention Act, Executive Orders 12856 and 13101<sup>5</sup>, the CAA, the Montreal Protocol which banned production and import of ozone depleting substances into the U.S., and the hazardous waste minimization aspects of RCRA.

P2 is a primary business decision making tool for cost-effective compliance. It is our first choice for meeting environmental standards. Money invested in this effort can avoid permitting, sampling, testing, and record keeping while ensuring that permit standards are met. It reduces or eliminates hazardous waste disposal costs. It can also improve safety and occupational health in the workplace while maintaining weapon systems capabilities and reducing maintenance costs. All major Navy and Marine Corps installations are implementing P2 plans.

### **Hazardous Material Management**

The Navy's Consolidated Hazardous Material Reutilization and Inventory Management Program (CHRIMP) and a similar Marine Corps Hazardous

---

<sup>5</sup> EO 12856: Federal Compliance With Right-to-Know Laws and Pollution Prevention Requirements; EO 13101: Greening the Government Through Waste Prevention, Recycling, and Federal Acquisition.

Material Consolidation Program (HCP) were developed to provide centralized control and cradle-to-grave management of hazardous materials (HM). A shore facility or ship using CHRIMP or HCP uses desktop computers to track all purchasing, issuing, returning, reissuing of HM and when necessary, disposing of any remaining hazardous waste (HW). The Navy began implementation of CHRIMP in 1994, and to date has completed fielding the system at 65 percent of all installations and on all FFG ship class size and larger. Implementation will be completed by FY-2001. Thirteen Marine Corps installations have begun implementation of HCP. All other Marine Corps installations are planning for HCP implementation.

**P2 Equipment Program**

The P2 equipment program allows Navy and Marine Corps activities to quickly acquire state-of-the-art P2 technologies. The Navy has budgeted \$17 million in FY-2000 for the P2 equipment program, an increase of \$2 million above FY-1999. Centralized procurement promotes economies of scale and simplifies logistics of installation, operator training and equipment maintenance. Over 130 different types of P2 equipment have been purchased to date, including aqueous parts washers, high-volume low-pressure paint sprayers, isopropyl alcohol vapor degreasers, digital imaging systems, and waste fuel recyclers.

**P2 Facts**

About 40% of the savings are in non-environmental areas including labor and material costs.

**P2 Afloat**

Last year the Navy completed prototyping P2 equipment aboard 10 ships representing different sizes and missions. Many of the shore based P2 equipment items proved equally effective at sea - test results and Fleet responses were overwhelmingly positive. Our FY-2000 budget includes \$3.3 million to begin a five-year effort to purchase and install P2 equipment on all classes of ships. Alteration Installation Teams will do the shipboard installations. These P2 efforts are also being incorporated into the design of new ships. Crew training needs have been an integral part of the selection and testing of P2 afloat equipment. Technical manuals, training videos, maintenance documentation, and full logistics support are being prepared for all products destined for delivery to the Fleet.

**PACE**

The Marine Corps' Pollution Prevention Approach to Compliance Efforts (PACE) concept promotes P2

**PACE**

Marine Corps Air Ground Combat Center 29 Palms, CA used the PACE approach to replace diesel engine powered generators with a solar array of photovoltaic cells to provide electrical power for moving targets in high-use tactical combat training. This cut nitrogen oxide emission on the base by one-third.

solutions to compliance issues. Last year, the Marine Corps issued an Environmental Project Planning Guide and desktop computer software called PREPARED to all its installations. The guide and PREPARED software helps installations compare compliance projects against P2 alternatives by evaluating life cycle costs, environmental benefits, return on investment, and technical feasibility.

PREPARED is now in trial use, and expected to be required for certain types of compliance projects by early next year.

