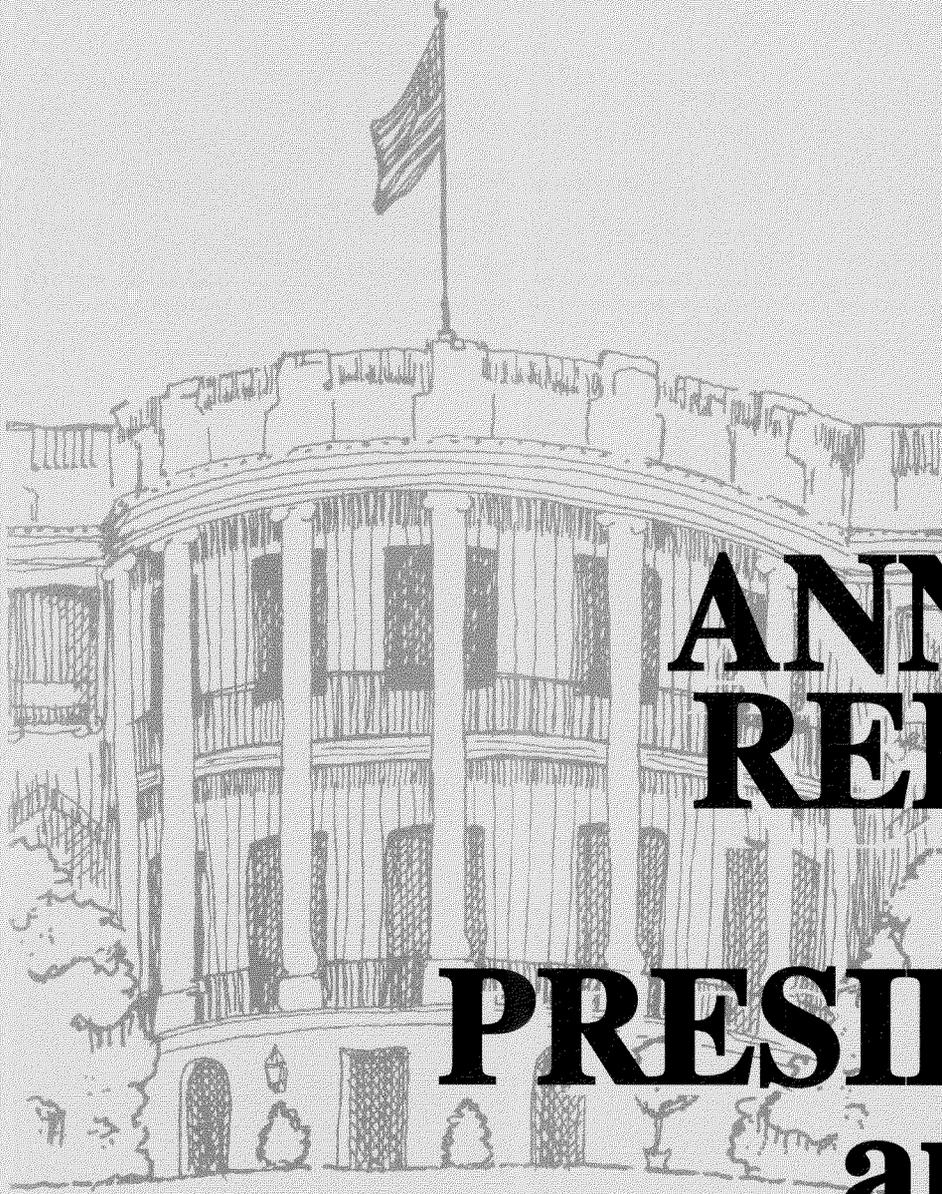
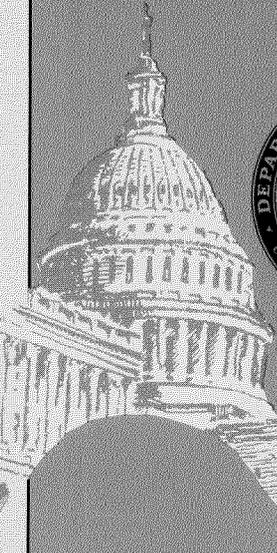


JANUARY
1993



**ANNUAL
REPORT**
to the
PRESIDENT
and the
CONGRESS



Dick Cheney
Secretary of Defense

Report of the Secretary of Defense to the President and the Congress

January 1993

TABLE OF CONTENTS

| | <i>Page</i> |
|--|-------------|
| Message of the Secretary of Defense | v |
| PART I: Defense Policy | |
| National Security Challenges and the Regional Defense Strategy | 1 |
| Defense Policies and Activities | 14 |
| PART II: Defense Resources | |
| Budget | 25 |
| Defense Management | 30 |
| Personnel (Manpower and Health) | 49 |
| Industrial Base | 56 |
| Environment | 59 |
| PART III: Defense Components | |
| Nuclear Forces and Strategic Defense | 67 |
| Land Forces | 74 |
| Naval Forces | 81 |
| Aviation Forces | 86 |
| Space Forces | 91 |
| Mobility Forces | 99 |
| Special Operations Forces | 104 |
| Counterdrug Program | 109 |
| Research, Development, Test, and Evaluation | 115 |
| PART IV: Statutory Reports | |
| Report of the Secretary of the Army | 123 |
| Report of the Secretary of the Navy | 129 |
| Report of the Secretary of the Air Force | 135 |
| Report of the Chairman of the Reserve Forces Policy Board | 140 |
| Appendices | |
| A. Budget Tables | 143 |
| B. Personnel Tables | 147 |
| C. Force Structure Tables | 149 |
| D. Goldwater-Nichols Act Implementation Report | 153 |
| E. Defense Acquisition Work Force Improvement Report | 167 |

MESSAGE OF THE SECRETARY OF DEFENSE

In 1992, with the Cold War over and no immediate, serious regional threat to U.S. security interests, Americans enjoyed a year of peace unprecedented in recent generations. As a complex and, in many places, violent new era began to unfold, our Nation remained in a position of security and strength.

That achievement reflects America's continuing commitment to an active role in shaping the events that are altering our world.

In the last four years, we have witnessed an extraordinary transformation in international affairs. When I took office in March 1989, the Soviet Union and Eastern Europe were still under communist rule. There had not been a multicandidate election in Russia since 1917. Poland's Solidarity Union was outlawed. The Berlin Wall was a concrete symbol of the division of Germany and the split between communist East Europe and the democratic West. Just a few weeks before I took office, a 20-year old East German was shot to death at the Berlin Wall — the 78th person killed trying to escape to the West.

But in only a matter of months, that world disappeared. Democratic movements swept to power in Eastern Europe, as the old regimes confronted the political, economic, and spiritual failure of communism. Within a few years, the Warsaw Pact collapsed, a hardline communist coup in Moscow was defeated, and the Soviet Union disintegrated. With the abolition of the Soviet Union in December 1991, democracy's most powerful adversary disappeared into history. More than a score of new independent states have sprung up where the Soviet bloc once stood.

In May 1992, I met in Brussels with my NATO colleagues and our counterparts from Russia and 17 other former Soviet republics and Eastern European countries. Leaders whose armed forces had confronted each other across the Iron Curtain only a few short years before were facing each other across a conference table to plan cooperative efforts in defense.

As the Cold War ended, another historic event took place in the Persian Gulf, where a worldwide coalition came together under American leadership to drive back Saddam Hussein's aggression and restore the independence of Kuwait. The Gulf conflict was a milestone in international cooperative action. As a result of its success and our continuing vigilance, our interests in a critical region are secure. Today, Saddam's forces are no longer poised to threaten the Gulf, the Middle East is engaged in a new peace process, and there are no American hostages in Lebanon.

These are momentous and fundamental shifts in the strategic environment. These shifts are the result of years of American and allied commitment to defense, a commitment which contained Soviet communism, enabled democracy to grow, and earned the trust of the world in U.S. leadership.

During 1992, the United States continued to take the lead in shaping the world security picture. Building on the historic initiatives first announced by President Bush in September 1991, we took steps to transform the global nuclear posture. The Strategic Arms Reduction Talks (START) Treaty to reduce strategic nuclear forces was ratified by the Senate and is being implemented ahead of schedule. In October, I observed troops in South Dakota training to remove Minuteman II missiles from their silos. By the end of 1992, 71 percent of these missiles were already being dismantled. We have taken all our tactical nuclear weapons off our ships at sea. We are eliminating all of our ground-launched battlefield nuclear weapons.

In January 1993, President Bush and President Yeltsin signed a treaty that will further reduce the arsenals of strategic nuclear warheads of both nations, to one-quarter of previous levels by the year 2003 or sooner. We are also working actively with the states that inherited the Soviet nuclear arsenal to help ensure that nuclear proliferation will not result from the disappearance of the Soviet Union.

Our remaining, highly capable nuclear forces provide a stable and visible deterrent to any potential nuclear threat. At the same time, we have continued to develop an effective strategic defense, focusing on a ballistic missile defense system that will provide protection to the United States, its forward-deployed forces, allies, and friends against limited ballistic missile strikes, one of the most serious threats of the post-Cold War period. Russia has also recognized the threat of ballistic missile proliferation, and during the year our countries began working together to discuss a global protection system.

These and other initiatives have altered the assumptions that defined the nuclear age for some 40 years, opening the way to a future that is secure from the horror of global nuclear war.

In 1992, American servicemen and women performed a wide range of missions critical to our international leadership responsibilities and national security interests. U.S. forces joined allies to carry out peacekeeping and humanitarian missions in northern Iraq, Bosnia-Herzegovina, and elsewhere, and helped enforce U.N. sanctions against Iraq and Serbia. Elements of the U.S. military also assisted in the war against illegal drugs and supported local authorities in providing disaster relief to victims of Hurricanes Andrew and Iniki, alleviating typhoon damage in Guam, and responding to the Los Angeles riots. At the end of the year, U.S. forces were engaged in Operation RESTORE HOPE, a mission to establish a secure environment for humanitarian relief operations in Somalia.

In these and other efforts, our servicemembers, both active duty and reserve, demonstrated once again the value of having well-trained, fully ready, high-quality forces. Even as the military underwent the disruption of a massive downsizing — which last year alone, reduced defense personnel by almost a quarter million employees, more than 178,000 of them active-duty military — our forces have sustained the highest levels of professionalism and expertise. The quality of our personnel — every one of them a volunteer — remains unsurpassed.

Today the United States and its allies are more secure, and the promise of democracy is more real, than at any time in recent memory. America owes its armed forces and their families a debt of gratitude for that achievement. Their service and dedication have been the backbone of this Nation's freedom throughout the long years of Cold War and into the new era. America's military strength remains essential as we face the uncertainties and challenges that lie ahead.

The world is still a dangerous place. In addition to a major regional conflict in the Persian Gulf, we have seen renewed ethnic, religious, and national violence in Europe, Asia, and elsewhere. It is true that the United States no longer faces the threat of a global war beginning in Europe, a conflict that might have resulted in a nuclear confrontation between superpowers. But we do face serious regional contingencies — threats that may be triggered by any number of events, are difficult to identify in advance, and could be made more dangerous by the spread of high-technology weapons. As a result, the challenges of the next few years are likely to be complex and difficult.

In the old Soviet Union, and in Eastern and Central Europe, the collapse of communism has unleashed civil war, economic crises, social unrest, and ethnic and national tensions, all in a region that still contains 30,000 nuclear weapons and some of the largest armies in the world. Free nations everywhere will be more secure when the states of the former Soviet Union demilitarize their societies, establish stable, democratic political systems, and create effective free markets. The United States is committed to helping this process

and will continue to do so. But we in the West cannot make reform occur or guarantee that it will proceed smoothly. The shift to democracy involves fundamental changes within these societies themselves. Should antidemocratic or ultranationalist forces rise to power, should ethnic violence spread and lead to the involvement of neighboring states, or should there be conflict over national borders, the consequences would be serious, not only for the affected states but also for the rest of the world.

Beyond the former Soviet empire, there are other security issues affecting America's future. During the Cold War, the collective defense built by the democratic alliance provided a level of regional stability that helped keep a check on deep-seated local conflicts around the world. Should this security network weaken or even be perceived to weaken in the turbulent post-Cold War period, old regional rivalries in Asia, the Middle East, and elsewhere may once again lead to arms races or even come to a flashpoint. Terrorism and the international drug trade can also strike at the security of free nations. A further serious concern would be the rise of regional aggressors — powerful countries that might attempt to use force to dominate their neighbors and advance their global role.

The dangers associated with regional conflict are exacerbated by the potential spread of nuclear, chemical, and even biological weapons, along with the ballistic missiles that can deliver weapons of mass destruction across increasingly long distances. Iraq and North Korea have already attempted to acquire nuclear capabilities. Over the next few years, we can expect that other nations which are hostile to freedom will attempt to acquire missiles and nuclear weapons, and the knowledge necessary to build and use them.

These and other issues of the new era pose a critical question for Americans — whether we will accept the challenges of leadership, preserving the military capabilities necessary to protect our security and influence the direction of events, or whether we will retreat from an active defense and lose the initiative in shaping world change.

This Administration has been committed to ensuring that the United States retains the capabilities necessary to lead. Over the past year, the Defense Department has continued to work to ensure that our armed forces are in position to succeed in any mission they may be called upon to perform.

The groundwork for that effort is discussed in Part I, describing a comprehensive new security strategy that has been developed for the post-Cold War period. This new strategy is designed to permit the United States to meet the near-term challenges of regional conflict and to lay the foundations for long-term security in a changing world. Anticipating that the USSR would pose less of a threat to us in the future, we began to develop the regional defense strategy even before the Soviet Union's collapse. Today it is providing the guidance to refocus defense resources and restructure the military for a new and different security environment.

We have used the new strategy as a foundation to plan deep but carefully focused reductions in our force structure. The goal is a smaller but still capable force that preserves essential combat capability. Rather than make arbitrary cuts in personnel, we have carefully reshaped force structure to meet the requirements identified in the regional strategy.

Efforts are well under way to reduce force structure by one-quarter from previous levels, including the elimination of one-third of the Army's active divisions, one-fifth of the Navy's ships, and 10 Air Force fighter wing equivalents. The forces that remain are being restructured under new force plans and new warfighting doctrines. These include a top-to-bottom revision of Army doctrine for post-Cold War missions, a major shift in the Navy and Marine Corps force concept towards littoral and amphibious operations, and a radical reformulation of Air Force wing structure and command organization. A major effort is also under way to strengthen and expand joint doctrine — the principles that have allowed our

Services to work together as a powerful team in operations from Panama in 1989, to the Persian Gulf in 1990-91, and to Somalia in 1992.

The resulting force structure is designed as the minimum necessary to meet our security requirements in the uncertain and changing years ahead. It assumes that future commitments of U.S. forces will often be in partnership with other nations, and takes account of their contributions.

In addition to restructuring, we have undertaken a Department-wide effort to reform defense management. We have moved forward to implement the *Defense Management Report*, consolidating financial accounting, corporate information management, and other common functions, and applying efficient business practices to defense management. This process will result in more than \$70 billion in savings by 1999, with more than \$15 billion a year in recurring savings thereafter. These savings allow us to focus defense dollars where they are needed most, for training and supporting our forces and providing the advanced weapon systems that enable them to prevail in combat.

The Department also announced and began to apply a new strategy governing defense acquisition, simplifying procedures and increasing the focus on technology research and development. The acquisition strategy responds to the changed world security environment, which has reduced the need to procure weapons at the pace and volume required in the past. At the same time, it recognizes our continued need to maintain the technological advantage that we used so decisively in the Gulf War. That advantage will be critical to maintaining our security against ballistic missiles and other sophisticated weapons and systems in the future.

Our new strategy, force structure, and approach to acquisition all recognize that maintaining today's leadership position into the future requires careful forethought and commitment. We are fortunate today that near-term threats are small, relative to our capabilities and those of our allies. We have a longer time before serious threats could arise, strong alliances in every region to help keep the peace, and the quality forces and technological edge to prevail over potential aggressors. Our leadership makes it possible to influence the course of events, rather than simply wait for threats and emergencies to arise.

These factors put our Nation in a strategic position of significantly greater depth than during the Cold War, when any crisis might have raised the possibility of immediate, global conflict with a heavily-armed adversary. In contrast, today's strategic depth enables us to defend our interests and security without facing the same dangers — or making the same huge investments — of the last 40 years.

But we cannot take today's favorable position for granted. There are no guarantees. Our defense assets, from the military we field to the alliances we lead, reflect choices that have been deliberately made, sometimes over decades. We can dismantle every capability in an instant and shrink our strategic depth to a thin line if we make the wrong decisions in the years ahead.

One important decision is the commitment we make to investing in a capable defense. As documented in this report, the United States is now spending only about 4.3 percent of its gross domestic product (GDP) on defense. By 1997, defense outlays will fall below 3.5 percent of our GDP — the lowest since before Pearl Harbor.

Today, defense is the minority partner in the federal budget — less than one in every five federal dollars and still headed down. In Fiscal Year 1993, we are spending less on defense than on interest payments on the federal debt.

We can and we will meet tomorrow's security requirements with fewer forces and at lower costs. But we must proceed carefully, keeping in mind the higher costs of failing to maintain the military capability we need to back up our security interests.

Over the past 75 years, the United States followed its victories in two world wars by quickly dismantling the great armed forces that had won them. We demobilized trained troops, stopped equipping and modernizing our forces, and kept units on the books that were not ready for the field. These actions appeared to tell the world that Americans were not willing to defend their interests in the postwar order. That false idea invited hostile powers to test our will. In each case, we were to pay the price in future conflicts.

George Marshall, my predecessor as Secretary of Defense during the Korean conflict, observed this history firsthand. As Army Chief of Staff from 1939-45, it was his job to build a weak, unprepared American Army into a force capable of victory in global war. In the aftermath of World War II, Marshall reflected on the fortunes of history — the help of friends, the mistakes of enemies — that saved us from disaster in the early days of that conflict.

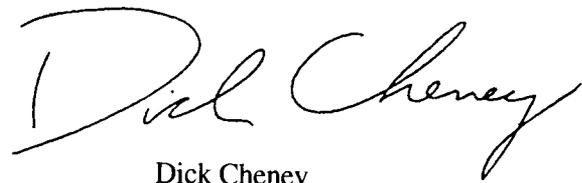
"We may elect again to depend on others and the whim and error of potential enemies," he warned, "but if we do we will be carrying the treasure and freedom of this great nation in a paper bag."

Yet just five years after his warning, the United States was at war again. When North Korea attacked across the 38th parallel in June 1950, our troops were so unprepared they were nearly pushed off the peninsula. In six weeks, roughly the same length of time it took us to win Operation DESERT STORM, we suffered 1,800 casualties. By November of that year, after the U.S.-led United Nations force had reversed North Korea's offensive, Chinese forces entered the war, expanding and prolonging the conflict. The fighting did not end until 1953. More than 54,000 Americans died as a result of the conflict.

In the modern era, we cannot afford to put American lives and national security interests in that kind of jeopardy. We must never again leave potential adversaries in doubt about our determination to protect our security interests. We must never again be forced to send troops into harm's way because we failed to prepare to hold the peace.

We can either sustain the defenses we require and remain in position to help shape a world in which our freedom is secure, or we can let our advantage slip and lose our ability to influence the events that will affect us.

For more than a generation, Americans have made the commitment to world leadership, and that choice resulted in the historic shifts we see today. Once again, we must decide whether or not we intend to remain the world's strongest nation, preserving our security and freedom in the equally historic era to come.

A handwritten signature in black ink that reads "Dick Cheney". The signature is written in a cursive, flowing style with a large initial "D".

Dick Cheney

Part I

Defense Policy

NATIONAL SECURITY CHALLENGES AND THE REGIONAL DEFENSE STRATEGY

Introduction

The post-Cold War world is in many ways a safer world. However, new and enduring security challenges continue to present the United States and the international community with complex security issues. During the last year, U.S. involvement and leadership in key areas demonstrated the continuing importance of U.S. military capabilities. In the Persian Gulf, the enforcement of United Nations (U.N.) Security Council resolutions against Iraqi defiance required persistent and determined diplomatic and political pressures backed up by military force. In many regions, national rivalries suppressed during the Cold War began to emerge anew. Globally, the international community recognized the need to increase its efforts to control the spread of technology relevant to weapons of mass destruction and the means to deliver them. In all these cases, U.S. defense capabilities continue to be an indispensable requirement for building a more just and stable order.

In the post-Cold War security environment, even though we strongly prefer to act collectively with other nations to respond to security challenges, the United States must be prepared to defend its critical interests unilaterally if necessary. While the United States seeks to strengthen collective security institutions, we must recognize that strong U.S. capabilities and leadership are critical to timely and effective collective response. While we can safely reduce our forces, we must never allow the high quality of our personnel or the technological superiority of our weapons and equipment to diminish. While we must restructure our global presence, we must retain the bilateral and multilateral alliances and relationships that enabled us to prevail in the Cold War and to win the Persian Gulf War. Most important, we must not only meet specific threats to our interests but also shape events in ways that promote an international security environment in which we are not threatened.

During the last three years, the Department of Defense has adopted a new defense strategy, designed a Base Force to meet its requirements, and

adjusted regional defense policies to reflect new priorities, all of which are described in this chapter. In addition, as described in the next chapter, we have altered other critical defense policies, such as arms control and security assistance, to conform to the new defense strategy and to reflect the realities of the new international security environment.

Security Challenges in the 1990s

America's strategic position is stronger than it has been for decades. No potential scenario leading to global or nuclear war appears on the horizon. No significant hostile alliance confronts the West. No hostile, nondemocratic power poses a credible threat to dominate any region critical to our interests. Instead, the strongest and most capable countries in the world remain our allies and friends.

Although the world is less dangerous now than during the Cold War, the world in the 1990s in many respects is more complex and uncertain. The collapse of the communist ideological challenge, the disappearance of the threat of direct large-scale conventional military attack on Europe, and the emergence of democratic governments in many of the new independent states of the former Soviet Union have transformed the security environment for the better. Yet, the potential rise of regional aggressors, the potential for crises stemming from instability in the developing world, and the dangers inherent in the proliferation of weapons of mass destruction and the means to deliver them will present the United States with many difficult security issues.

SOURCES OF UNCERTAINTY

The continuing reforms under Russian President Boris Yeltsin and other democratic leaders in the former Soviet republics give us reason to hope that democratic progress will endure, but the fact remains that future developments in those countries are very unpredictable. Military programs have slowed down, and arms control and economic constraints will lead to major reductions in the region's armed forces. But we

must remain concerned about continued political instability in Moscow and elsewhere; tensions and potential crises among the former Soviet republics; and leakage of nuclear, biological, or chemical weapons technologies from the former Soviet Union to radical or aggressive powers in other parts of the world.

Even though the collapse of the Soviet Union has virtually eliminated the possibility that a regional conflict could escalate into a global war, regional conflicts will become increasingly complicated by the fact that many developing nations are acquiring sophisticated conventional capabilities, as well as weapons of mass destruction. The global diffusion of military and dual-use technologies will enable a growing number of countries to field highly capable weapon systems, such as ballistic missiles, cruise missiles, integrated air defenses, submarines, modern command and control systems, and even space-based assets. In addition, a number of countries — including unpredictable states like Iraq, Iran, and North Korea — are working to develop nuclear or other unconventional weapons.

Instability in the developing world can often have external consequences. Some states can choose to support factions involved in internal wars in other countries. Multinational or multiethnic states contrived by the leaders of Europe's empires may disintegrate amid intense ethnic violence. Internal wars can spill over borders, either through the spread of the fighting or through massive flows of refugees. Within this turbulent context, countries with significant military power — some with chemical, biological, or even nuclear weapons — might come into conflict. While the United States cannot, and will not, be the world's policeman, some crises in the developing world will likely impinge on critical U.S. interests and compel a direct or indirect U.S. response.

At the same time, we must continue to address security among the developed countries in Europe and Asia to avoid a return to the times when major powers pursued security through competitive and unstable balance-of-power politics. In the postwar period, U.S.-led collective defense arrangements such as the North Atlantic Treaty Organization (NATO) and the U.S.-Japan Mutual Security Treaty caused the major democratic powers to pursue security in cooperation with each other. We must do what is necessary to ensure that the collective approach, based on common

values and common perceptions of the old Soviet threat, does not erode in the post-Cold War world. The results of such erosion could include renewed great power rivalries and regional arms races that would be counterproductive to the real interests of all.

PLANNING FOR UNCERTAINTY

Defense planners must make decisions about developing forces in an environment of great uncertainty about the future. The last few years have demonstrated how quickly and unpredictably political trends can reverse themselves. As we look 10 or more years into the future, confidence in our ability to predict political alignments and military requirements declines sharply. We simply cannot predict the future. Yet developing skilled military leaders and leading-edge weapon systems and equipment takes more than a decade, and decisions must be made now.

Sound defense planning seeks not just to respond to events but also to shape the future. Through the containment strategy of the Cold War, we helped mold today's world by forcing Moscow to turn inward to confront communism's internal contradictions while allowing the free world to develop and flourish. For the future, shaping the international security environment involves carrying our long-standing alliances into the new era, turning old enmities into new cooperative relationships, and building common security arrangements to reduce the burden of defense for everyone. Shaping the international security environment also involves taking the lead with initiatives in such areas as arms control and opposing the proliferation of weapons of mass destruction and the means to deliver them.

American leadership, essential to winning the Cold War, remains integral to the achievement of our long-term goals in the post-Cold War world. Recognition that the United States is capable of opposing regional aggression will continue to be an important factor in inducing nations to work together to cope with crisis and to resist or defeat aggression. A general interest in stability will prove insufficient to induce most countries to take risks with only the hope that others will join them. Only a nation that is strong enough to act decisively can provide the leadership needed to encourage others to resist aggression.

While we must be mindful of potential dangers and uncertainty, the new international security environment will allow the United States to enhance its security and that of its friends and allies at a far lower cost and at a far lower risk than at any time during the Cold War. The United States achieved, in this sense, a new degree of strategic depth, and our new strategy and defense policies seek to preserve and further enhance this margin of safety.

New Regional Defense Strategy

The demise of the Soviet Union ended the traditional Cold War threat of global conflict posed by a hostile superpower. But the potential for major threats at the regional level — typified by Saddam Hussein's attempt to dominate the Persian Gulf through Iraq's invasion of Kuwait — still exists. As a result, the focus of the new strategy is on meeting the regional threats and challenges that the United States is more likely to face in the future and on shaping the international security environment in ways that help to preclude the rise of hostile, nondemocratic powers aspiring to regional hegemony.

The process of crafting a post-Cold War defense strategy began in 1989, when the demise of the Soviet empire in Eastern Europe and the decline of the Soviet Union had dramatically reduced the security threat to the United States and its allies. In a speech in Aspen, Colorado, on August 2, 1990, President George Bush presented the fundamental themes of the new defense strategy. Ironically, this speech came on the day that Saddam Hussein invaded Kuwait, highlighting the dangers that we continue to confront around the world. In light of the lessons we learned in the Persian Gulf victory in February 1991 and the strategic consequences of the collapse of the Soviet Union in December 1991, the elaboration of the new defense strategy continued and was completed in May 1992 with the signing of the Fiscal Year (FY) 1994-99 *Defense Planning Guidance*.

GOALS OF THE STRATEGY

The strategic review undertaken in the Department of Defense not only affirmed the importance of certain enduring U.S. security and regional interests but also defined U.S. defense goals in light of global changes.

- Our most fundamental goal is to deter or defeat attack from whatever source, against the United States, its citizens and forces, and to honor our historic and treaty commitments.
- We seek to strengthen and extend the system of defense arrangements that binds democratic and like-minded nations together in common defense against aggression, builds habits of cooperation, avoids the renationalization of security policies, and provides security at lower costs and with lower risks for all. Our preference for a collective response to preclude threats or, if necessary, to deal with them is a key feature of our regional defense strategy.
- We seek to preclude any hostile power from dominating a region critical to our interests, and also thereby to strengthen the barriers against the reemergence of a global threat to the interests of the United States and our allies. These regions include Europe, East Asia, the Middle East/Persian Gulf, and Latin America. Consolidated, nondemocratic control of the resources of such a critical region could generate a significant threat to our security.
- We seek to help preclude conflict by reducing sources of regional instability and to limit violence should conflict occur. Within the broader national security policy of encouraging the spread and consolidation of democratic governments and open economic systems, DoD furthers these ends through efforts to counter terrorism, drug trafficking, and other threats to internal democratic order; the provision of humanitarian and security assistance; limits on the spread of militarily significant technology, particularly the proliferation of weapons of mass destruction along with the means to deliver them; and the use of defense-to-defense contacts to assist in strengthening civil-military institutions and encourage reductions in the economic burden of military spending.

ELEMENTS OF THE STRATEGY

There are four critical elements of the strategy that guide defense planning and the development of U.S. military forces: strategic deterrence and defense, forward presence, crisis response, and reconstitution. These elements guide the plans for our future force posture and shape our regional defense policies.

Strategic Deterrence and Defense

Even though the risk of a deliberate, large-scale nuclear attack has decreased significantly, deterring such an attack will remain the highest defense priority. Maintaining survivable and flexible U.S. strategic forces is essential because strategic nuclear attack is the one means by which our survival could be at risk in a matter of moments. At the same time, U.S. nuclear targeting policy and plans have changed and will continue to change in response to developments in the former Soviet Union.

We welcome opportunities to reduce the number of strategic nuclear weapons and increase the stability of the strategic balance by eliminating the most destabilizing types of weapons. In this respect, the Strategic Arms Reduction Talks (START) Treaty, the President's initiatives of September 1991 and January 1992, and the START II Treaty of January 1993 will reduce the size of our nuclear forces to about one-quarter of the 1990 level by early in the next decade. Moreover, both sides will eliminate all of their multiple warhead intercontinental ballistic missiles (ICBMs), creating force postures oriented toward deterrence and strategic stability rather than first-strike capability. In addition, the new international security environment has enabled us to lower the alert levels for large segments of our strategic forces.

The remaining strategic forces will continue to support America's global role and international commitments, including those to NATO and Japan. The nuclear umbrella that the United States has extended over its allies has helped deter attack for four decades, reducing risks and the cost of defense for all. This commitment is both affordable and vital to our security.

We must continue to prepare to deal with threats of limited attack. First, other countries — some of which, like Iraq, are especially irresponsible — may acquire nuclear, chemical, and biological weapons and the ability to deliver them with ballistic or cruise missiles. We must be able to deter the use of such weapons. Second, in light of instability in some nuclear weapons states, the threat of an accidental or unauthorized missile launch cannot be ignored and may increase through this decade. We need to deploy ballistic missile defenses to protect the United States and to shield our allies and our forward-deployed forces from both

intentional limited attacks and unauthorized or accidental launches.

In 1991, President Bush reoriented the goals of the Strategic Defense Initiative to focus on defense against a limited ballistic missile attack from any source. Congress affirmed this new policy through the Missile Defense Act of 1991. The Department has adopted the objective of having the potential to develop systems to protect the United States, our forces, and our allies and friends from up to 200 reentry vehicles.

Strategic deterrence and defense require us to maintain a balanced deterrent force with both tactical and strategic capabilities. The United States must also create a proper mix of offensive and active defense capabilities to deter or defeat the threat posed by weapons of mass destruction.

Forward Presence

The second element of the strategy is forward presence. It is critical to the deterrence of threats to U.S. interests in key regions of the world and enables the United States to help shape a more peaceful and secure international environment. Forward presence provides a tangible demonstration of U.S. commitment in regional and global affairs that affect our interests and those of our allies and friends. Forward presence also is vital to the maintenance of the system of collective defense through which we and our allies and friends have protected our interests while minimizing the burden of defense spending. Forward presence makes our alliances credible, deters aggression, enhances regional stability, promotes our influence and access, and—when necessary—provides an initial crisis response capability.

Forward presence includes forward basing and rotational and periodic deployments as well as exercises, port visits, military-to-military contacts, exchanges, security assistance, and humanitarian aid. Each of these activities is important to enabling the United States to help shape a more peaceful and secure environment for ourselves and our allies.

The alliance structure of the United States — which is integral to forward presence — is perhaps the Nation's greatest postwar achievement. The creation and mainte-

nance of long-standing alliances and friendships with free-market democracies in Europe and Asia created a zone of peace and prosperity encompassing two-thirds of the world's economy. Defense cooperation within this zone has both deterred external threats and created an environment in which the industrial democracies have peacefully developed and prospered. Maintaining these alliances is therefore one of the cornerstones of our defense strategy.

The growing economic strength of friends and allies has enabled them to assume greater responsibility for mutual defense. In the process, responsibilities will be transferred and the levels of U.S. military forces stationed abroad will be reduced. Changes must be managed carefully to preserve the peace and to assure that reductions of U.S. forces are not misperceived by others as either abandoning our commitment or disengaging from critical global and regional affairs.

Though the number of forces and bases maintained permanently overseas is declining, the United States must continue forward-presence activities. They include overseas basing of forces, as well as prepositioning, deployments, and periodic exercises. Forward bases and access arrangements must become more flexible as the security environment changes. They must remain oriented toward providing visible, though unobtrusive, presence and forward staging areas for responding to crises large and small. U.S. forward bases and access rights for use of host country facilities are indispensable to the successful implementation of the regional defense strategy.

Our forward forces must increasingly be prepared to fulfill multiple regional roles, and in some cases extraregional roles, rather than preparing only for operations in the locale where they are based. Through forward presence, we can continue the war against drug trafficking, provide security and humanitarian assistance, increase nation-to-nation defense contacts, support peacekeeping operations, and protect U.S. citizens abroad.

In some regions where we do not maintain a land-based presence, U.S. maritime forces, long-range aviation, and other contingency forces enable us to respond to crises, assist allies and friends, and deter conflict. To be successful, we must conduct periodic

exercises, exchanges, and visits to build trust, cooperation, and common operating procedures among national militaries. It is also important to establish host-nation arrangements that provide the authorization, infrastructure, and logistical support for use by U.S. forces in the event of a crisis.

Crisis Response

The third element of the strategy is crisis response. It requires the United States to maintain highly ready and rapidly deployable power projection forces. These forces must be capable of handling regional and local contingencies that vary across the spectrum in size and intensity. They must also be prepared to defeat a broad range of potential adversaries, armed with a variety of advanced weaponry and possessing varying levels of capability. Power projection forces must also be able to deploy and operate under a broad range of worldwide political and military conditions. These conditions require interoperable, highly responsive, and flexible forces that must be available with little or no warning.

Moreover, because the danger exists that our preoccupation with a crisis in one region might be exploited by an aggressor in another, our forces must remain able to deter or to respond rapidly to other crises, or to expand an initial crisis deployment in the event of escalation.

Effective crisis response imposes stringent requirements on our defense forces. A regional crisis might involve mounting a very large military operation against a well-armed and capable adversary, as in the Persian Gulf War. It might be compounded by the adversary's possession of advanced conventional weapons systems, ballistic missiles, cruise missiles, and chemical, biological, or even nuclear weapons. We must have the forces necessary to respond decisively, which requires high-quality personnel and superior military technology that can win quickly with minimal casualties.

To meet these requirements, the United States has developed a broad array of capabilities, including heavy and light ground forces, air forces, naval and amphibious forces, space forces, and special operations forces. These forces emphasize qualities of versatility, lethality, global deployability, and rapid responsiveness.

Also, the capability for rapid movement of these forces to remote areas is critical. As we reduce our overall force levels and numbers of forward-deployed forces, we must continue to invest in prepositioning, airlift, sealift, and space capabilities. Over the long term, we must continue to develop weapons systems that are capable, more readily deployable, and more easily sustained.

Crisis response also requires us to maintain the ability to protect our interests in low-intensity conflicts. Terrorism, hostage taking, insurgency, subversion, and drug trafficking will continue to threaten the United States, its allies, and friends. Finally, crisis-response capabilities are key to the fulfillment of responsibilities in supporting or participating in peacekeeping missions, humanitarian assistance, and disaster relief.

Reconstitution

The fourth element of our strategy is reconstitution. It requires that the United States maintain the capability to deter any potential adversary from attempting to build forces capable of posing a global challenge and to cope with that challenge should deterrence fail. While U.S. active and reserve forces play a large part in deterring or countering any future global-scale threat, reconstitution capability will permit the creation of additional new forces needed to cope with such a threat. It is a hedge against future unanticipated global-scale threats and a deterrent to the development of those threats.

The dissolution of the Soviet Union has made it much less likely that such a threat will develop for at least the remainder of this decade. Consequently, an emerging global threat would require several years or more of detectable efforts to expand military capabilities, which could only happen after major adjustments in political and economic activities that would also require several years. Nevertheless, the United States could still face a future global threat from a single aggressor or some emergent alliance of aggressive regional powers. For this potential long-term threat, the fact that the United States remains prepared to create additional new forces and capabilities can help deter potential challengers. This supports the objective of precluding the domination of a region critical to U.S. interests by a hostile power and, in turn, the potential development of a global threat.

Because any global-scale threat is now so distant, reconstitution is properly an economy of resources area of the new regional defense strategy. Higher priority goes to Base Force capabilities, and to maintaining alliances, quality personnel, and technological superiority. In the near term, modest investment in our reconstitution capability will largely be designed to capitalize on unique opportunities to retain, at low cost, key equipment items and production assets as we reduce to Base Force levels.

Assets that can contribute to reconstitution capability take several forms. First, cadre-type units and stored equipment — referred to as regeneration assets — offer the flexibility of a relatively quick response. In many areas, the option of preserving such assets is now available and could provide some reconstitution capability at very low cost. Second, industrial and technology base assets, such as production facilities which could be restarted, can be included in reconstitution planning because lead times for a global-scale threat are so long. These assets would provide more modern equipment but generally require larger investment. Except in rare cases, reconstitution will not justify keeping open production facilities not needed for Base Force requirements; storing equipment or production tooling are preferable approaches. Third, assets for reconstituting manpower levels include increased recruiting and retention, as well as drawing on the pool of people who have previously served in the military. The Department will take advantage of these and other forms of reconstitution capability, especially those assets that minimize the need for investment in advance.

Regional Defense

The new defense strategy has implications for each region critical to U.S. interests, both in terms of the size and character of Base Force components tasked to defend U.S. interests in each region and the changes in priority of U.S. defense policies within each region. While a great deal of continuity exists in our enduring political and economic interests, the new global security environment has changed the opportunities and challenges we face. The Department has actively reoriented its efforts to meet these changing needs.

Four regions represent the core of critical U.S. global interests. History has shown that Europe, with more than a

third of the world's gross national product (GNP) and with a tortured past of regional and global conflict, cannot be ignored. East Asia, the most economically dynamic region in the world, accounts for more of our bilateral trade than Europe or Latin America. The Middle East/Persian Gulf, which contains more than half of the world's proven oil reserves, has witnessed 10 major wars and armed conflicts since World War II, many of which have involved close U.S. friends and have required an American response. Because of its proximity to and economic links with the United States, Latin America has a unique ability to affect directly U.S. security and well-being.

EUROPE

Western Europe

In Western Europe, NATO continues to serve as an indispensable foundation for a stable security environment. The alliance is adapting to the revolutionary changes in the European security environment brought about by the demise of the Warsaw Pact and the dissolution of the Soviet Union. This evolution of NATO, launched at the London Summit in July 1990, reached a milestone at the Rome Summit in November 1991, where the alliance agreed on a new strategic concept. While NATO is maintaining its integrated military force structure to meet the need for collective defense, the new strategic concept calls for those forces to be more versatile, more mobile, and multinational in character. That concept encompasses a broad approach to security that reaches beyond maintenance of collective defense to include dialogue and cooperation with the countries of Central and Eastern Europe. This approach was institutionalized by the creation of the North Atlantic Cooperation Council, consisting of the 16 members of NATO, the former non-Soviet Warsaw Pact nations, and the new independent states of the former Soviet Union.

The emergence of a distinct European security identity within the context of transatlantic relations is compatible with NATO, and the United States is prepared to support arrangements needed for the expression of a common European security and defense policy. At the Rome Summit, the United States and its alliance partners endorsed a complementary European security architecture consisting of NATO, the Conference on Security and Cooperation in Europe (CSCE), the European Community, the West European Union

(WEU), and the Council of Europe. NATO should remain the essential forum for consultation with our European allies and the venue for agreement on policies regarding the security and defense commitments of NATO members. In addition, the United States continues to seek agreements with its NATO allies to achieve equity in sharing the costs, roles, risks, and responsibilities of common defense.