### **Ozone Depleting Substances**

The Clean Air Act Amendments of 1990 prohibited the commercial production of chlorofluorocarbons (CFCs) used by the Navy as shipboard refrigerants, and Halons used as fire fighting agents. While the Navy continues research and development on substitutes, DoD has established a reserve of these substances to supply those vessels awaiting conversion to non-ODS systems, and vessels for which conversion to non-ODS materials is impractical. The reserve is located in Richmond and Yorktown, Virginia and is operated by the Defense Logistics Agency. The reserve consists of purchased materials and those recovered from Navy ships and shore activities. As of the end of December, the reserve contained 900,000 pounds of CFC-12, and 1.3 million pounds of CFC-114.

Backfit kits to convert shipboard CFC-12 air conditioning and refrigerant (AC&R) plants to use HFC-134a are being implemented throughout the Fleet. As of mid-February, 553 plants on 139 ships had been converted. The remaining 372 AC&R plants on 134 ships will be converted by the end of FY-05.

Backfit kits are also being developed to allow CFC-114 air conditioning plants to operate with HFC-236fa. At-sea evaluation of this technology began in December 1998. These plants have performed successfully. The fleet-wide backfit program for R-114 plants begins this year with the conversion of the two plants on the *Normandy*, a CG 47 Class ship. A total of 495 plants on 108 ships will be done. Conversions are expected to continue through FY-2016.

#### **Shipboard ODS Conversions**

- 51% of Navy surface ships have replaced CFC-12 with non-ozone depleting HFC-134a for shipboard air conditioning and refrigeration.
- Replacement of CFC-114 air conditioning plants with non-ozone depleting HFC-236fa has

Congressional budget reductions in the last three years have slowed our conversion efforts considerably. Last year's reduction of \$19.4 million delays the purchase or installation of CFC-12 backfit kits on 65 ships, and two C-100 Oil Water Separator (OWS) installations on one ship, as well as two Oil Content Monitors (OCM) on one ship. In view of these Congressional reductions, we

have scaled back our ODS conversion efforts in the FY-2000 budget. Of the total \$6 million for ODS conversion, all but \$2 million is for installation of previously purchased backfit kits. These delays accelerate the drawdown of the DLA reserve. Although not at a crisis point, I am concerned about the potential impact of further delays. I urge the Congress to refrain from further reductions in this area.

## **CONSERVATION**

### **Program Overview**

Navy and Marine Corps installations support the national defense while conserving some of our nation's most ecologically important sites. There are federally designated critical habitats on four Navy and three Marine Corps installations. There are 160 endangered and threatened species on Navy bases, and 47 on Marine Corps bases. Our natural resources professionals work closely with state and federal regulators and private conservation organizations to manage the natural resources in our care wisely. Our goal is the full integration of military activities with our conservation responsibilities, making every acre support the assigned national defense mission.

### **Sikes Act Implementation**

While the Navy and Marine Corps have used Integrated Natural Resource Management Plans (INRMPs) for many years to plan for resource management, those plans were notional, and might not be executed. The Sikes Act Improvement Amendments of 1997 changed the preparation and use of INRMPs. It directed military installations to prepare and implement integrated natural resource management plans to provide for conservation and rehabilitation of natural resources, sustainable multipurpose uses of resources, and public access for use of natural resources, subject to safety and military security considerations. These land management plans are to be reviewed regularly, but no less often than every five years.

Because these are plans mandated for execution, decisions in these plans are subject to the National Environmental Policy Act (NEPA). The Department of the Navy issued guidance and policy on preparing these plans with appropriate regulatory and public coordination. While we expect to meet the statutory deadline to have completed all INRMPs by December 2001, we also recognize that adding NEPA adds significant process time to the equation, increasing the challenge for our natural resources managers to make this deadline.

### **Coral Reef Protection**

There has been recent media attention to the degradation of coral reefs around the world. Executive Order 13089 signed in June 1998 requires federal

agencies to take action to protect these ecosystems. The Navy was appointed executive agent for DoD and is participating with other agencies under the leadership of the National Oceanic and Atmospheric Agency to use new aerial sensing technologies for mapping coral reefs.