In June 1992, the North Atlantic Council of NATO agreed to support CSCE peacekeeping activities on a case-by-case basis. With regard to former Yugoslavia, NATO has deployed its Standing Naval Force Mediterranean to the Adriatic Sea to assist with U.N. sanctions, while NATO Airborne Warning and Control System (AWACS) aircraft are helping to monitor the no-fly zone over Bosnia-Herzegovina. NATO defense ministers in December 1992 agreed to refine NATO's capability for such peacekeeping operations. They announced that support for U.N. and CSCE peacekeeping should be included among the missions of NATO forces and headquarters and tasked their permanent representatives to identify specific measures to enhance NATO's peacekeeping capabilities.

These new developments in Europe, coupled with events in the Middle East and evolving U.S. priorities for defense planning and spending, provide a strong political, strategic, and operational rationale for the presence of U.S. land-based air power in NATO's Southern Region. To support these and other forces, the United States and its allies need to maintain a strong, flexible, and modern NATO infrastructure program, ensuring that the alliance and its constituent forces have the common installations, facilities, and capabilities they need to carry out the wide range of regional security missions they will be called upon to perform in the future.

Central and Eastern Europe

In Central and Eastern Europe, the United States supports the development of apolitical militaries accountable to democratic civilian leadership, transitions from offense to defense-oriented militaries designed to serve legitimate security needs while posing no threat to other states, and the development of cadres of democratic civilian defense officials. Current efforts include high-level negotiations and discussions

with defense and national leaders; bilateral military-to-military and civilian defense discussions; military education and training programs; defense equipment sales; cooperative institutional arrangements; and conferences, seminars, and orientation visits. These programs are designed for each individual country based on its demonstrated commitment to implementing common objectives and respecting common values.

The Former Soviet Union

In the former Soviet Union, control over the majority of military forces is gradually passing to the new independent states, where civilian political leaders face the challenges of establishing political control over their local military forces and determining the future size and structure of those forces. This has presented us with an unprecedented opportunity to encourage a transition from the massive and threatening former Soviet military to more appropriately sized, less threatening military establishments under democratic political control and public accountability. If this transition continues, it will produce opportunities for new strategic partnerships and new defense and military relationships.

The militaries of the new states of the former Soviet Union are highly receptive to contact with the Western world and are looking especially to the United States for advice and support. Through defense and military-to-military contacts, we hope to enhance the prospects for a successful democratic transition. These democratic interests can be enhanced by giving Russian, Ukrainian, and other former Soviet militaries a larger stake in good relations with the West, especially the United States, and by helping to erase the adversarial images of the West that persist among some former Soviet officers.

During 1992, top Department of Defense leadership met with Russian President Boris Yeltsin, Ukrainian President Leonid Kravchuk, Kazakhstani President Nursultan Nazarbayev, Commonwealth of Independent States Commander-in-Chief Marshal Yevgeniy Shaposhnikov, Belarus Minister of Defense Pavel Kozlovskiy, Ukrainian Minister of Defense Konstantin Morozov, and Russian Minister of Defense Pavel Grachev. In addition, a wide range of meetings took place between senior U.S. defense officials, both civilian and military, and their counterparts in these new

states. Meetings have included exchange visits by senior military officers, as well as ship and aircraft visits. Also, we established in FY 1992 modest international military exchange and training programs for Russia and Ukraine. We expect these programs will expand in the future and will be broadened to include other new independent states of the former Soviet Union.

EAST ASIA

In East Asia, a great deal of continuity exists in U.S. interests and policies. We have a large and growing economic stake in the region, as well as an enduring interest in promoting human rights and democratic values. We will need to maintain sufficient forward-deployed forces and power projection capability to reassure our regional allies and friends, to preclude destabilizing military rivalries, to secure freedom of the seas, to deter threats to our key political and economic interests, and to preclude any hostile regional power from attempting to dominate the region. Our forces in the region also support other U.S. security objectives, as recently demonstrated by the heavy reliance on Pacific military facilities and forces to project power in the Persian Gulf.

Despite recent positive trends toward political liberalization and market-oriented economic reforms, East Asia continues to be burdened by several legacies of the Cold War: Russian control over the Northern Territories of Japan, the division of the Korean Peninsula, and the civil war in Cambodia. The collapse of communism in Europe is likely to bring pressure on remaining communist regimes in East Asia, with unknown consequences for regional stability. We continue to pursue improvement of our relations with China but also will ensure that Taiwan has the armaments needed to defend itself as provided by the Taiwan Relations Act, while taking into account the August 1982 Communique with China on Taiwan arms sales.

The United States will work to preserve vigorous security alliances, with our treaty allies in the region, namely, Japan, the Republic of Korea, Australia, Thailand, and the Philippines. We continue to encourage Japan, and South Korea in particular, to assume greater responsibility sharing, urging both to increase prudently their defensive capabilities to deal with

threats they face and to assume a greater share of financial support for U.S. forward-deployed forces that contribute to their security. Scheduled U.S. force reductions in Korea were suspended in light of concerns about North Korea's nuclear weapons development program. When that obstacle is removed, we will continue to reduce our military presence in South Korea.

At the same time, we are seeking to broaden our network of access agreements similar to the recently concluded Singapore access memorandum in lieu of permanent bases throughout Southeast Asia. These kinds of agreements will facilitate bilateral training, exercises, and interoperability, thereby enhancing our ability to work with allies and friends in crisis.

MIDDLE EAST/PERSIAN GULF

In the Middle East/Persian Gulf, our defense strategy is built on the twin elements of forward presence and crisis response. Forward-deployed forces in the Middle East/Persian Gulf lend credibility to U.S. security guarantees and thus deter potential challenges. They also stabilize the region by redressing imbalances of power, especially in the Persian Gulf. Their presence enhances the capabilities of friendly regional forces, giving them the opportunity to hone their skills by training with U.S. units. Additionally, in a crisis, these forces provide an initial response capability should deterrence fail.

An important component of forward presence is coalition defense with friendly regional governments. Unlike other key areas of the world, the United States has no formal alliance structure in the Middle East. Only through a coalition approach can we carry out a forward-presence strategy to protect our common interests. In the Middle East, numerous bilateral relationships, conducted at various levels of formality, collectively take the place of formal alliance structures. Such relationships may include prepositioning and access arrangements, joint military commissions, combined exercise programs, and cooperation in military contingency planning. In addition, because interoperability of principal weapons systems reinforces coalition defense capabilities, an active and balanced security assistance program helps support this effort.

Developing host-nation support is equally impor-

tant to our crisis-response capability. Host-nation support reduces transportation requirements and the port and airfield infrastructure necessary to introduce forces rapidly in an emergency. Such infrastructure improvements were a major part of the U.S. security assistance relationship with Saudi Arabia prior to the Iraqi invasion of Kuwait and proved to be a key factor contributing to our reversal of Iraqi aggression.

Maritime forces, exercises, access arrangements, and prepositioning of U.S. equipment form the basis for our presence in the Middle East. The U.S. Navy's Middle East Force has patrolled the Persian Gulf since 1948. Since the fall of the Shah of Iran in 1979, our naval presence in the Gulf and Indian Ocean areas has been routinely augmented by a carrier battle group and frequently by an embarked Marine air-ground task force. In addition, the U.S. Sixth Fleet presence in the Mediterranean makes forces available for operations along the North African coast and in the Levant and, as needed, to augment the Persian Gulf presence and patrol the Red Sea. The end of the Cold War has also made it possible to use land and air forces in Europe and the Far East when necessary to respond to crises in the Middle East/Persian Gulf.

Since the cessation of hostilities with Iraq, a modest number of land-based aircraft have remained in the region in connection with enforcement of U.N. sanctions and other measures against Iraq. This presence was augmented slightly with the declaration of a no-fly zone over southern Iraq in September 1992. Furthermore, an active program of combined exercises rotates U.S. maritime and ground units through the Gulf region on a regular basis.

Should the states of the region be unable to deter threats to our mutual or critical interests, the United States must be prepared to dispatch decisive force to the region to contain or reverse potential aggression. Through access and prepositioning arrangements with a number of regional countries, we seek to reduce the time and resources needed to introduce large numbers of troops into the region. These arrangements also spell out in advance the rules under which U.S. forces operate in a given country, eliminating much of the administrative burden during a crisis deployment. Prepositioning also accelerates the reinforcement process. In addition to prepositioning ashore, we have also made use of

afloat prepositioning, a concept that permits us to support force deployments in areas where we either could not obtain peacetime access or where the use of forces may not have been envisioned earlier.

LATIN AMERICA

In Latin America, the United States will continue to cooperate to promote common security interests, democratic values, and free-market economic principles. In many respects, national security, economic prosperity, and democratic institutions are interconnected. As a result, the United States has supported the region's evolution to free-market economies which are leading to the conclusion of trade and investment frameworks, under President Bush's Enterprise for the Americas Initiative.

At the same time, the United States has provided assistance and training for evolving civilian-military relations with apolitical militaries accountable to elected, democratic civilian leadership. This also entails the restructuring of the organization and management of defense establishments, and it is occurring as the governments and their militaries adjust to new roles and missions within the world's new security environment, constrained by the realities of national budgets. An example of this change is the increased participation by a wide diversity of Latin American nations in major international peacekeeping operations worldwide, including the deployment of aircraft, helicopters, and ships in conjunction with military personnel. All these efforts support the promotion of human rights and democratic values.

As Latin American military officers and civilian officials adapt their military forces to this new environment, the United States is providing its support as a partner. Our assistance includes high-level meetings and discussions with defense and national leaders; bilateral and subregional military-to-military and civilian defense discussions; military education and training programs, particularly in defense resource management and related skills; and conferences, seminars, and orientation visits. These programs are tailored to each nation and are based upon common objectives that support the hemisphere-wide move to freely-elected civilian, democratic governance and evolving free-market economies and free trade.

The common threat that narcotics pose to the safety and health of the nations of the Western Hemisphere has received increased attention. The primary producing, transit, and consuming nations of this hemisphere reiterated their mutual commitment to disrupting and ultimately destroying the illegal drug trade through bilateral and multilateral initiatives for effective enforcement of drug laws, interdiction of drug trafficking, education against drug consumption, and other steps to reduce the demand for drugs.

The unique relationship between the United States and Panama is represented in the Panama Canal Treaty and the Treaty on Permanent Neutrality of and Operation of the Panama Canal, as well as our broader efforts to support the consolidation of democracy in Panama. The two treaties provide for a U.S.-Panamanian partnership in operating the canal and in defending it, and the United States is proceeding on a scheduled transition to full Panamanian control of the canal in 1999, as stipulated by treaty commitments.

AFRICA

In areas outside the four critical regions, the United States has important interests and cannot be indifferent to political or economic developments that affect them. In sub-Saharan Africa, access to facilities under arrangements established during the Cold War remains important. Access to strategic resources in southern Africa as a whole continues to be important to the West. Some of the nations with whom the United States has formal and informal access agreements and arrangements face enormous problems and are vulnerable to indirect intervention or subversion by more powerful neighbors and by Libya, Iraq, and Iran. The failure of the United States and the West to promote stability and peaceful change in Africa could reduce access to facilities important to regional contingencies and could result in disruption in the production or marketing of strategically important resources.

The Base Force

To implement the regional defense strategy, the Department has conducted a comprehensive reassessment of force structure. The result of this review is the Base Force, a force structure configured to meet the requirements of future security challenges. The Base

Force provides capabilities that are credible to both friends and adversaries, yet takes into account the financial constraints of a reduced defense budget. Guided by the new strategy, the Base Force is tailored for regional contingencies, while making provision for reconstitution of capabilities should a major global-scale threat begin to emerge, and takes into account arms control agreements.

Alliance relationships are an integral feature of our security strategy, and the Base Force relies on significant contributions by allies and friends. Although U.S. forces have unique capabilities and might sometimes represent the predominant military component of a collective response, experience has shown that we can rely on our allies to make important and often indispensable contributions to coalition efforts.

BASE FORCE COMPONENTS

The Base Force is a framework within which we can size our forces in an era of uncertainty. Its component forces seek to maintain the capabilities needed to protect U.S. interests in the four critical regions, as well as to address other defense requirements. The Base Force consists of four force packages — Strategic, Atlantic, Pacific, and Contingency forces — and is supported by transportation, space, reconstitution, and research and development capabilities. The Base Force also recognizes that the total force policy is central to the organization of our armed forces, integrating active, reserve, civilian, and contractor personnel into a balanced and highly effective force that meets military requirements and recognizes fiscal constraints.

Our strategic forces are designed primarily to protect against nuclear threats, either through deterrence or defense. These will include a triad of ballistic missile submarines, long-range bombers, and ICBMs, as well as the Global Protection Against Limited Strikes (GPALS) ballistic missile defenses.

Atlantic forces, consisting of Europe-based forces and U.S.-based reinforcements, are configured to support our commitments in Europe, the Middle East, and Southwest Asia. The Atlantic forces must include a heavy Army corps with two divisions committed to Europe, supported by three heavy divisions based in the United States with reserve component round-out

brigades; three to four forward deployed and two U.S.-based active Air Force fighter wing equivalents; at least two carrier battle groups and associated amphibious forces (from both Atlantic and Pacific regions) maintaining forward presence throughout the area, including the Mediterranean, the Red Sea, and the Persian Gulf; and four additional U.S.-based carrier battle groups and a U.S.-based Marine expeditionary force (MEF).

Pacific forces support our commitments in East Asia and consist of forward-based, forward-deployed, and reinforcing air, naval, and land forces. Pacific forces will continue to emphasize maritime capabilities, maintenance of forward-based forces in Japan and Korea, and reinforcements from Hawaii, Alaska, and the continental United States (CONUS). Army and Air Force elements in the Pacific can be trimmed to about two divisions and three to four fighter wing equivalents provided by forces in Hawaii, Alaska, Japan, Korea, and CONUS. Maritime forces will include a forward-deployed carrier battle group, a MEF, and other U.S.-based elements as required.

Both the Atlantic and the Pacific forces are supplemented by dedicated crisis response units stationed in the United States. U.S.-based contingency forces provide response capability for unexpected crises and consist mostly of active component units capable of rapid deployment. Each Service brings unique capabilities to this task. The Army contributes airborne, air assault, light infantry, and heavy forces. The Air Force brings its entire range of fighter, bomber, and airlift forces. The Marine Corps' expeditionary combat power is an essential element, especially when access ashore is contested. Special operations forces may operate in support of these conventional forces or may conduct independent operations when use of conventional forces is neither appropriate nor feasible. Certain reserve units must maintain high readiness to assist and augment responding active units by performing much of the airlift, sealift, and other vital missions from the outset of a contingency operation.

The Base Force relies on both active and reserve components. The active forces provide the primary capabilities for day-to-day operations, as well as most of the combat and support units needed to respond initially to regional contingencies. The reserve forces will provide: essential support units in increasing

numbers for more extended confrontations; increasing numbers of combat units to augment and reinforce the active component forces as well, especially in large or protracted confrontations; and forces to perform assigned missions including, for example, CONUS air defense, civil affairs, and aerial reconnaissance.

MANAGING THE BASE FORCE

In response to global changes, the Department is implementing a multiyear, 25 percent reduction in U.S. forces. By 1995, our active duty Army force structure will be cut by roughly one-third of its 1990 level, from 18 divisions to 12. The Air Force will be reduced by about a quarter, with a cut of 9 active and 1 reserve fighter wings, reducing the force from 36 fighter wing equivalents to about 26. The Navy will be cut by a fifth. Similarly, the Marine Corps manpower level will be reduced by approximately one-sixth. Reserve forces and the civilian work force will be cut by over 200,000 each. The Department has announced plans to close or realign well over 800 facilities worldwide. Budget cuts stemming from these reductions and other additional savings will reduce U.S. military spending as a share of gross domestic product to its lowest level since before the attack on Pearl Harbor.

The plan for downsizing and reconfiguring forces is both prudent and fiscally attainable. Substantially smaller than the forces of the 1980s, the Base Force anticipates continued progress and improvement in the security environment. Designed to provide the capabilities needed to deal with an uncertain future, the Base Force is dynamic and can be reshaped in response to further changes in the strategic environment. Faster reductions would risk the danger of destroying the cohesion, morale, and military effectiveness of today's force.

The new strategy requires that we preserve an adequate Base Force that provides essential capabilities and that its units maintain the high readiness needed for deterrence and timely regional crisis response. Readiness and force structure are therefore critical and share the highest priority to support the strategy. Sustainability sufficient for the intensity and duration of regional crisis response operations is also vital to crisis response.

The strategy gives high priority to science and technology (S&T) efforts to ensure qualitative superiority in the future, to advance our technological potential, and to increase efforts to test and validate new technologies and components before programs enter the formal acquisition process. The Gulf War demonstrated the early promise of revolutionary technologies in the areas of low-observability, information gathering and processing, and precision strike. To retain a decisive lead in those technologies critical on the future battlefield, we must identify the highest leverage technologies and pursue them vigorously.

Acquisition of new systems is accorded greatly reduced emphasis and will be funded only when absolutely warranted. In order to redirect our shrinking resources in ways that will maintain high-quality forces, we are reducing infrastructure and overhead, and becoming more efficient in all program areas. These policies reflect the new approaches to defense acquisition that have been adopted to support the new strategy in a profoundly changed global threat environment.

These new priorities, brought about by the new strategy, are reflected in the pillars of military capability that guide defense program planning. Our previous four pillars — readiness, sustainability, modernization, and force structure — have been expanded and reordered in terms of priority. Today, defense planning is guided by the six pillars of defense resources: readiness, force structure, sustainability, S&T, systems acquisition, and infrastructure and overhead.

Conclusion

The Department of Defense has redesigned its approach to national defense in the context of a rapidly changing global security environment. The result of these extensive analytical, planning, and decision efforts is the new regional defense strategy. The strategy is, in turn, implemented with the Base Force and exercised through our regional defense policies. This comprehensive approach to meeting the regional security challenge is the key to protecting U.S. security interests and to helping shape a more peaceful and stable world order.

The Department has reduced and redesigned the U.S. future force posture to create the much smaller but

still highly capable armed forces needed to cope with such threats, as well as adjusting regional policies to address the security issues of the new era. In addition, DoD is engaged in many critical defense policies and activities — such as arms control and security assistance — that support the new strategy. Those activities are discussed at greater length in the next chapter.

How potential adversaries perceive U.S. capabilities and will is crucial to shaping the international

security environment. Those perceptions, in turn, depend in large measure on our willingness to maintain strategic deterrence, to build strategic defenses, to deploy forces overseas, to maintain high-quality and high-readiness forces at home capable of responding on short notice to crisis, and to retain the ability to reconstitute larger forces if necessary. If we avoid cutting too much too fast, the United States can preserve the strategic depth achieved by winning the Cold War, ensuring our security at lower cost and less risk.

DEFENSE POLICIES AND ACTIVITIES

Introduction

The new defense strategy seeks to shape the international security environment in ways conducive to Western security and broader U.S. interests in democratic values and free-market prosperity. This objective places new emphasis on certain key activities conducted by the Department of Defense in coordination with other agencies. Some of these activities — such as arms control, security assistance, and peace-keeping operations — constitute important instruments by which we directly shape the international security environment. Others — such as intelligence support — focus on organizations and capabilities that are global in scope and that contribute to policy formulation and support U.S. forces in every region of the world. Still others — such as low-intensity conflict capabilities and counternarcotics activities — address important but nontraditional security challenges.

These defense policies and activities are an integral part of the new defense strategy. Arms control can prevent counterproductive competition and rivalries and enhance openness and confidence. Nonproliferation policies can help prevent weapons of mass destruction from falling into the hands of aggressive or unpredictable states. Security assistance sustains our forward presence and strengthens friends and allies with whom we share common goals. Low-intensity conflict capabilities and efforts to counter international drug trafficking are instruments to oppose instability in the developing world that can directly affect our interests. Intelligence support is indispensable to the full range of defense activities. Finally, our participation in peace-keeping and humanitarian relief operations helps to energize global collective security institutions through which we hope to build a more just and stable world order.

Arms Control

Arms control continues to be a key part of our coordinated effort to enhance the security of the United States and its allies. Arms control agreements have supported our national security policy by channeling

the changing force postures of many nations into more stabilizing directions; by enhancing predictability, openness, and accountability in military relationships; and by reducing force levels in ways that lower the overall threat and enhance stability.

STRATEGIC ARMS REDUCTION TALKS (START)

Since the START Treaty was signed in July 1991, the Administration has worked to bring the treaty into force and to pave the way for its smooth implementation. In June 1992, the Administration also reached an understanding with Russia on substantial further reductions in strategic forces, including the elimination of multiple independently-targetable reentry vehicle (MIRVed) ICBMs — the most destabilizing type of strategic weapon. This understanding was codified in a treaty signed on January 3, 1993.

On May 23, 1992, Russia, Ukraine, Kazakhstan, and Belarus joined the United States in signing a new protocol to the START Treaty that allowed for the treaty's implementation in the wake of the dissolution of the Soviet Union. It makes all four of these new independent states equal parties to the treaty. Under the terms of the protocol and associated letters, the governments of Ukraine, Belarus, and Kazakhstan agreed to eliminate all nuclear weapons on their territories during the seven-year START reduction period and to adhere to the Nuclear Non-Proliferation Treaty as nonnuclear-weapon states in the shortest time possible. In October 1992, the Senate gave its advice and consent to the START Treaty. Kazakhstan and Russia have also ratified START.

All five parties are proceeding to finalize implementation arrangements required by the treaty that take account of the changed circumstances. In addition, the parties have proceeded with early implementation actions required by the treaty that enhance openness and accountability and provide early experience with the verification provisions of the treaty. For example, ICBMs, submarine-launched ballistic missiles (SLBMs), and heavy bombers covered by the treaty have been exhibited by the United States and the

other parties in order to facilitate rapid implementation of the treaty's inspections once the agreement enters into force. In addition, both sides have taken steps to make ballistic missile telemetry more accessible, even before START enters into force. This includes implementation of a provisional ban on encryption and jamming, as well as demonstration of telemetry tapes and playback equipment.

As a result of initiatives first proposed by President Bush in September 1991, Presidents Bush and Yeltsin signed the treaty between the United States of America and the Russian Federation on Further Reduction and Elimination of Strategic Offensive Arms (START II) on January 3, 1993. Under its terms, the United States and Russia agreed to conclude a treaty that would, over two phases, significantly reduce warheads on strategic offensive arms and eliminate MIRVed and heavy ICBMs by the end of the second phase. (See Part III for details of the START II Treaty.)

The new treaty will be submitted to the Senate for its advice and consent. While the United States and Russia have agreed to go to dramatically lower levels of nuclear forces, it will take years for the two sides to reduce to these levels. As a result, our focus over the next several years should be on the implementation of these reductions resulting in reduced strategic force levels, on accelerating deactivation of our strategic forces to be eliminated, and on posturing our forces so as to maintain stability as we reduce.

At the June 1992 Summit, the United States and Russia signed an unprecedented umbrella agreement on cooperation concerning the safe and secure transportation, storage, and destruction of weapons and the prevention of their proliferation. Under the authority of that agreement, the Department of Defense and the Russian Ministry of Atomic Power have signed five implementing agreements under which we will provide assistance to Russia in the following areas: armored blankets to augment the protective capability of nuclear weapon containers and vehicles carrying nuclear weapons to and within destruction facilities and necessary related storage facilities; nuclear weapon accident response equipment, including systems used to stabilize and package damaged weapons; fissile material containers to provide transportation and storage of such material derived from dismantled weapons; conversion kits to

upgrade the safety and security of Russian railcars used in transportation of nuclear weapons and weapon material; and design assistance for a storage facility for fissile material from dismantled weapons. In October 1992, the United States concluded a similar umbrella agreement and two implementing agreements with Belarus. We are actively pursuing additional agreements with Russia, Belarus, Ukraine, and Kazakhstan.

INTERMEDIATE-RANGE NUCLEAR FORCES (INF) TREATY

The Intermediate-Range Nuclear Forces (INF) Treaty has entered its fifth year of implementation. Under its provisions, all ground-launched intermediate- and shorter-range missiles and support equipment declared by the United States and the Soviet Union were eliminated by May 1991. The United States and Russia are continuing to implement the INF inspection regime by conducting short-notice inspections at former INF facilities, as well as carrying out continuous monitoring inspections on each other's territory. While the absence of a formal resolution to the question of INF Treaty succession has not impeded its implementation since the demise of the former Soviet Union, the United States is working with Russia and the other relevant states of the former Soviet Union to formally resolve the succession issue.

THRESHOLD TEST BAN TREATY (TTBT)

The Administration conducted a review of U.S. nuclear weapon testing policy as part of the development of the verification protocol to the Threshold Test Ban Treaty (TTBT). President Bush announced a new policy on nuclear testing in July 1992. The policy stated that, as long as nuclear weapons and nuclear deterrence continue to be important elements of U.S. and NATO security strategy, the United States would need to conduct an underground nuclear testing program. However, we would restrict the purpose of tests of U.S. weapons to maintain and improve the safety and reliability of our forces. We do not anticipate under currently foreseen circumstances conducting more than six nuclear tests per year. We also do not anticipate conducting more than three tests per year above 35 kilotons.

In September 1992, Congress imposed additional, new restrictions. The restrictions mandated a nine-month moratorium on nuclear testing beginning in October 1992, ceilings of 15 tests from July 1993 through September 1996 and of 5 tests for any single year, and a ban on tests beginning in October 1996 unless another state tests after that date. It further restricted the purpose of tests to weapons safety, but allowed one test per year for reliability unless Congress specifically disapproved of the test. It also allowed one test for the United Kingdom at our Nevada test site.

As the President made clear, the dramatic changes in the international security environment over the past several years are leading to monumental changes in the size and composition of the nuclear forces of the United States. Despite these reductions, nuclear weapons and nuclear deterrence will continue to be an important element of U.S. national security strategy. As long as this is the case, the United States must conduct a modest number of nuclear weapons tests to ensure the safety and reliability of our forces.

CONVENTIONAL ARMS CONTROL MEASURES

The treaty on Conventional Armed Forces in Europe (CFE), signed in November 1990, entered into force in November 1992. The CFE 1A Agreement, signed July 10, 1992, and entering into force with the CFE Treaty, builds on the CFE Treaty by establishing conventional forces manpower limits. The treaty on Open Skies provides for reciprocal aerial observation rights among 25 initial participants. The treaty was signed in March 1992 but still requires ratification by the United States and other parties.

In 1992, the United Nations established the U.N. Register of Conventional Arms, a concept to track conventional arms transfers originally proposed by the governments of Japan and the United Kingdom and strongly endorsed by President Bush. A panel of U.N. experts, which included U.S. participants, met three times during 1992 and succeeded in making adjustments to a voluntary register which finalizes the definitions of the reporting categories. The United States plans to make its first annual submission of conventional arms transfers in April 1993.

In addition, the United States is involved in a number of other arms control negotiations. We are also participating in follow-on conventional arms control and security dialogue measures in the new CSCE Forum on Security Cooperation. This new forum focuses not only on traditional arms control issues, but also on new transparency measures, enhanced dialogue among states, and increased military contacts.

CHEMICAL WEAPONS CONVENTION (CWC)

On September 3, 1992, the Conference on Disarmament completed the Chemical Weapons Convention (CWC) after a quarter century of negotiations. The CWC prohibits the development, production, acquisition, stockpiling, transfer, and use of chemical weapons. States possessing chemical weapons must declare their stockpiles and destroy their chemical weapons and weapon production facilities within 10 years of the treaty's entry into force. The convention will be open for signature at a Paris signing ceremony in January 1993, and the United States is committed to becoming an original CWC signatory. The treaty is expected to enter into force two years later. In February 1993, CWC signatories will begin work at the Preparatory Commission, which will focus on working out details of treaty implementation such as inspector training and verification procedures. The United States and Russia also are working closely together on a bilateral agreement to destroy chemical weapons, develop inspection procedures, and conduct initial inspections.

As Russian leaders wrestle with the challenge of creating an effective program for destroying the immense Russian chemical weapons stockpile, the United States has begun working to provide assistance. The Department of Defense is working closely with Russian authorities to help them set up a comprehensive chemical weapons destruction program.

ON-SITE INSPECTION AGENCY (OSIA) AND ARMS CONTROL

As we begin to implement these agreements, the work of the Department of Defense On-Site Inspection Agency (OSIA) will become increasingly prominent in the area of arms control. OSIA was originally formed in 1988 to implement the inspection and escort provisions of the INF Treaty. The leadership of this

defense agency is selected from the Department of Defense, the Arms Control and Disarmament Agency, the Federal Bureau of Investigation, and the State Department. Subsequently, OSIA has been tasked to implement comparable provisions in the TTBT, CFE, Open Skies, START, the bilateral U.S.-USSR Chemical Weapons Destruction Agreement, and to support U.S. participation in the multilateral CWC.

For the INF Treaty, while all treaty-limited items have been destroyed as required, the treaty currently provides for short-notice and portal-monitoring inspections through the year 2001. For the CFE Treaty, OSIA will lead inspection and escort teams through its European operations in Frankfurt, Germany. Upon the ratification of the Open Skies Treaty, OSIA in direct cooperation with the Air Force, will lead and manage teams performing observation duty over other countries and escort foreign teams in flights over the United States. To prepare for the implementation of the START Treaty, OSIA inspectors are working directly with the Air Force and the Navy to conduct mock inspections in the United States. OSIA is also preparing to execute verification tasks in connection with agreements to destroy chemical weapons.

In addition to this treaty-related work, OSIA has been tasked to participate in other activities. It has the authority to direct Department of Defense components to procure or provide equipment, services, facilities, and personnel in support of U.N. efforts to monitor and verify the elimination of Iraq's ballistic missile capability and weapons of mass destruction, pursuant to U.N. Security Council Resolution 687. OSIA personnel assist confidence and security building measures set out in Vienna Documents of 1990 and 1992.

OSIA has also been assigned responsibility for the Defense Treaty Inspection Readiness Program. This is an interagency, multidisciplinary, all-source security countermeasures program designed to help American military and industrial facilities subject to on-site intrusive inspection with the identification and protection of critical technology, programs, and information. In support of Operations PROVIDE HOPE I and II, OSIA provided 32 teams deployed at 26 sites in the former Soviet Union to give logistical and linguistic support for the delivery of humanitarian aid. OSIA is currently supporting Operation PROVIDE HOPE III.

NONPROLIFERATION AND TECHNOLOGY SECURITY

Even as the strategic threat from the states of the former Soviet Union diminishes, the potential threats from other regions and sources of conflict are increasing. For more than a decade, Iraq invested billions of dollars in developing weapons of mass destruction and the missiles to deliver them. Even now, states such as Iran, Libya, North Korea, and Syria are doing likewise. And, unfortunately, some otherwise friendly states are also seeking to acquire such weapons and delivery systems.

The proliferation of nuclear, chemical, biological, missile, and advanced conventional weapon technologies is emerging as one of the greatest and most intractable threats to international security. The world has long recognized the dangers inherent in the spread of chemical, biological, and nuclear weapons. One warhead can cause thousands of casualties or can cripple an entire military or industrial installation. To make matters more difficult, the development of weapons of mass destruction is almost always concealed through elaborate security measures and deception operations. Those who have sought to develop such weapons have, for instance, disguised chemical warfare production facilities as insecticide, pharmaceutical, or petrochemical plants. They have also sometimes turned to out-of-date production techniques for nuclear weapons material that, while inefficient, can more easily evade detection by the world community but ultimately still produce a nuclear arsenal.

During the Iran-Iraq War, the war in Afghanistan, and the Persian Gulf War, we witnessed the outcome of 10 years of ballistic missile proliferation, including the use of those missiles against cities and innocent civilians. The danger posed by the proliferation of ballistic missile technology continues. In addition, we must also address the growing proliferation threat posed by cruise missiles. They can strike an area no larger than an individual city block. The size and flight profiles of cruise missiles can stress the capabilities of air defenses. These features make cruise missiles highly effective weapons even when armed with only conventional explosives. When armed with chemical, biological, or nuclear warheads, cruise missiles would represent an even greater threat.

For decades, the United States has taken the lead in efforts to hinder such proliferation. The Nuclear Non-Proliferation Treaty, the Missile Technology Control Regime, the President's May 1991 Arms Control Initiative for the Middle East and July 1992 Non-Proliferation Initiative, the Multilateral Arms Control and Regional Security negotiations' phase of the U.S.-Russian co-sponsored Middle East process, and the recently concluded CWC are only some of the instruments designed to solidify a consensus among responsible states against exports that could contribute to such a spread. The United States has not limited itself to multilateral instruments in the battle against proliferation. We have decided not to produce fissile materials used in nuclear weapons in order to encourage other states to do likewise. Our bilateral diplomacy and the use of economic and technical sanctions have helped dissuade proliferators and blocked exports needed to succeed.

The Department of Defense plays a central role in these counterproliferation efforts. With our technical expertise and contacts with the military establishments of potential proliferator nations, our role in export controls and dissuasion is important. Over the last decade, the Department of Defense has expanded this role with the development of specialized organizations to hinder proliferation. We are also engaged in efforts with the states of the former Soviet Union and the government of Japan to ensure that material usable in nuclear weapons is highly protected in order to prevent theft or diversion. DoD also provides technical experts as members of other international teams to prevent the proliferation of missiles in the developing world, and to participate in U.N.-directed inspections and destruction operations in Iraq.

Instruments such as dissuasion, export controls, bilateral and multilateral negotiations, and inspection and destruction missions, as illustrated in a case like Iraq, will help contain and even reduce the proliferation threat. But current trends and a prudent policy response dictate that we continue to develop capabilities to meet this growing potential threat. We must identify the specific threats, characterize them in terms of the particular dangers that they pose, analyze them in terms of feasible military countermeasures, and respond to them with appropriate changes in military force postures and tactics.

Armaments Cooperation

Cooperation with our allies in the research, development, and production of armaments gives us an opportunity to provide our forces with modern equipment at reduced costs, particularly in a time of decreasing defense budgets. The increased unit costs associated with smaller production runs, which will result from reduced force structure, could well make modern forces unaffordable. However, cooperation with allied nations can expand production runs and provide for shared development costs making affordable the modern equipment needed by our military forces. In addition, such cooperation enhances interoperability between U.S. and allied forces.

In an attempt to increase our cooperative success, the Department has undertaken bilateral initiatives with France, Germany, and the United Kingdom to identify a small number of cooperative programs which can be closely managed to successful conclusions. This effort will increase confidence in the potential for cooperation and will highlight the key elements that are required to ensure successful cooperative efforts. We are working within NATO to develop a Code of Conduct for Defense Trade that would help ensure that bids by U.S. firms are included fairly and competitively in foreign defense markets.

Security Assistance

Security assistance is an instrument responsive to the challenges of the post-Cold War international security environment. These challenges not only include aggressive nationalism and other regional threats, but also unprecedented opportunities for multinational cooperation on security matters. Security assistance enables friends and allies to acquire capabilities needed for legitimate self-defense and for participation in multinational security efforts ranging from coalition warfare to cooperative agreements, including overseas base and access rights essential to U.S. power projection. It helps equip and train host-nation forces to combat well-armed and sophisticated narcotraffickers. Also included are special authorities that provide for emergency draw-downs of defense inventories and grants of excess defense articles (EDA). Additionally, the Special Defense Acquisition Fund (SDAF) acquires defense equipment and services in anticipation of future foreign military sales (FMS) requirements. The SDAF improves timely availability of defense articles and ser-

vices and reduces costs by bridging costly production runs.

However, the ability of the United States to utilize security assistance effectively is impaired by declining resources and reduced flexibility. Funding for the Foreign Military Financing (FMF) program has declined steadily since FY 1984. At the same time, the percentage of FMF funds earmarked by Congress for particular programs has increased from 49 percent in that year to 97 percent in FY 1993. Discretionary funding in FY 1993 was reduced to \$89 million, 70 percent less than in the previous year. Congress also terminated grant aid to key allies — Greece, Portugal, and Turkey — where support is essential to our ability to project power in Southern Europe and the Middle East. This trend substantially undermines the ability to support U.S. national security and foreign policy interests worldwide, and in particular the defense modernization in the Southern Tier of NATO and counterdrug initiatives in Latin America and the Caribbean.

The military component of security assistance has as its principal components the FMS program, the FMF program, and the International Military Education and Training (IMET) program. Also included are special authorities that provide for emergency drawdowns of defense inventories and the transfer of no-cost EDA.

FOREIGN MILITARY SALES (FMS) AND FOREIGN MILITARY FINANCING (FMF)

The FMS program is the government-to-government channel for U.S. defense sales to allies and friends. Defense sales strengthen collective security by enhancing the self-defense capabilities of allies and friends, promoting interoperability between U.S. and foreign military forces, and establishing close and productive military-to-military relationships. The FMF program finances defense purchases by more than 50 countries in support of U.S. foreign base and access rights, Middle East peace and stability, counterdrug efforts, and democratic development.

INTERNATIONAL MILITARY EDUCATION AND TRAINING (IMET) PROGRAM

The IMET program is a low-cost grant aid program that provides military education and training

to more than 4,000 foreign military and civilian defense personnel from more than 100 countries annually, and more than half a million foreign personnel since the beginning of the program in the early 1960s. Through IMET opportunities in the United States and under the instruction of U.S. training teams abroad, future leaders of foreign defense establishments are exposed to American values, regard for human rights, and democratic institutions. To meet the needs imposed by recent transitions to democracy in countries in Latin America, Central and Eastern Europe, Africa, and the former Soviet Union, IMET has been extended to both military and civilian officials, and the curriculum now includes courses in civilian control of the military, defense resource management, and military judicial systems. The IMET program is one of the least costly and most effective programs for maintaining U.S. influence and assisting foreign countries with the development of their self-defense capabilities.

Prisoners of War/Missing in Action (POW/MIA) Affairs

In support of the President's commitment to keep the resolution of the Prisoners of War/Missing in Action (POW/MIA) issue a matter of the highest national priority, the Department has greatly increased its efforts to resolve the fates of missing Americans from our Nation's wars.

Since July 1991, we have increased the number of men and women assigned full-time to working POW/MIA issues from 150 to over 450. This includes establishing a Deputy Assistant Secretary of Defense for POW/MIA Affairs and increasing the staffing in the Department's office for POW/MIA affairs fivefold.

As a result of recent diplomatic breakthroughs with the governments of Indochina, the Joint Task Force Full Accounting is growing in order to conduct the field activities and archival research necessary to account for missing Americans. In addition, we created Task Force Russia last year to coordinate our efforts with the Russian government in attempting to account for missing Americans who in some way may have been connected with the former Soviet Union. Thus far, Task Force Russia has conducted research

and investigated cases from World War II, Korea, the Cold War, and Vietnam.

While progress on the POW/MIA issue is often frustrating and slow, we are prepared to move forward as quickly as possible. The families of our missing Americans deserve no less, and we will not rest until we have achieved the fullest possible accounting.

Low-Intensity Conflict

The nature and severity of low-intensity conflict threats are changing with the passing of the Cold War and superpower competition. Policy challenges such as peacekeeping, proliferation, terrorism, subversion, coups d'etat, and other low-intensity conflict activities will remain important security concerns for the United States, particularly as they affect U.S. regional security relationships.

U.S. adversaries may use low-intensity conflict to weaken or sever ties between the United States and friendly governments by undermining support for U.S. presence, reducing our access, complicating the coordination of collective defense efforts, and generally by reducing our influence. Our adversaries also may undermine regional stability more directly by using subversion, terrorism, and insurgency to attack allies or regimes friendly to the United States. In addition to low-intensity threats orchestrated by powers aspiring to regional hegemony, low-intensity conflicts can create instability and civilian dislocations that endanger American citizens, U.S. military personnel, installations, and commercial interests.

Competencies developed for low-intensity conflict are useful in shaping the international security environment. The United States can use these means to combat and control the growth of security problems before they reach the point where only much larger, more costly solutions will be possible. For example, an increase in security assistance or show of force may shore up a friendly democratic regime that supports U.S. interests.