Most coral reef ecosystems are in close proximity to areas where the Navy operates, and thus, have been evaluated and mapped. INRMPs will incorporate actions to protect and conserve coral reefs by controlling recreational use, shoreline erosion, and sedimentation. As an example of our close coordination with conservation groups, the Nature Conservancy recently performed an extensive study of coral reefs around Naval Station Guantanamo Bay, Cuba, and found that the reefs in the vicinity of the Naval base were in good condition relative to other Caribbean areas.

### **Sonoran Pronghorn**

The Marine Corps, working with the Air Force and USF&WS recently hosted a Sonoran Pronghorn workshop with Arizona State agencies, academia, and environmental advocacy groups. The objective was how best to help the recovery of this endangered species, an antelope that inhabits the western part of the U.S. The workshop was done under the aegis of the Barry M. Goldwater Range Executive Committee, and demonstrates the unique partnerships being developed by the Marine Corps and Air Force on this military training range.

### **Native American Graves Repatriation**

The Marine Corps completed repatriation of 1,600 remains of native Hawaiians under the Native American Graves Protection and Repatriation Act at Marine Corps Base Hawaii. This is the largest single undertaking by any agency in accordance with this Act. The Marine Corps is working with the native Hawaiian community for reburial of the remains on the base.

## **TECHNOLOGY**

### **Program Overview**

The environmental technology program supports our cleanup, compliance, conservation and pollution prevention efforts. Our technology development efforts focus on satisfying technology needs for the naval military applications of today and tomorrow. We first look to the marketplace to supply us with our technology needs. When there is no off-the-shelf technology available, we try to adapt existing technologies, perform the necessary research and development in our laboratories or contract with universities or commercial labs. Some of the technologies we develop also have commercial applications -- so-called dual use technologies.

## **Environmental Technology for the Fleet**

Although some of our environmental technology efforts are directed to shore issues, most are targeted to shipboard issues. I have already mentioned several recent technologies that are being implemented Fleet wide: the Plastic Waste Processor; Pulpers and Shredders; HFC-134a backfit kit; and uniform national discharge standards.

The HFC 236fa compressor plants accumulated over 1,000 hours of successful operation during at-sea trials on the USS *NORMANDY* in December 1998. In addition to eliminating the use of ODS refrigerant, these plants offer several other important operational and cost advantages:

- Increased energy efficiency;
- Reduced acoustic signature at partial load conditions;
- Expanded operational envelope allowing use in areas of high seawater temperatures such as the Persian Gulf;
- Decreased logistics support, training requirements, and system maintenance due to microprocessor controls;
- Capability for integration into future Navy Smart Ship initiatives.

## **Aviation Environmental Technology**

Much effort has been devoted towards technologies aimed at reducing hazardous air pollutants (HAPs) and volatile organic compounds (VOCs) from Naval Aviation maintenance and repair operations. Control of HAPs and VOCs are key aspects of the Clean Air Act. Several technologies will be completed this year and will begin dissemination throughout the Navy:

- New water-based topcoat paints will replace the Navy's current solvent-based topcoats, and yield a 50 percent reduction in VOC emissions during aircraft topcoating operations. This will result in a reduction of nearly 56,000 pounds per year in reportable air emissions;
- Chemical paint strippers have been reformulated to eliminate methylene chloride and other HAPS, thereby complying with the Aerospace National Emission Standards for Hazardous Air Pollutants. Over 454,000 pounds of reportable air emissions will be eliminated annually.

## **CONCLUSION**

In conclusion, our environmental program aims to preserve and enhance military readiness and the environment we must all share. We are making steady progress at cleaning up contamination on our bases. Past investments in environmental compliance and pollution prevention have let us "catch up" to federal, state and local environmental standards, allowing a significant reduction in our compliance budget for one-time projects. We have maintained investments in conservation and pollution prevention programs, and we

continue strong investments in environmental technologies to unique naval problems.

I ask for your full support of the three land withdrawals that are of particular importance to the Navy and Marine Corps military readiness capability.

That concludes my statement. I appreciate the support that this Committee and its Staff has given us in the past, and I look forward to continued close cooperation in the future.