The most significant features of the evolving low-intensity conflict environment are its broad scope, the multiplicity of its actors, and the growing modernization of its threats. We must not make the mistake of associating low-intensity conflict with technological backward-

ness. Terrorists, insurgents, drug traffickers, and other low-intensity conflict adversaries have demonstrated growing sophistication in the use of advanced technology and tactics, communications/psychological skills, and transnational cooperation.

The Department of Defense has developed a broad range of military capabilities to deal with the military dimension of the low-intensity conflict challenge. Our efforts have been premised on the fact that low-intensity conflicts are not just scaled-down versions of conventional conflicts. They generally require tailored military capabilities, as well as a balanced and integrated application of all elements of U.S. national power. The Department is working to foster this interagency approach and to integrate its combat, support, and organizational skills with those of civilian agencies.

Intelligence Support

Defense intelligence serves a vital role in the formulation of national security policies, military strategies, plans, and operations. It also represents an indispensable element of force development and defense acquisitions. The fundamental effect of the regional defense strategy on intelligence, both in terms of the National Foreign Intelligence Program and the Tactical Intelligence and Related Activities programs, is the need to redirect our analytical and support processes from a global threat posed by a hostile superpower to the flexibility needed to respond to a set of smaller yet highly complex and volatile threats. Defense intelligence plans and programs must be formulated to reflect the realities of planned force reductions, regional mission changes, and the commitment to joint and combined operations.

Intelligence support for regional conflicts and emerging and nontraditional contingencies is a continuing mission for defense intelligence. However, new strategic realities require that intelligence organizations, both civilian and military, make changes to cope with new challenges in the areas of contingency planning and operations support, surge performance, targeting flexibility, global mobility, cross-program system integration, and changing intelligence liaison relationships. To implement successfully these and other changes, the Department has adopted an evolutionary approach that

enables intelligence support to keep pace with force structure and command structure changes.

Service intelligence capabilities directly support the requirements of the Services' subordinate forces and contribute to national intelligence activities in support of unified and specified commands. These capabilities will be provided by the Services in response to needs identified by the unified and specified commands. They must be tailored to support the execution of military operations at all levels and stages of contingency, crisis, and conflict; to provide forecasts of threats and signatures of foreign weapons; to support unusual and expanding peacetime operations; and to protect U.S. national security interests.

In coming years, some of the major changes in defense intelligence activities will include:

- Increased focus on the problems of warning on a global scale for critical regions;
- Increased efforts to obtain intelligence through human sources and exploitation of open source material;
- More balanced global intelligence and counterintelligence targeting, collection, and analytical efforts that will be more flexible and focused on regional contingencies;
- Improved use of reserve component intelligence resources for peacetime and contingency support;
- Development of analytical personnel with skills and knowledge relevant to critical regions and their military threats, and maintenance of language capabilities to support a full range of military operations and options in these regions;
- Intelligence and counterintelligence analysis geared to support decisionmakers, war planners, and warfighters as they develop and implement plans and operations that are responsive to regional contingencies;
- Development, implementation, and deployment of interoperable joint intelligence, counterintelligence, command, control, communications, and computer architectures that permit the free and expeditious exchange of information and analysis at all levels of command; and
- Enhanced peacetime joint training, exercises, and simulations that strengthen the capabilities of defense and national intelligence to support joint task forces in regional strategies across the continuum of conflict.

Fight Against Illegal Drugs

Detecting and countering the production, trafficking, and use of illegal drugs is a high-priority national security mission for the Department of Defense. International trafficking of such drugs into the United States, along with the associated violence and international instability, poses a direct threat to our security. The Department has steadily increased its level of funding for counterdrug support operations in recent years, as well as providing equipment, training, and other services to Latin American countries combatting the illegal drug industry through the Foreign Assistance Act. The Department provides training for U.S. drug enforcement personnel and support for federal, state, and local drug law enforcement agencies (DLEAs), including the Coast Guard. It also leads ongoing efforts to integrate the command, control, communication, and technical intelligence assets of the federal government dedicated to drug interdiction. The National Guard and reserves conduct counterdrug missions in the United States in support of DLEAs and have assisted in the seizure of substantial quantities of illegal drugs.

Support of Peacekeeping Activities

The changing international security environment and renewed prominence of the United Nations increased the scope of its peacekeeping efforts, created opportunities for regional organizations such as NATO or the WEU to become engaged in such efforts, and widened the potential for greater U.S. participation in and support for peacekeeping operations.

U.S. law provides authority for U.S. armed forces participation in U.N. peacekeeping forces, with the costs of such participation normally to be borne by the United Nations. U.S. military officers have served in U.N. peacekeeping missions since 1948, but the majority of those who worked in such roles have been part of missions undertaken within the last two years. The Department of Defense, working in close cooperation with the Department of State, provides logistic support and planning expertise to the United Nations. It has also participated in non-U.N. peacekeeping operations in the Middle East and Africa.

In his speech before the U.N. General Assembly in September 1992, President Bush called for the

development and training by member states of military units that could be made available, with the approval of the governments providing them, on short notice in response to requests from the Security Council for peacekeeping and humanitarian relief operations. The United States will not delegate to anyone outside our government the authority to commit U.S. forces. The President also called for cooperation to enhance the coordination of command and control; to improve the interoperability of equipment and communications; and to increase the multinational planning, training, and field exercises of units tasked with peacekeeping responsibilities. Additionally, President Bush pointed out the need to improve the logistical support for these activities through the designation by U.N. members of stockpiles and resources needed for use in meeting humanitarian emergencies such as famines, floods, and civil disturbances. The Department of Defense, in concert with other departments and agencies, is implementing the President's directives, including taking steps to make available bases and facilities for multinational training and field exercises.

Humanitarian Activities

For the past eight years, the Department of Defense has conducted humanitarian and civic assistance programs in support of broader U.S. foreign policy objectives. Our assistance, provided to nearly 100 countries worldwide, has enhanced military-to-military relations, improved relations with other nations, and made a major contribution to the relief of human suffering. This assistance has taken many forms, including donation of excess food, clothing, and medical supplies; construction of schools and roads by U.S. military personnel; the delivery of foreign disaster assistance; and the transportation by U.S. military aircraft of privately donated humanitarian cargoes.

During the past year, the Department demonstrated anew its ability to respond rapidly to humanitarian crises around the world. In addition to other operations, the Department played a major role in providing assistance to the Kurdish people in northern Iraq through Operation PROVIDE COMFORT, to states in Central and Eastern Europe, to the new states of the former Soviet Union through Operation PROVIDE HOPE I-III, and to the people suffering from armed conflicts in the former Yugoslavia,

Somalia, and Ethiopia. For FY 1993, the humanitarian assistance legal and funding authorities have been expanded significantly.

DoD Support to Domestic Civil Authorities

When the challenges of natural disasters and civil disturbances exceed the capabilities and resources of state and local officials, the state governor can request the help of the President and federal agencies. At the President's direction, the Federal Emergency Management Agency (FEMA) serves as the executive agent for the federal government to coordinate the relief efforts of all federal agencies in the immediate aftermath of a major disaster or emergency, and FEMA, when appropriate, tasks the Department of Defense to provide coordinated support to state officials. Throughout the past year from Florida to Guam, the Department provided military support to federal, state, and local authorities in the wake of natural disasters and civil emergencies.

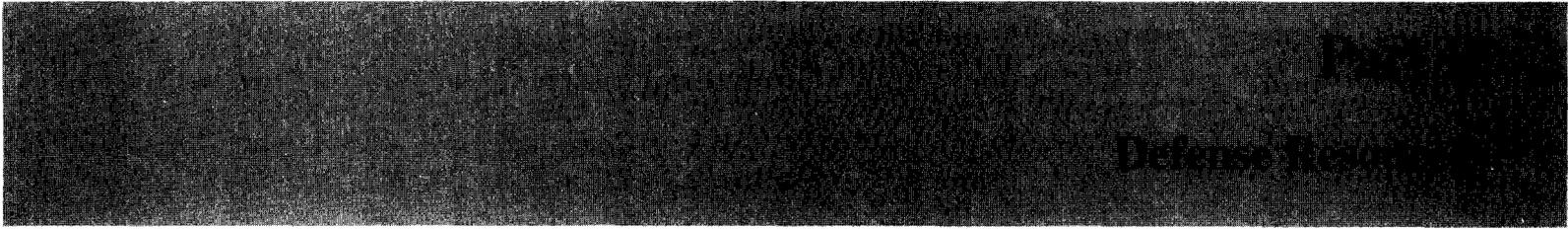
DoD responded to requests for aid and assistance in three major crises in 1992 (Hurricanes Andrew and Iniki and civil disturbances in Los Angeles), and provided support in numerous other instances of local crises such as Pacific typhoons, the Chicago flood, and wildlands fire suppression in Tennessee, California, and Oregon. Military personnel from active and reserve components, along with DoD civilians, participated in coordinated joint task forces in support of state, local, and other federal agencies. DoD provided a wide range of services tailored to meet the requirements in each case including: victim assistance (food, potable water, shelter, and medical support), engineering support (restoration of power, infrastructure repairs, and debris removal), and law enforcement support.

Conclusion

The Department's policies and activities are integral to the new regional defense strategy and have been adjusted to cope with the security requirements of the post-Cold War world. Security assistance, peacekeeping support, and humanitarian activities help shape the environment by strengthening allies, limiting violence, and reducing sources of instability. Even as we reduce our military forces, many defense policies — especially arms control, nonproliferation and technology security, intelligence support, and low-intensity conflict policies — remain critical to ensuring that the forces we retain

can effectively execute their missions. As part of the new strategy, all of these activities are indispensable instruments for shaping the international security envi-

ronment in ways that will enhance U.S. security, reduce the burden of defense, and minimize the risks we face as a Nation in the 1990s and beyond.



BUDGET

Introduction

Fiscal Year (FY) 1993 budget authority for the Department of Defense (DoD) is estimated to be \$259.1 billion, reflecting the fact that Congress reduced President Bush's February 1992 budget request by \$7.6 billion. This leaves FY 1993 DoD budget authority, in real terms, 31 percent below FY 1985 (see Table 1). Details on DoD budget authority for FY 1986-93 are in Appendix A, Tables A-1 and A-2.

FY 1993 DoD outlays are estimated to be \$275.5 billion. That drops defense outlays, excluding Operation DESERT SHIELD/STORM, as a share of America's gross domestic product to 4.3 percent, well below prevailing levels during the entire Cold War era (see Chart 1).

The Budget Enforcement Act of 1990 changed the date by which the President is required to transmit his budget to Congress, from the first Monday after January 3rd to the first Monday in February. The Department released a budget plan on January 8, 1993, from which the incoming administration can formulate a final budget request.

The DoD budget plan is the result of an extensive and intense budget process involving many DoD civilian and military leaders over many months of preparation. The plan continues the restructuring of America's armed forces to reflect the dissolution of the Soviet Union and the changing nature of the global security challenge. That restructuring was unveiled in mid-1990 and got under way fully at the end of the Persian Gulf War in spring 1991.

Linking Strategy and the Defense Budget

The overall goal of the DoD budget plan is to provide maximum support for America's regional defense strategy, which was announced by President Bush in August 1990. The plan funds programs that can best support the defense strategy's four essential elements:

**DoD Budget Authority
(Dollars in Billions)**

Table 1

| Growth Year | Current Dollars | Constant Dollars | Real Growth Percentage |
|--------------------------------|-----------------|------------------|------------------------|
| 1985 | 286.8 | 375.6 | — |
| 1986 | 281.4 | 359.1 | -4.4 |
| 1987 | 279.5 | 345.7 | -3.8 |
| 1988 | 283.8 | 338.5 | -2.1 |
| 1989 | 290.8 | 333.7 | -1.4 |
| 1990* | 291.0 | 324.1 | -2.9 |
| 1991* | 276.0 | 292.9 | -9.6 |
| 1992* | 274.5 | 284.7 | -2.8 |
| 1993 | 259.1 | 259.1 | -9.0 |
| FY 1985-93 real change: | | | -31.0 |

*Excludes cost of Operation DESERT SHIELD/STORM.

- **Strategic Deterrence and Defense.** Budget plans supporting nuclear deterrence are predominantly for maintaining existing capabilities, especially regarding offensive nuclear weapons. The proportion of funds for modernization and enhancing those capabilities is far less than during the Cold War. The emphasis within this strategic element has shifted to defense, which not only supports deterrence, but also moves the Nation toward actual protection should deterrence fail.
- **Forward Presence.** The DoD budget plan funds what is needed to sustain a credible and viable U.S. military posture overseas. Some of the spending, e.g., military pay, training, maintenance, and supplies, would be spent whether the troops were based at home or abroad. Other costs are directly related to overseas locations: pay supplements for higher-cost areas, foreign workers to help run overseas bases, etc. In recent years, much of the funds needed to base our troops abroad have been offset by increasing contributions from our allies. Enhancing this allied burdensharing continues to be a high DoD priority. Spending for deployments of Navy and Marine Corps forces also ensures a credible

U.S. forward presence through the projection of maritime power. Similarly, exercises involving all Services help demonstrate that America is capable of committing sufficient military force to protect its overseas interests.

- **Crisis Response.** The strategic requirements for timely and effective response to crises threatening U.S. interests required budget support for all the requisites of force readiness: training, maintenance, supply stockpiles, and high-quality motivated troops. Especially critical are strategic mobility programs that provide for the movement and support of forces over long distances, and programs that will give our forces the essentials of military success such as: firepower, communications, mobility, intelligence, survivability, functional interoperability, and so forth. Before the Soviet threat collapsed, ensuring these essentials required extensive and virtually constant modernization of U.S. weapons. Now DoD budget plans include very selective upgrading of existing weapons and even less fielding of totally new weapons systems.
- **Reconstitution.** To support this strategic element, the budget plan emphasizes components of the U.S. security posture that would be the most

time-consuming or difficult to restore if neglected — our alliances, high-quality personnel, and technological superiority. It also includes modest, high-leverage investments in capacity to create additional forces, such as: two cadre divisions and a frigate trainer program; storage of major equipment items; and selected, targeted emphasis on preserving industrial base capabilities where necessary.

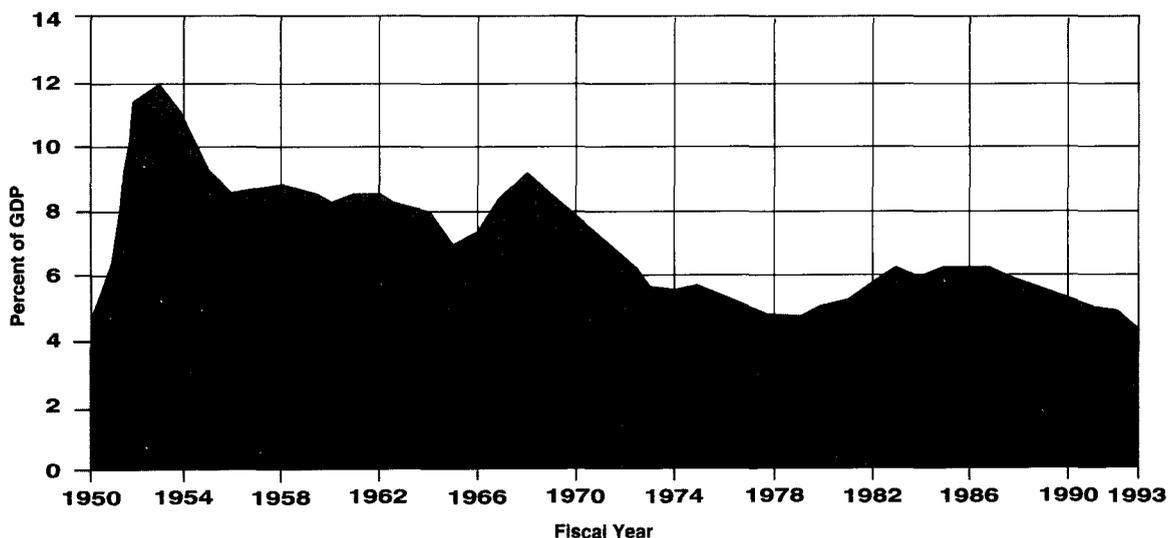
Budget Imperatives

The overall aim of DoD's budget plan is a structure of forces, materiel, and support that will best fulfill the military requirements of the regional defense strategy — a structure whose active duty and reserve composition and equipping will achieve greatest military effectiveness for the funds available. The strategy requires top-quality, versatile forces that are ready to respond successfully to a wide variety of threats to U.S. security interests around the world. To do that, the budget plan reflects the following imperatives:

- **People.** The quality of our men and women in uniform is the most important determinant of America's

Defense Outlays as a Share of the Gross Domestic Product (GDP)

Chart 1



NOTE: Excludes Operation DESERT SHIELD/STORM.

Force Structure Changes Table 2

| | FY 1990 | FY 1993 | FY 1995 ^a |
|--|---------|------------|----------------------|
| Army divisions (active/reserve) | 18/10 | 14/8 | 12/6/2 ^b |
| Navy aircraft carriers (including one training carrier) | 16 | 14 | 13 |
| Carrier air wings (active/reserve) | 13/2 | 11/2 | 11/2 |
| Surface Combatants | 203 | 133 | 141 |
| Attack Submarines | 93 | 89 | 88 |
| Fighter wings (active/reserve) | 24/12 | 15.75/12.4 | 15.25/11.33 |
| Heavy bombers (primary aircraft authorized) | 268 | 169 | 176 |
| Nuclear-powered ballistic missile submarines | 34 | 22 | 16 |

^a Planned

^b Represents two cadre divisions.

military strength. Policies and programs affecting them and their families must reflect this fact.

- Power projection/mobility. U.S. strategy requires that its military be able to project military power around the globe to safeguard our vital interests.
- Quality of the force. The decisive advantage of the U.S. military over likely adversaries must continue to be its high quality, which seeks to ensure success at the least cost for America, its allies, and its interests.
- Readiness. The manning, training, maintenance, equipping, and sustainability must enable U.S. forces to perform their missions within the time required.
- Robust strategic offensive and defensive forces. To ensure nuclear deterrence, we must maintain effective offensive nuclear forces and pursue strategic and theater defenses to provide global protection against limited ballistic missile strikes, whatever their source.
- Technological advantage. Through vigorous research and development (R&D) and timely modernization, we must exploit advanced technologies to ensure that our forces have a decisive advantage over possible adversaries.
- Prudent acquisition. In accordance with DoD's new acquisition strategy, we must maintain the superiority

of our military technologies, thoroughly test and proceed prudently in selectively fielding new advancements, and assist in sustaining critical, unique elements of America's defense industrial base.

- Streamlined modern infrastructure. America must reduce and make more efficient its defense infrastructure by closing unneeded facilities and concentrating resources on the most needed facilities.

Budget Content

The DoD budget plan supports the ongoing transition to a quantity and composition of forces called the Base Force, a force structure that DoD believes is the minimum required to protect U.S. national interests. Under current plans, that force structure will be largely realized by the end of FY 1995. Specific force levels are shown in Table 2.

Although the Marine Corps will reduce manpower levels by one-sixth, it will maintain three active and one reserve divisions, three active and one reserve aircraft wings, and associated active and reserve combat service support.

Reflecting the streamlining of U.S. forces, active duty military end strength will decline from a post-Vietnam peak of 2,174,000 to about 1,570,000 in FY 1997 — a decline of about 28 percent. In FY 1997, reserve personnel levels are planned to be 21 percent below FY 1987 levels. In FY 1997, DoD civilian strength will fall to below 900,000 — over 20 percent below its FY 1987 post-Vietnam peak. This planned decrease reflects both the shrinking size of the U.S. military and DoD management improvements.

Streamlining Defense Infrastructure

Consistent with the new defense strategy and the restructuring of our armed forces, the Department is streamlining its infrastructure, its supporting organizations, and its facilities. Prominent in this effort is the closing and realigning of defense bases both in the United States and abroad. This streamlining of our base structure reflects:

- Planned force reductions: fewer divisions, wings, and ships require fewer bases and a smaller support structure; and

**DoD Budget Authority and
Operation DESERT SHIELD/STORM^{a,b,c}**
(Dollars in Billions) Table 3

| | FY 1990 | FY 1991 | FY 1992 | FY 1993 |
|---|---------|---------|---------|---------|
| Includes Operation DESERT SHIELD/ STORM | 293.0 | 276.2 | 281.9 | 259.1 |
| Excludes Operation DESERT SHIELD/ STORM | 291.0 | 276.0 | 274.5 | 259.1 |

**DoD Outlays and Operation
DESERT SHIELD/STORM^{a,b,c}**
(Dollars in Billions)

| | FY 1990 | FY 1991 | FY 1992 | FY 1993 |
|---|---------|---------|---------|---------|
| Includes Operation DESERT SHIELD/ STORM | 289.8 | 262.4 | 286.6 | 275.5 |
| Excludes Operation DESERT SHIELD/ STORM | 288.3 | 285.8 | 274.4 | 268.3 |

^a The DoD official budget data base includes figures related to Operation DESERT SHIELD/STORM. However, when depicting trends in defense spending, in this chapter or elsewhere, the Department has excluded those figures from DoD topline data.

^b Virtually all defense spending related to Operation DESERT SHIELD/STORM is included in DoD budget authority data for FY 1990-92. For DoD outlays, spending related to Operation DESERT SHIELD/STORM is concentrated in those years; but it in fact extends beyond them, although in diminishing amounts.

^c Details behind this data are contained in the FY 1993 DoD publication *National Defense Estimates*.

- Comprehensive management initiatives: reforms are reducing the size and complexity of the structure needed to support a given level of combat power.

America's permanent overseas presence is being reduced substantially. As of December 1992, the Department has announced that 586 overseas bases and sites will be returned to host nations; another 75 will be reduced or placed in a standby status. These

**Components of U.S. Operation
DESERT SHIELD/STORM
Incremental Costs**
(Dollars in Billions) Table 4

| | |
|---|-------------|
| Offset by allied cash contributions | 48.1 |
| Goods/services covered by allied in-kind assistance | 5.7 |
| Material losses that will not be replaced | .8 |
| Realignment of budgeted funds | 1.3 |
| Net interest on cash contributions | .5 |
| Costs not offset by the above | 4.7 |
| Total | 61.1 |

actions affect 40 percent of the U.S. overseas base structure.

Domestically, implementing the recommendations of the 1988 and 1991 Base Realignment and Closure Commissions will streamline the U.S. base infrastructure by 9 percent through the closure of 43 major bases and the realignment of numerous other bases and facilities. A 1993 commission, and another in 1995, will consider additional domestic actions.

Military installations are one of the basic elements of our Nation's defense strength. A streamlined but well-maintained base structure is critical to the training, readiness, deployability, housing, and quality of our forces. DoD's planned investment will focus on maintaining and revitalizing those facilities that the Department will need and, when required, to build new facilities to derive the maximum military strength for the defense budget our Nation adopts.

Operation DESERT SHIELD/STORM

Tables 3 to 5 reflect the expenditures and final accounting for Operation DESERT SHIELD/STORM. Each year's data includes Operation DESERT SHIELD/STORM-related expenditures accounted for in that year, but deducts the allied cash contributions received that year. For example, most of the allied cash contributions, some \$43.1 billion, were credited in FY 1991, causing DoD out-

**Operation DESERT SHIELD/STORM
Foreign Government Contributions to
Offset U.S. Costs
(Dollars in Millions)**

Table 5

| Contributor | Cash | Receipts In-kind | Total ^c |
|----------------------|---------------|---------------------|--------------------|
| Saudi Arabia | 12,809 | 4,046 | 16,854 |
| Kuwait | 16,015 | 44 | 16,059 |
| UAE | 3,870 | 218 | 4,088 |
| Japan | 9,466 | 546 | 10,012 |
| Germany ^a | 5,772 | 683 | 6,455 |
| Korea ^b | 150 | 101 | 251 |
| Others | 8 | 22 | 30 |
| Total | 48,090 | 5,659 | 53,749 |

^a Germany's commitment was \$6,572 million, but it included over \$200 million worth of ammunition that the United States chose not to accept due to the termination of the war.

^b Korea's total commitment could not be fully utilized by the United States for Operation DESERT SHIELD/STORM requirements. Korea has provided in-kind support for non-DESERT SHIELD/STORM projects in FY 1992 in an amount equivalent to the difference.

^c Numbers may not add to totals due to rounding.

lays to actually come out lower when Operation DESERT SHIELD/STORM is included.

Total incremental costs for the Gulf War are estimated at \$61.1 billion. However, the actual burden imposed on U.S. taxpayers is much less, and the net U.S. costs for Operation DESERT SHIELD/STORM should not exceed \$4.7 billion (see Table 4).

The final totals for allied contributions toward U.S. costs for the Gulf War are shown in Table 5.

Looking Ahead

How prudently America carries out its post-Cold War drawdown will determine our security posture for many years to come. The United States can continue to gradually reduce defense spending without jeopardizing its security, if we proceed at a prudent pace. The DoD budget plan seeks to carefully allocate defense dollars to achieve national security goals.

DEFENSE MANAGEMENT

Introduction

In February 1989, President Bush directed the Secretary of Defense to conduct a review of defense management practices. Additionally, the President required that DoD develop a plan to accomplish full implementation of the recommendations of the Packard Commission and to realize substantial improvements in the acquisition process and defense management overall. As a consequence, the Department conducted a comprehensive review of the defense acquisition system and the Department's management practices.

The final *Defense Management Report (DMR)* to the President was published in July 1989. It set forth the Packard Commission recommendations, steps to improve the defense acquisition system, and ways to improve DoD management. The President directed the Secretary of Defense to implement the Secretary's *DMR* recommendations.

In the three years since the *DMR* was presented to the President, DoD has aggressively pursued implementation of its recommendations as an integral part of the overall plan to streamline and restructure America's armed forces. As the Department reduces military force structure in the post-Cold War world, it must preserve essential defense capabilities and protect the ability to fight and prevail in future conflicts. Effective management of the Department of Defense and wise use of declining defense resources are more important today than ever.

The Department's efforts are reflected on two levels. First is the implementation of far-reaching changes, improvements, innovations, and enhancement of management throughout DoD. These initiatives, which number well over 100, will result in the preservation of force structure and weapon systems totaling over \$70 billion from FY 1990 through FY 1999. Second is the implementation of bold new acquisition initiatives, especially the recommendations of the Packard Commission. Collectively, these changes have already produced a new approach to management, efficiency, and effectiveness in all

aspects of the Department's operations. Additionally, sustaining the consensus and commitment to continue the *DMR* well into the future is becoming internalized at all levels and across all the Services. We are confident that we can sustain these efforts well into the 1990s and beyond.

DoD-Wide Management Improvements

Change is readily apparent throughout the Department. It can be seen in the way we allocate resources, through organizational realignments to respond to the ever-changing defense threat, in the budget savings, and most importantly, in the attitude and mindset of our people. It is clear that doing business as we have done it for years is no longer acceptable — political, international, and fiscal realities will not allow it.

DEFENSE BUSINESS OPERATIONS FUND (DBOF)

Managers make better decisions about the products and services they need for their organizations when they must budget for the full cost of those requirements. Managers who are provided free support services do not know how much the Department is paying for that support, nor do they have an incentive to be concerned with the cost of those resources. The Defense Business Operations Fund (DBOF) is proving to be a very effective tool to ensure our managers make decisions based on a knowledge of the full cost of the support services they consume. The DBOF is helping DoD managers — both suppliers and customers — to make better decisions by defining specific support requirements.

DBOF is an umbrella financial structure which finances support activities for the Military Services such as supply management, supply distribution, and depot maintenance. These activities have long operated as revolving funds and based on the establishment of a customer/provider relationship whereby the customer (the armed forces) determines the requirement and justifies the funding. The provider (DoD support services) then satisfies the customer's requirement and

is reimbursed by the customer. Now, these revolving funds, plus some added functions, are consolidated under DBOF, which provides a centralized, efficient, and cost-effective financing structure. A few DBOF activities, such as the Defense Finance and Accounting Service (DFAS), are new to the revolving fund concept of operations. The Department is evaluating other support activities to see if they could also benefit from this superior resource management system.

DBOF discourages waste and inefficiency because both the organization receiving support services and the organization providing that support are working within a system that portrays the full cost of services rendered, as well as an accurate requirement for those services. For example, a supply manager, who is the provider, provides spare equipment parts to a military commander, who is the customer. The provider's organization operates within the DBOF. The cost of the spare parts provided to the commander includes not only the purchase cost but also the costs associated with ordering, storing, shipping, and handling those parts. When the commander orders parts, he is charged a dollar amount that represents the total cost of those parts. The supply manager must recover the total cost of procurement, storage, and shipping from the commander, because the supply manager's budget to pay salaries and operating expenses is dependent upon the receipts from the sale of spare parts to the commander.

When this is contrasted to how support services are provided without the fund, the benefits are clear. In a nonfund support situation, the provider is the supply manager, and the manager receives appropriated funds with which to purchase, store, and ship spare parts on behalf of the customer. The supply manager consults the customer in order to estimate his or her future spare parts requirements and then prepares a spare parts budget for all customers. In the nonfund environment, the final decision concerning how many spare parts will ultimately be provided to customers belongs to the provider, not to the customer. Since the customers have not expended funds and are not aware of the true cost of the parts, they have no opportunity or incentive to make decisions that might ultimately reduce federal expenditures. In this situation, the customer may make an arbitrary estimate of future requirements since accountability will reside with the provider. If the requirement estimate is too high, excess spare parts will accumulate and sit on the shelf.

This nonfund system relies on the hope that someone else may eventually need the excess parts.

A true customer/provider relationship engenders an intense awareness of the cost of support on both sides of the supply counter. The customer must know exactly what level of support is required and what the cost will be. It is the customer who must ensure enough funds are justified in the budget to obtain the support for the operating forces under his or her command. The provider must know what the total support costs are in order to ensure recovery of the full cost of the service. This process disciplines the cost awareness significantly for support managers and commanders alike. The customer/provider relationship ensures that the operating forces are provided exactly the level of support they feel they need at a price they are willing to pay.

CORPORATE INFORMATION MANAGEMENT (CIM)

DoD established the Corporate Information Management (CIM) initiative to reduce nonvalue-added work and costs and to improve the management of DoD's information. The primary objective of CIM is business process improvement. The role of information technology is supportive and allows the adoption of more efficient and effective business area management practices. The initiative includes not only looking at the infrastructure of finance, materials, logistics, medical, and other business activities, but also includes the examination of some of the underlying information flows that support command and control.

The Department is organized according to functional areas that support its overall defense mission. Accordingly, responsibility for implementing business process improvements is in the hands of the functional leadership for each area. While overall information management responsibility resides with the Assistant Secretary of Defense (Command, Control, Communications and Intelligence) (ASD(C³I)), program execution rests within the functional areas headed by the other Office of the Secretary of Defense principal staff assistants. For example, financial operations improvement efforts are overseen by the DoD Comptroller, and logistics programs are overseen by the Assistant Secretary of Defense (Production and Logistics) (ASD(P&L)).

The ASD(C³I) provides support for the CIM initiative through the Director of Defense Information (DDI), who serves at the Principal Deputy Assistant Secretary of Defense level. The DDI staff facilitates process improvements on an outreach basis; that is, the improvements are determined within each functional area itself, with the DDI staff serving as expeditors and facilitators. In FY 1992, over 1,300 defense personnel received training on consistent business process improvement techniques. These techniques were applied to over 100 projects, with applications as wide-ranging as funding transfers, background investigations for security clearances, and fire support communications.

Through the CIM initiative, duplicative systems are being merged or eliminated, as exemplified by such efforts as the financial functional area's plan for the reduction of 90 systems to 7 by FY 1994.

In implementing the CIM initiative, DoD is applying basic business management principles:

- Simplifying business processes before systems design;
- Applying economic analysis and benchmarking to functional business methods;
- Providing common systems for identical functions;
- Developing systems according to common methodology;
- Requiring process and data models for all systems;
- Providing a shared communications and computing infrastructure;
- Mandating common data definitions and standards; and
- Exercising central control over security.

The technology aspect of the CIM initiative is intended to provide an infrastructure that will improve the speed, flexibility, accuracy, and security of information technology's support to DoD decisionmaking. DoD is moving toward having information technology as a corporate resource or utility. Information itself will be a departmental asset. Information to meet each DoD need, be it payroll or combat operations, will be accessible in a simple, consistent fashion.

In September 1992, the Deputy Secretary of Defense approved the establishment of a Defense

Information Infrastructure (DII). Analysis and planning are under way to set up this information structure that will provide an end-to-end information support capability encompassing collection, generation, storage, display, and dissemination of information Department-wide.

DEFENSE INFORMATION SYSTEMS AGENCY (DISA)

The Defense Information Systems Agency (DISA), formerly the Defense Communications Agency, was chartered in June 1991. In addition to continuing the function performed by the Defense Communications Agency, DISA became responsible for the many technical functions necessary to support the CIM initiative. Specifically, DISA provides technical support to the ASD(C³I) in the implementation of the defense information management program. Among DISA's activities to support DoD information management are:

- The DoD Data Administration Program. The Director of DISA was designated the DoD Data Administrator in October 1991. This program will ensure standardization, accuracy, and security of information as DoD-wide assets.
- Technical Integration Management. A crucial part of reducing the number of information systems in use in DoD is ensuring that cross-functional services are maintained or improved. For example, eliminating a personnel system might affect the flow of information into a payroll system. To address these problems, DISA is working with each DoD functional area to set up a common way of transferring information, managing system changes, and ensuring coordination of technical integration programs being carried out by the military departments or other defense agencies. In January 1992, DISA issued the first target model for technical migration.
- DoD Open Systems Architecture. DISA is a leader in the move away from reliance on proprietary hardware and software. In FY 1992, DISA issued the first DoD Technical Reference Model, which spells out technical specifications that are open to any vendor to provide. This model is being kept current to reflect technology developments and industry trends on standard practices.

- DoD Software Reuse Program. The DISA Center for Software Reuse operates the DoD software warehouse. By not redeveloping the same software components, DoD will reduce development times and improve quality by building on the results of previously tested programs.
- Defense Information Technology Service Organization (DITSO). In April 1992, the Deputy Secretary of Defense approved the establishment within DISA of the Defense Information Technology Service Organization. This organization's initial capabilities primarily are derived from information technology assets that had been resident within the Defense Finance and Accounting Service. DITSO is the forerunner for providing information technology services as a utility. Initially, DITSO will provide information technology services to support DFAS.
- Defense Information Infrastructure. In September 1992, the Deputy Secretary of Defense established DII and designated DISA as the central manager for the DII. DISA's role will be clarified in the associated implementation plans to be developed and approved during FY 1993.

DEFENSE FINANCE AND ACCOUNTING SERVICE (DFAS)

DFAS was activated in January 1991 to improve finance and accounting service and reduce costs by adopting standard policies, procedures, forms, data, and systems; streamlining and consolidating operations; and eliminating redundancies.

DFAS was composed originally of six finance and accounting centers situated across the country as well as a small headquarters located in the Washington, D.C., area. It encompasses former Army, Navy, Air Force, Marine Corps, Defense Logistics Agency (DLA), and Washington Headquarters Services finance and accounting headquarters. Prior to the establishment of DFAS, each Military Service operated its own finance and accounting headquarters, focused on its own requirements, and used its own unique systems. Initially, the focus of the individual centers did not change. Centers which were created to provide pay and financial management support to a single military department or agency have continued

to provide that dedicated support. But, as DFAS standardization and consolidation initiatives are implemented, center missions are expanding and changing to support functions throughout DoD.

Based on the success experienced by DFAS in its first year of operation, the Department decided in December 1991 that DFAS would assume management responsibility for the finance and accounting functions of DoD components. Additionally, DFAS will finish the job of consolidating DoD finance and accounting by consolidating these functions into a limited number of locations. Through consolidation, DoD will realize significant operational savings.

Over 14,000 finance and accounting employees, at approximately 300 locations, will become an integral part of DFAS during FY 1993. Additional personnel will be subsumed from other agencies as DFAS continues to consolidate and standardize DoD finance and accounting operations. These functions and employees will be centralized and relocated to a limited number of finance centers throughout the country over the next several years.

The DFAS Washington Center was closed in August 1992, and its functions were combined with like functions in the other centers. The number and location of the other centers will be determined by an evaluation of need, effective facilities, and community support. In March 1992, DFAS invited communities across the Nation to submit proposals to host DFAS consolidated facilities. Over 200 proposals were received from over 100 communities in 34 states. The best proposals will be included in the DoD submission to the Defense Base Realignment and Closure Commission in the spring of 1993.

In addition to consolidating operations, DFAS is also consolidating and standardizing policy and procedures. Over 70,000 pages of regulations in 360 publications are being streamlined into a single set of 15 volumes of DoD financial management manuals. This will result in a 72 percent reduction in the number of pages of regulations. At least 10 of the 15 volumes will be completed in FY 1993; several are already done. Significant progress has also been made toward adoption of a DoD-wide standard budget and accounting classification code structure.

DFAS has made significant strides in the area of system standardization. For example, DFAS will pay all military retirees and annuitants with single systems. A single civilian payroll system, a single travel payment system, a single transportation system, a single debt management system, and a single accounting system for the DBOF have been selected as well. Through similar initiatives, DFAS expects DoD finance and accounting to be increasingly standardized over the next five years, resulting in substantial savings for the taxpayer. DFAS is well on its way to achieving the goal of \$150 million annual savings by 1996.

DFAS Corporate Information Management efforts are also under way to document improved functional requirements in the form of data and process models for future enhancements to finance and accounting systems.

DEFENSE COMMISSARY AGENCY (DeCA)

The DoD commissary system is one of the largest grocery store operations in the world with nearly 400 commissaries worldwide. The Defense Commissary Agency (DeCA) also has a wartime role providing support for tactical field exchanges and a full-time mission of Air Force troop subsistence. DeCA, headquartered at Fort Lee, Virginia, is one of DoD's newest consolidated agencies. It completed its first year of operation on October 1, 1992.

The first year saw tremendous change for the agency and its suppliers as DeCA began its move toward such commercial practices as centralized buying power, just-in-time inventory methods, regional sales planning, and several applications associated with electronic ordering and billing.

DeCA achieved savings of \$50 million during its first year, largely through a reduction of 1,700 overhead positions at region and headquarters levels. Of this amount, \$15 million was reinvested back into improved customer service. Customers said the one thing they wanted most was increased shopping hours, so the lion's share of the reinvestment went to increased hours — an average of 3.5 to 6.9 percent at 179 locations. Savings projections for the future show continued improvement as DeCA advances with its development of a standardized, objective business system.

Merging the four complex, large, and distinct commissary commands of the Military Services into one agency created a great many management challenges. The transition toward an integrated, standardized financial management system has been among the most difficult and visible of these challenges. With its volume of business, DeCA pays nearly \$500 million each month in bills. Early automation problems, learning-curve problems both within the agency and in the private sector, and changes in procedures resulted in DeCA's payment backlog reaching some \$400 million in January 1992. Through aggressive management attention, the backlog was reduced to \$33 million in October 1992.

Despite dramatic sales decreases in Europe due to the drawdown, DeCA has seen overall sales slightly increase over the previous year. Produce sales and quality are up and customers are continually delivering favorable comments about a renewed sense of management attention to their concerns. DeCA is moving through the transitional growing pains experienced by any new agency and has many customer enhancements in the planning phase. The future looks bright for the many military men and women, retirees, reservists, and family members who look to the commissary system to deliver them quality service and a valuable, nonpay compensation benefit.

DEFENSE CONTRACT MANAGEMENT COMMAND (DCMC)

DLA established the Defense Contract Management Command (DCMC) on February 26, 1990, and consolidated the preponderance of DoD contract administration services (CAS) at or near a contractor's plant, under a single organization. The military departments and DLA contract administration services components in the continental United States (CONUS) were consolidated under DCMC in June 1990. This involved the transfer of 44 service plant offices, 5,000 personnel, and 100,000 contracts valued at \$400 billion from the military departments.

DCMC International (DCMCI) was formed on March 21, 1990, using the infrastructure of the Air Force Contract Maintenance Center, a worldwide overseas organization, as the core. The majority of overseas contract administration activities were fully integrated into DCMCI on October 1, 1990. The inter-

national workload is now managed by 11 geographic area operations offices. Three activities which originally had been exempted from the consolidation were transferred to DCMC during 1992. They are the Air Force Logistics Support Group in Saudi Arabia, the Naval Aviation European Repair and Rework Activity, and the Naval Aviation Pacific Repair Activity. With the transfer of the Logistics Support Group, DCMC now has an on-site presence for managing contracts in Southwest Asia. DCMC currently administers some 413,000 contracts valued at \$740 billion that are performed by approximately 25,000 contractors. As a result of the consolidation, significant savings have been realized. Nine former defense contract administration services regions were restructured into five DCMC districts and the Air Force contract management division was disestablished. Projected savings through FY 1995 total over \$366 million. Through the end of FY 1992, end strength was reduced by 4,000 positions.

DCMC continues to pursue its operational concept of having the right number of people, in the right place, at the right time, doing the right things. DCMC identified four essential elements required to support this concept: empowering employees, teaming to achieve a seamless approach to CAS, meeting customer requirements, and improving the work processes. In 1991, DCMC launched a series of initiatives to fully implement the concept. It soon became evident that a continuous process for improvement was required to achieve this type and magnitude of change. DCMC has managed the change process through a robust and dynamic strategic plan.

The strategic plan articulates the mission, vision, and objectives of the command. DCMC identified four objectives which articulate its priorities and direction: identify, define, and quantify customer requirements in specific terms and match DCMC capabilities with those requirements; create an environment that attracts, develops, and retains quality people; ensure DCMC is properly postured to operate effectively and efficiently within the changing environment; and improve processes used to deliver quality products and services to DCMC customers. Each objective is being pursued by supporting strategies and tasks. DCMC supports these strategies and tasks through the agency's planning, programming, and budgeting system (PPBS).

Five of DCMC's major initiatives that are now under way and tracked through the strategic plan are described below:

- To move toward a seamless approach to contract administration services, DCMC is currently analyzing its functional processes, developing measurements for them, and striving to make improvements. The processes will be contained in a single, functionally integrated manual called the *DCMC Integrated Process Manual*. This manual will ultimately describe the processes and process measurements relating to DCMC's current 18 products or services. It will outline a seamless approach to CAS and eliminate the need for 16 separate operational manuals.
- DCMC's unit cost initiative will identify DCMC process costs and highlight cost variances for further study. Unit cost is an activity-based costing technique which will facilitate the determination of product or service cost and provide the necessary structure by which DCMC measures timeliness and quality of its products.
- Process-oriented CAS strives to identify specifically required CAS resources as they relate to a particular contractor's performance. DCMC — in concert with the military department customer, Defense Contract Audit Agency (DCAA), and the contractor — analyzes contractor process flows and measures their effectiveness. The health of the contractor's processes is determined in order to ascertain the appropriate level of surveillance required.
- As a service-oriented agency, DCMC must measure customer feedback to ensure it is providing the product or service desired at the level of quality expected. The DCMC Focus Program, part of the DLA Corporate Customer Assessment Program, is the check in the plan, do, check, and act cycle. It will allow decisionmakers to make critical decisions regarding what products add value, and provide the means by which we can ascertain what products or services should be stopped. It promotes the effective use of resources by focusing on value added tasks.
- DCMC's Five-Year Business Plan is being developed to forecast DCMC requirements and workload. The forecast considers the five-year defense program and DoD's projected procurement outlays,

changes to DoD's acquisition policy, and other external factors that have a significant impact on CAS. The forecasts will be utilized as the basis for validating planning premises and developing the management actions necessary for DCMC to be proactive in adjusting to a rapidly changing acquisition environment.

DCMC continues to pursue organizational and functional streamlining initiatives designed to enhance mission effectiveness and efficiency. To date, DCMC has saved over \$273 million.

CIVILIAN PERSONNEL EFFICIENCIES

The Department has engaged in a sustained effort to determine if economies and efficiencies could be achieved by restructuring civilian personnel administration. The approach to this effort has been cooperative and has included the participation of the military departments and the defense agencies.

Historically, each component developed, issued, and administered its own separate set of civilian personnel regulations, directives, and other publications. To determine if economies and efficiencies could be achieved, we first examined the thousands of pages of civilian personnel regulations issued by DoD components. We found that in almost all cases, component personnel regulations were duplicative, with little or no substantive differences in any given area. Based on these findings, the Department is consolidating common civilian personnel regulations into a single DoD civilian personnel manual, with projected savings of over \$20 million.

DoD also undertook a second study of 15 personnel staff functions and services which were common to all DoD components. Once again, considerable duplication and redundancy were found, and DoD has approved the consolidation and restructuring of the following common functions: special pay rate determinations, classification appeals and reviews, civilian equal employment opportunity training, technical field advisory services, injury and unemployment compensation claims, complaint and grievance investigations, senior executive training, relocation services, personnel management evaluations, benefits administration, and civilian training.

The civilian personnel efficiency studies clearly demonstrated that the separate sets of civilian personnel regulations, directives, and manuals developed and administered by the components are derived from a common, uniform body of laws and external authorities which are binding on the Department as a whole. The studies further indicated these laws and authorities require certain common civilian personnel administrative functions and support services that have been separately provided by the military departments and defense agencies. Due to their common statutory and regulatory base, many of these separate component regulations and functions are duplicative and therefore redundant. The Department has concluded that significant improvements in efficiency and effectiveness, including substantial staff and overhead savings, can be achieved by consolidating these common regulations and functions in the Office of the Secretary of Defense.

Acquisition Initiatives

The *DMR* focused heavily on the recommendations of the Packard Commission and emphasized improvements in the acquisition process. The acquisition community responded to the challenge. Changes are under way to improve DoD's acquisition posture in light of the end of the Cold War.

THE NEW APPROACH TO ACQUISITION

As the Cold War came to a close, DoD recognized that it had a historic opportunity to shift its acquisition emphasis and practice. The pressures of an advancing Soviet technological threat, combined with persistent Soviet military adventurism, had forced the United States into adopting an aggressive — and somewhat risky — acquisition posture. While our policy called for prudent risk reduction as the central tenet of acquisition management, the dangerous nature of the real world drove us to emphasize highly concurrent procurement strategies as the only way to ensure rapid and responsive modernization of U.S. armed forces. Now, however, we have the opportunity to reduce concurrency in development programs and to retain existing equipment for longer periods of time.

This overall strategy will allow DoD to adjust its acquisition practice. With the pressure for rapid modernization significantly reduced, DoD will concentrate

in the years ahead on bolstering technological superiority through a revitalized science & technology (S&T) program. This is in line with the President's 1990 statement identifying strengthening defense S&T as a specific national goal.

The S&T focus will be on those technological areas where the need is most urgent and the potential return most attractive. The fundamental purpose of the S&T program is to develop and make available to the military forces new, advanced, and affordable technologies that will ensure long-term military superiority. The Director of Defense Research and Engineering (DDR&E) is responsible for technology development and resource allocation, using as a blueprint our first comprehensive post-Cold War S&T strategy which was released in July 1992. This strategy will seek to sustain and apply the dramatic advances in information technology, involve the military user early and continuously, and demonstrate technology as extensively and realistically as possible.

Developing and demonstrating new technologies are important aspects of DoD's acquisition approach in the post-Cold War era. Equally important is our reaffirmation of properly defining the requirements of the initiation of a new systems acquisition effort and for continuously evaluating them as they progress. First, technologies must have been demonstrated, thoroughly tested, and shown to be producible. Second, there must be a clear and verified need for the new system or system upgrade. Third, the new system acquisition or upgrade must be cost effective. In other words, all technologies that proceed beyond S&T to the threshold of a new acquisition effort must answer three important questions: Do we need it? Does it work? Can we afford it? The current international security environment gives us the opportunity to implement these principles to the fullest extent possible.

Another important aspect of defense acquisition in this new era is the continued health of the defense industrial base. The Department's objectives for the defense industrial base are to ensure that the Base Force is properly equipped in peacetime and that supply demands can be met during contingency operations. The industrial base must also contribute needed capability to meet an emerging reconstitution threat. Additionally, these goals must be achieved efficiently and cost effectively. Always a subject of concern in defense

planning, the industrial base has taken on a new significance in an environment that mixes expanded technology demonstration with decreasing defense production. However, we do not believe that the reductions planned in the near term will cause either the technology base or major defense prime contractor or subcontractor production base to reach dangerously low levels. Between now and FY 1997, the Department projects total acquisition spending to be on the order of \$500 billion, 60 percent of which will be procurement spending. While the defense industrial base will no doubt shrink, this funding will provide a significant market for those companies which are able to remain competitive.

DoD is responding prudently to the challenges of a changing geopolitical situation. Missions, forces, and programs no longer needed are being identified and phased out. Science and technology are being emphasized as a cost-effective means of preserving our superior military capability. We have reaffirmed the central position of risk reduction in acquisition planning and redoubled our efforts to clearly link requirements with the initiation of new procurements and major improvements.

SCIENCE AND TECHNOLOGY (S&T)

The new acquisition strategy emphasizes the importance of the S&T program. A number of management actions to increase the effectiveness and efficiency of the S&T program have occurred during the past year.

The defense S&T strategy was written to focus on developing and demonstrating those technologies that have the highest payoff in addressing our most pressing military needs. The details of the S&T strategy are presented in the Research, Development, Test, and Evaluation chapter of this report.

A DoD key technologies plan was released in July 1992 to ensure the technology base could respond to the needs of the S&T strategy. The S&T strategy is based upon seven thrusts which are oriented toward significant improvements in warfighting capability. Central to obtaining that capability is the conduct of advanced technology demonstrations (ATDs). Eleven key technology areas have been identified as essential to obtaining the objectives of these ATDs. The plan is a DoD corporate-level effort to develop these key technologies.

A Defense Technology Board (DTB) was established to assist the DDR&E in ensuring the S&T program is structured to support the goals of the Department's S&T strategy. The DTB also advises the DDR&E on matters to improve the quality and efficiency of the S&T program, plus the S&T infrastructure within DoD. The DTB will also assist the DDR&E in reviewing military department and defense agency S&T Program Objective Memorandum (POM) submissions for compliance with DoD science and technology strategy and recommend action to resolve issues. The DDR&E shall then certify in writing to the Deputy Secretary of Defense that each component's science and technology POM submission reflects the best allocation of S&T resources.

The management actions outlined above are designed to coordinate the interactions of all elements of the S&T program in order to maintain the technological superiority of our military forces.

TEST AND EVALUATION (T&E)

As a result of a *DMR* initiative on the Consolidation of Research and Development Laboratories and Test and Evaluation Facilities, management actions were initiated to increase the efficiency and reduce the cost of the Department's test and evaluation (T&E) activities.

One objective of this effort is to strengthen the management of T&E resources (test ranges, testing instrumentation, and other testing facilities) so that there will be more centralized and focused management of investments in these valuable and necessary T&E facilities. The Director of T&E is now providing centralized resource management and oversight of developmental and live-fire test and evaluation, while the execution of day-to-day testing remains a function of the individual military departments.

Another objective is to reduce unnecessary duplication and to encourage greater interdependence between the military departments and defense agencies for the use of test facilities. The Department established a T&E structure which routinely examines opportunities for test facility functional consolidations. The structure places a military department in the lead role for a certain testing area (for example, the lead agency for surface-to-air testing is the Army),

and these lead activities provide the analysis, planning, and budgeting requirements for the optimum sizing of the Department's major test ranges and test facilities for their area. The lead activities review existing test capabilities and future testing requirements and develop test capability master plans for their assigned areas. These functional area master plans will eliminate unwarranted duplication and provide managers throughout the Department with the background and insight necessary to properly focus the investment of limited DoD resources. The result will be a cost-effective and balanced T&E program which will provide the most efficient use of the Department's test facilities. In addition, it will ensure the Department has the testing capabilities required by advanced systems well into the 21st century.

REGULATORY RELIEF

The *DMR* recommended a zero-based review of all regulations and other guidance to the DoD acquisition system. In order to accomplish this tasking, a Regulatory Relief Task Force (RRTF) was formed in July 1989 to focus on three categories of acquisition guidance:

- The *Defense Federal Acquisition Regulation Supplement (DFARS)*;
- DoD-level directives, instructions, and manuals; and
- Military specifications and standards.

After completing its review, the RRTF made the following recommendations: remove all unnecessary approval levels and thresholds from the *DFARS*; cancel, combine, or revise 371 (76 percent) of the approximately 500 DoD-level directives, instructions, and manuals which have an impact on the acquisition system; and wherever appropriate, cancel military specifications or standards and implement industry standards.

The *DFARS* rewrite is complete. After an extensive review and comment period, a new *DFARS* was published in July 1991 and became effective on December 31, 1991. The new *DFARS* is 52 percent shorter than its predecessor and written in a plain, active voice. Both industry and government officials have indicated it is a much more useful and usable document.

Review and revision of DoD-level directives,

instructions, and manuals continue. As of October 7, 1992, 42 percent of the actions were complete.

Directives and Instructions Table 6

| Type of Action | Issuances | Actions Completed | Percent Completed |
|----------------|------------|-------------------|-------------------|
| Cancel | 89 | 58 | 65 |
| Combine | 212 | 81 | 38 |
| Revise | 67 | 15 | 22 |
| Retain | 3 | 3 | 100 |
| Total | 371 | 157 | 42 |

The effort to implement the task force recommendations for the military specifications and standards is ongoing. More than 35,000 military specifications, standards, and handbooks were reviewed, and a plan to cancel over 1,500 documents and replace more than 3,500 documents with standards produced by industry organizations, or with simple, commercial item descriptions, was developed. Since the review began, just over 5,900 documents have been canceled and over 1,150 new commercial item descriptions and almost 900 industry standards have been adopted. New guidance was issued on the preparation of commercial item descriptions and the use of market acceptability criteria to ensure these descriptions are simple and functional.

A new review effort has been undertaken to challenge the need for specifications that describe obviously commercial products. Over 350 specifications have been suspended from further use and they will be canceled following a 60-day reclamation period.

In November 1991, the Department co-hosted the fourth biennial Industry-Government Standards Equal Partners Conference with the American Weld-

Specifications and Standards Table 7

| Type of Action | Actions Recommended | Actions Completed | Percent Completed |
|----------------|---------------------|-------------------|-------------------|
| Cancel | 1,500 | 5,900 | 393 |
| Replace | 3,500 | 2,000 | 57 |
| Total | 5,000 | 7,900 | 158 |

ing Society. Implementing a major recommendation from that conference to target specific commodity areas, representatives from major aluminum producers and the Aluminum Association met with defense personnel to begin working on the replacement of approximately 75 military and federal specifications for aluminum with standards of the American Society of Testing and Materials (ASTM).

EXPANDING ACCESS TO THE COMMERCIAL MARKETPLACE

The Department has done several things to try to improve access to commercial products, nondevelopmental items (NDI), and commercial capabilities. Many defense needs may be met from the broad commercial industrial base thus reducing our reliance on a unique defense industry that is dependent on defense dollars for continued existence. But because the Department has become so accustomed to development and design, special emphasis is needed to encourage examination of commercial and NDI alternatives.

On April 24, 1992, the Deputy Secretary of Defense tasked the secretaries of the military departments; the director, DLA; and the heads of other appropriate departmental organizations to ensure that their advocates for competition shall also be responsible for challenging barriers to and promoting the use of commercial and other NDI to meet procurement needs. These competition/NDI advocates have already initiated actions to implement their expanded charters. Initiatives include training existing field level competition advocates, or newly created associate NDI advocates, in such areas as commercial/NDI acquisition, market analysis, and risk management. To be able to carry out the Deputy Secretary's charter to report progress, the competition/NDI advocates have chartered an NDI Measurement Task Group to develop a way to measure the level of acquisition of commercial and other NDI items.

In order to effect the cultural change necessary to fully implement existing policy giving preference to commercial and other NDI items in the acquisition process, the Department has developed a plan for training acquisition personnel throughout DoD in NDI and market analysis. An awareness course that has already been taught approximately 50 times will continue for the next several years, and NDI training is being integrated into

a number of acquisition courses throughout the Defense Acquisition University (DAU).

DoD is also effecting cultural change and providing procedural guidance to field level acquisition personnel through an expanded brochure, *Market Analysis for Nondevelopmental Items (SD-5)*. This brochure, published in February 1992, provides an explanation of the nature and purpose of performing market analysis, examples of successful case studies, and sources of published and automated references that users can consult to survey the commercial market place. Along with the handbook SD-2, *Buying NDI*, published in October 1990, SD-5 is used as a supplement to the NDI training course, and as a source for acquisition personnel who have not yet received NDI-specific training.

DEFENSE ACQUISITION WORK FORCE IMPROVEMENTS

Significant initiatives related to the Department's programs to recruit, train, educate, promote, and utilize key members of the acquisition work force were included in the *DMR*. The focus of these efforts is to improve the overall quality and professionalism of this key segment of the DoD population.

The Defense Acquisition Work Force Improvement Act (DAWIA), as contained in the National Defense Authorization Act for FY 1991, further expands the scope of several of the *DMR* initiatives. During FY 1992, DoD policy was established and directives were issued which facilitate the implementation of DAWIA. These directives cover issues relating to acquisition education, training, and career development programs; management information reporting on DoD military and civilian acquisition personnel and positions; the establishment of the DAU; and the structure of the acquisition work force.

Additional efforts to improve the professionalism of the work force occurred in August 1992 with the award of the first Defense Acquisition Scholarships, and the introduction of the senior acquisition course at the Industrial College of the Armed Forces (ICAF). The scholarship program provides opportunities for bright students to pursue graduate education with follow-on career opportunities in DoD acquisition positions. The DAU is a consortium of 15 DoD education and training

institutions that provide mandatory acquisition courses for military and civilian personnel serving in 11 acquisition career fields. The senior acquisition course is designed to prepare selected military officers and civilians for senior leadership and staff positions throughout the acquisition community.

The structure of the centralized data reporting system on the composition and training of the acquisition work force has been established. Personnel and position data are now being loaded into this management information system.

Further information on the acquisition work force is included in Appendix E.

STREAMLINING ACQUISITION LAW

Presently, DoD is conducting the crucial task of streamlining the acquisition system. The DoD Advisory Panel on Streamlining and Codifying Acquisition Laws, under the sponsorship of the Defense Systems Management College, is completing an extensive effort to review all the laws affecting defense procurement.

The advisory panel reviewed six categories of law: contract formation, contract administration, other major acquisition statutes, socioeconomic laws, intellectual property, and standards of conduct. The advisory panel has established the following goals for its review of the acquisition laws:

- Streamline the defense acquisition process;
- Eliminate unnecessary laws;
- Ensure financial and ethical integrity; and
- Protect the interests of the Department of Defense.

The panel conducted extensive research into the legislative intent of over 800 statutes, identified the major acquisition issues associated with each law, and determined their impact on the acquisition process. On the basis of this research and wide-ranging inputs from the acquisition community, the advisory panel will make specific recommendations to retain, repeal, or amend certain statutes. In some instances, they will recommend combining the provisions in several existing laws.

Through their comprehensive review, the advisory

panel will provide an architecture for legislative changes that will reduce costs and add value to the defense acquisition system.

CONTRACTOR RISK ASSESSMENT GUIDE (CRAG)

DCAA along with the Under Secretary of Defense (Acquisition) (USD(A)), the Commander, DCMC, and the DoD Inspector General are key players in the implementation of the Contractor Risk Assessment Guide (CRAG). This is a joint industry/government effort designed to encourage contractor self-governance and reduce government oversight in areas deemed to have adequate systems of internal control. During FY 1992, industry participation in the CRAG program reached 35 contractors at a total of 110 divisions or segments. Of the 25 largest DoD suppliers, 21 are CRAG participants.

LOGISTICS SYSTEM MANAGEMENT EFFICIENCIES

The logistics system affects every soldier, sailor, airman, and Marine and is crucial to their ability to perform their peacetime and wartime roles. Comprehensive business process improvements are well under way and already demonstrating major success as we continue to provide the same unsurpassed level of logistics support that was crucial to the success of Operation DESERT SHIELD/STORM at a reduced cost to our customers. More than \$30 billion of the total \$70 billion in *DMR* savings projected through FY 1999 will result from increased efficiencies in the logistics system. The Comptroller verifies these savings each year and incorporates them into the defense budget submitted to Congress.

INVENTORY REDUCTION

The DoD Inventory Reduction Plan (IRP) is a principal DoD logistics reform initiative being implemented under the *Defense Management Report*. It is a comprehensive and integrated plan to resize DoD's inventory in view of changing world events while maintaining our readiness posture. The IRP has reduced inventory by \$21.3 billion in two years. By 1995, DoD inventory will be down to \$61.6 billion, assuming all world predictions remain constant; and by 1997, the inventory will be \$55 billion, in constant

1990 dollars — a 46 percent reduction from the 1990 baseline of \$101 billion.

The Department is achieving these reductions by consuming on-hand inventory, eliminating obsolete materiel, reducing the amount of materiel entering the inventory, pursuing commercial alternatives such as direct vendor delivery, and revising policies covering requirements determination, acquisition, and retention of materiel.

The IRP is reducing costs as well as inventory. In FY 1991, DoD component implementation of the IRP resulted in total savings of \$694 million — exceeding the savings goal by \$179.3 million. Through 1997, projected IRP savings in the cost of materiel and supply operations are nearly \$18 billion — more than a quarter of total *DMR* savings.

An essential element of these achievements is the cultural change in the entire materiel management community. A new emphasis on improving business practices is being reinforced through training and changes to personnel evaluations.

Primary areas of emphasis in the continuing implementation of the IRP include increased contract terminations, greater use of commercial practices, disposal of unrequired inventory, improved modeling techniques to increase forecasting accuracy and reduce requirements, and publication and implementation of materiel management policy changes that will improve business practices.

DOD TOTAL ASSET VISIBILITY (DTAV) PLAN

The DoD Total Asset Visibility (DTAV) plan provides for the phased implementation of specific key policies, procedures, technologies, and supporting system changes to provide combat commanders and logisticians essential visibility of DoD materiel assets in the logistics pipeline. We found in Operation DESERT SHIELD/STORM that we could move materiel in large quantities, but we did not track it adequately. The DTAV plan is directed to correct this problem and create a seamless asset tracking system.

DTAV will also correct existing visibility deficiencies between levels of supply, between segments of the

transportation pipeline, for assets being repaired or procured, and across DoD components. Reduced materiel procurement, smaller inventories, improved materiel availability for mission requirements, enhanced transportation responsiveness and efficiency, and higher user confidence in the logistics system are benefits of the DTAV plan.

SUPPLY DEPOT CONSOLIDATION

Begun in April 1990, the initiative to consolidate the Department's 30 supply depots under a single manager will produce more efficient and cost-effective materiel distribution operations. Under DLA management since March 1992, all 30 depots will now operate under new standard DoD distribution policy and business practices. Depot consolidation will save an estimated \$1.2 billion by 1997.

INVENTORY CONTROL POINT (ICP) CONSOLIDATION AND CONSUMABLE ITEM TRANSFER

The military departments are also consolidating their Inventory Control Points (ICPs), with the Army already reducing from six to five. In addition, the Services are currently in the process of transferring management responsibility for nearly one million consumable items to DLA. Phase I of the Consumable Item Transfer will be completed in 1994 and involves about 800,000 items. Planning for phase II, involving an additional 400,000 items, is also under way. These actions are projected to save \$275.9 million through FY 1997.

DEFENSE DEPOT MAINTENANCE

The military departments are restructuring and streamlining defense depot maintenance operations. The foundation for their plans and actions was established by the *DMR* and from a series of joint-Service study groups chartered by the Defense Depot Maintenance Council (DDMC). These DDMC study groups reviewed 18 specific commodity areas (fixed wing aircraft, ground communications and electronics, small arms, etc.) and identified potential economies and efficiencies that the military departments could achieve through both unilateral and coordinated actions. Separate joint-Service study groups also looked at four general management areas: cost comparability, performance measurement,

capacity utilization measurement, and maintenance information management. These study groups completed their efforts in early 1991.

The results of the study groups, along with other inputs, provided the basis for the initial DDMC Corporate Business Plan (CBP). That document is a road map of how the military departments plan to jointly manage the depot maintenance structure of the future and achieve \$3.9 billion in savings through FY 1995. The current FY 1992-97 DDMC Corporate Business Plan continues to emphasize depot maintenance competition, interservicing, and consolidation to achieve savings. The ASD(P&L) oversees the development and implementation of programs and actions focused on achieving restructuring and savings goals.

The current DDMC Corporate Business Plan describes the joint-Service strategy for managing the organic depot maintenance industrial base during the remainder of the 1990s and beyond. The focus is on achieving savings of \$6.3 billion over the period FY 1991-97. The CBP reviews the progress to date in implementing that plan and notes the changes in strategy necessitated by changing conditions. As in the initial plan, savings are attributable to both streamlining and restructuring actions.

Streamlining savings identified by the Services addresses a broad range of actions including downsizing of both the direct and indirect work force at depot installations, closure of facilities, cancellation of facility projects, and internal Service workload consolidations. Projected near-term savings total \$3.1 billion.

Restructuring includes plans that focus on three categories: greater utilization of capacity, interservice support, and greater competition. Planned savings in these three categories total \$3.2 billion.

Capacity utilization savings will be achieved through redistribution of workloads within and among the military departments. Savings will accrue from divestiture of unneeded resources through conversion of depot maintenance facilities to other than depot maintenance functions, (e.g., warehouse, office space, etc.), sales of equipment and property, closure of facilities, and laying away capacity not required in peacetime but necessary for surge or mobilization.

Interservice support occurs when one Service supports the depot maintenance requirements of another Service. The objective of increased interservicing is to perform workloads at a lower cost, yet maintain the quality and schedule requirements of the principal Service. Interservicing savings will accrue from greater economies of scale and through overhead reductions.

Competition will provide over 28 percent of the total savings. These savings will be realized through competition involving both public and private facilities. The competition demonstration programs carried out under legislative authority during FY 1991 provided valuable experience to the Army, Air Force, and Marine Corps in conducting and participating in public-private competition.

Force structure reductions are a certainty. Changes in force structure will mean decreases in workload and will make the achievement of savings a more difficult task. Although it will represent a formidable challenge, the savings projected in the CBP are still attainable given the current workload projections. Further workload reductions, however, will significantly impede accomplishment of the current savings projections.

REDUCING TRANSPORTATION COSTS

Transportation is the lifeblood of the logistics system and constitutes a significant portion of the system's total cost. Advances in both express air carrier transportation and distribution technology provide an opportunity to significantly reduce overall transportation cost. Initiatives are achieving savings in these high payoff areas, and are reducing transportation costs, improving transit times, and resulting in more efficient administrative and operational activities. These initiatives include:

- Expanding the Guaranteed Traffic Program — Award commercial carriers high volume, repetitive traffic lanes for extended timeframes in return for lower rates and improved transportation services.
- Establishing Regional Freight Consolidation Centers — Consolidate small shipments from contractor and DoD facilities into larger, more economical shipments.
- Modifying Issue Priority Group Policy — Challenge and divert air shipments to lower cost modes

and separate supply requisition priority from transportation priority to permit high priority materiel to be automatically downgraded to take advantage of lower cost transportation.

- Expanding Direct Shipments from Vendors to Users — Reduce inventory, storage, transportation, and packaging and handling costs by bypassing DoD depots or storage facilities.
- Conducting Prepayment Audits of Transportation Bills — Prevent unnecessary transportation outlays and recovery costs by identifying carrier overbillings prior to payment.

Significant progress was made during FY 1992 to expand the above initiatives. Concurrently, the logistics system is undergoing major organizational and structural changes that will influence transportation costs in the years ahead. Depot consolidations dictate changing traffic patterns. Similarly, reduced inventories will place greater demands on the transportation system including use of faster, higher cost transportation.

BASE ENGINEERING SERVICES

The base engineering initiative requires consolidation of functions by the establishment or expansion of Public Works Centers (PWCs) within the Services and DLA. The initiative reduces real property maintenance funding by over \$600 million over the Future Years Defense Program (FYDP), mandates improved installation master planning both for growth and reduction, and requires an economic analysis to support any construction, renovation, or major repair project investment decision over \$2.0 million. These initiatives are reflected across the Services and key DoD agencies. For example:

- Department of the Army: Army's lead sites (Forts Leavenworth and Sill and Schofield Barracks) transitioned on October 1, 1991. Alaska transitioned during FY 1992. The Army's implementation schedule has been aligned with the DBOF implementation schedule for base operations. Formation of base support businesses on October 1, 1994, will include all CONUS installations.
- Department of the Navy: Consolidations have started at the PWCs designated for expansion.

PWCs Washington and Jacksonville were established as DBOF activities in August 1992 and formally established in October 1992. Similarly, PWC Charleston will be formally established on October 1, 1993. The Navy is hosting site visits and assisting with PWC documentation for the Army and DLA and is promoting interservice support for other Services.

- Department of the Air Force: Manpower reductions of over 6,200 engineers are programmed through FY 1997, including 1,452 positions in FY 1992. Fifty-seven civil engineering squadrons were reorganized in FY 1992 to flatten the organizational structure and streamline operations. Others will be reorganized by the end of FY 1993. Civil engineering military specialties have been reduced from 17 to 11, effective in FY 1993. The training plans and requirements to diversify the work force are on track to deliver craftsmen in FY 1993. Ongoing Air Force reorganization initiatives integrate these actions and further improve base engineering service efficiencies.
- Defense Logistics Agency: PWCs are operational at Defense Distribution Regions East and West and at the Defense Personnel Support Center. DLA has funded the Army to deploy the Integrated Facilities System and the Mini/Microcomputer Facility Management System in FY 1993 to support DLA Public Works Centers operations. DLA continues coordinating with the Navy on assessments of interservice support alternatives.

Service-Unique Initiatives

ARMY INITIATIVES

The *DMR* is a significant component of the Army's total reshaping effort, which also includes base realignment and closure measures, Vanguard initiatives, force structure modifications, and modernization programs. The goal of this effort is to build a capabilities-based force ready to deter conflict or to win a decisive victory over those who would threaten the Nation's vital interests. The Army is actively participating in more than 75 *DMR* initiatives; over 40 of these were developed by the Army during the last three years. A significant portion of the total DoD savings and manpower reductions is being generated

by the Army. From FY 1991 through FY 1997, the Army will save almost \$21 billion and reduce over 21,000 civilian and 10,000 military spaces as a result of implementation of various *Army Management Report/DMR* actions. The *DMR* initiatives are effecting major institutional changes within the Army through the use of sound management principles and innovative ways of doing business. These include managing the sustaining base in a business-like manner; eliminating unneeded or duplicative functions and organizations; streamlining organizational structures; and consolidating when it is cost effective, affordable, and consistent with Army missions.

Another example of the Army's complete commitment to the *DMR* process is the use of the Army Audit Agency to independently review the initiatives that the Army participates in or manages. The Army Audit Agency reviews the management plan, tracking system, and the reasonableness of savings estimates, thus providing valuable feedback to the senior Army leadership and the implementing organization on how well the management efficiencies are being executed. Several initiatives illustrate the scope and magnitude of the Army's *DMR* efforts.

Software Engineering

Information technology is one of the cornerstones of the Army's restructuring effort. It is an enabler that provides an opportunity for increased productivity and efficiency with a smaller Army. The Army's goal in the Information Mission Area (IMA) is to develop automation systems that provide timely and accurate information to decisionmakers at all levels and at reduced cost. *DMR* initiatives implement management efficiencies in the IMA by standardizing information systems, consolidating redundant activities, and replacing expensive and manpower-intensive manual processes with automation.

One of the major *DMR* initiatives implemented in FY 1992 is software engineering. This initiative centralized the design, development, and maintenance of Army programs. It removed administrative, business-oriented automation systems from major command and field operating agencies and consolidated software engineering assets into established Central Design Activities (CDAs). To date, the Army has reduced its total number of CDAs from 24 to 9. All life-cycle software engineering for the Army is now done centrally.

A single Department of the Army headquarters organization, the United States Army Information Mission Area Integration and Analysis Center (IIAC), was established in May 1992 to provide cross-functional integration. The IIAC centralizes and integrates IMA architectures, models, standards, policies and plans, methods, business models, and codes for the Army. As a result of this initiative, the Army was able to eliminate over 1,000 civilian and 200 military software engineering positions during FY 1992 and will save an estimated \$300 million through FY 1997.

Wheeled Vehicle Support

In FY 1990, the Army began to implement the Reduction of Wheeled Vehicle Operations and Support Costs initiative. The Army successfully reduced wheeled vehicle costs in FY 1992 through the retirement of some 11,000 vehicles, saving \$140 million. Approximately 55,000 vehicles have been retired from FY 1990-92, generating savings of approximately \$265 million.

The Tactical Wheeled Vehicle Modernization Plan (TWVMP) and retirement of less cost-effective vehicles will achieve cumulative savings during FY 1991-97 of about \$1.8 billion in operations and support costs. The TWVMP is currently under revision, with some 40,000 additional vehicles being evaluated for retirement by September 30, 1993.

In conjunction with the retirement program, the Army's foreign military sales (FMS) have increased. During FY 1991, 4,200 M151 jeeps were retired and approximately 3,600 were awaiting shipment to customers under the FMS program. In the last two fiscal years, over 14,000 M151 jeeps have been identified for retirement and are pending FMS. The Army intends to accelerate the TWVMP, generating increased savings during FY 1994-99.

Military Intelligence Activities

The Army's military intelligence community has reorganized to improve effectiveness and efficiency. The *Army Intelligence Master Plan (AIMP)* documents the process for achieving a smaller, more capable military intelligence force. The plan assesses the efficacy of intelligence missions, organizations, and functions through FY 2006.

To improve the effectiveness and efficiency of its military force, the *AIMP* calls for consolidating five theater brigades into three and eliminating all the Intelligence and Security Command's field operating agencies. Two outside CONUS field stations were closed and one was significantly reduced in 1992. As a result of these changes, savings of approximately \$219 million and the elimination of approximately 2,000 positions between FY 1992-97 are anticipated.

As the world's threat environment changes, the Army has focused on how the intelligence community will do business in the future, from restructuring organizations to achieving efficiencies in operations. These realignments have streamlined, as well as improved, the effectiveness of Army intelligence.

NAVY INITIATIVES

The Department of the Navy continues to make significant progress in achieving savings of over \$6 billion over the FY 1991-97 timeframe on Navy-unique initiatives. These initiatives affect nearly all areas of the Department budget — consolidating activities performing similar functions, streamlining organizations, and reducing overhead and maintenance costs. Examples of the achievements to date on ongoing initiatives are shown below.

Naval Shipyard Productivity

Naval shipyard productivity initiatives will improve efficiency and lower cost of ship depot maintenance by focusing on three key areas: costs and schedule performance, technical excellence and human resource strategy, and environmental excellence and occupational safety and health enhancement. A phased approach will stabilize depot operations as force structure reductions occur and initiatives are implemented to improve the ship maintenance processes that influence cost and schedule durations. The Corporate Operations Strategy and Plan established short- and long-term goals in the key areas of schedule performance, direct labor, overhead cost, direct material, and capital plant management for each of the naval shipyards. An aggressive plan is being executed to reduce indirect support (overhead) structure of the shipyards. This will result in a more balanced work force, in terms of the ratio of direct to indirect labor. The success of these efforts is

reflected in recognized savings of \$430 million over the last two years. Process efficiencies will continue to reduce the industrial effort required to accomplish ship depot-level repair, and will result in decreasing costs to fleet customers. Additionally, the naval shipyards have reduced the work force by 17 percent which is consistent with decreasing workload requirements.

Using tools provided by Computer-Aided Acquisition and Logistics Support (CALS), the naval shipyards are implementing the Advanced Industrial Management (AIM) concept. AIM will improve planning and work package development, including scheduling, standardization of work packages, and execution of the work. This is a significant change in the way work is accomplished. Project management is a key element of the AIM process changes. Once the reorganization and streamlining have occurred, the naval shipyards will transition from a functional to product-oriented management system.

Nontraditional Competition

While over 75 percent of Navy contract actions are awarded competitively, the traditional approach to achieving savings from competition is approaching practical limits. As a result, competition initiatives have been expanded to develop new areas.

The Navy ICPs have established an aggressive program to review their component repair efforts for potential cost savings through nontraditional competition. A significant number of candidates have been identified for competition by both the Ships Parts Control Center (SPCC) and Aviation Supply Office (ASO). The ICPs and Navy engineering activities are acquiring the necessary technical documentation needed to effectively develop competition packages. Several public versus private competitions have already been conducted and significant savings have been identified. In addition, savings continue to accrue via cost avoidance by internal designated overhaul point shifts where appropriate. As the nontraditional component repair competition effort continues to mature, ASO and SPCC will identify target groups of components as candidates for competition. The current plan is to review all sole-source components and to compete all items that meet the established criteria for nontraditional competition.

The Naval Air Systems Command has achieved savings of \$28 million from competition between commercial and organic sources on the A-6E rewiring program. Periodic reviews are conducted on systems and equipment used on major aircraft programs to select potential components for breakout. Recent experience has demonstrated that savings average 20 percent of the subsystem acquisition cost through direct procurement from the equipment manufacturer through the avoidance of prime contractor overhead and profit. Program savings to date have been realized in the F/A-18, SH-60B/F, T-45, and high-speed antiradiation missile programs.

Contractor Engineering and Technical Services (CETS) and Navy ETS (NETS) Conversion

The Navy is implementing the transition of over 100 aviation engineering and technical services (ETS) direct fleet support tasks from Contractor ETS (CETS) to organic Navy ETS (NETS) personnel. This transition from contractor field services to Navy civilian technical specialists is being accomplished over a two-year period (FY 1992-93) through increased civilian end strength authorization and decreased acquisition of CETS. Cost savings are achieved from both the lower work unit cost of NETS compared to CETS and the ability to apply NETS across numerous weapon system and equipment product lines. In addition to cost savings, benefits of this initiative include reduced dependence on contractor support, increased flexibility to modify tasking to match changing fleet requirements for technical assistance and training, and the development and training of an organic work force to meet naval aviation maintenance support requirements today and in the future.

AIR FORCE INITIATIVES

The Air Force, in support of the *DMR*, is in various stages of implementing over 100 *DMR* initiatives, 72 of which are Air Force-specific. The total effort is currently yielding savings of nearly \$23.9 billion through FY 1999. Guided by the strategic planning framework of *Global Reach-Global Power*, the Air Force continues to find areas where streamlining and flattening its organizational structure makes good sense. The goal is to remove unnecessary layers, push power down the organization, and ensure that responsibility and authority are aligned while strengthening accountability. During 1992, the Air Force identified

four new initiatives to be included in the *DMR*. These initiatives, described below, will save the Air Force over 8,609 manpower positions and \$1.2 billion. These *DMR* changes are indicative of the dramatic steps being taken by the Air Force to ensure the United States retains the capability to respond to any threat worldwide — global reach-global power.

Field Training Detachment (FTD) Restructure

The restructuring of the Air Force field training detachments (FTDs) under the *DMR* eliminates over 550 manpower positions and saves \$60 million. Currently, the Air Force provides supplemental and follow-on training to individuals through FTDs located on each installation. This initiative removes base-level FTDs and creates regional training centers based on anticipated customer demands. Even with increased temporary duty costs, substantial savings are realized through actions to reduce layering and consolidate management of related activities.

Management Headquarters and Combat Operations Staff Reductions

In 1992, the Air Force reduced the number of major commands from 13 to 10. Two major actions under this reorganization were the inactivations of the Air Force Systems Command and Air Force Logistics Command and the creation of the Air Force Materiel Command, and the inactivations of the Tactical Air, Strategic Air, and Military Airlift Commands and the creation of Air Combat and Air Mobility Commands. In addition, the Air Force streamlined all of its management headquarters and combat operations staff level organizations. This effort focused on reducing support areas commensurate with reductions to force structure and overall population. The total impact of the initiative will save the Air Force 1,450 manpower positions and \$313 million by the end of FY 1999.

Two-Level Maintenance

Restructuring the Air Force's aircraft maintenance system from three levels to two will save the Air Force 5,888 manpower positions and \$384 million through FY 1999. The Air Force currently performs its aircraft maintenance at three levels: organizational, intermedi-

ate, and depot. Over the next several years, this initiative will transfer many responsibilities for intermediate level maintenance for avionics and engines to the remaining two levels, organizational and depot. Savings will be realized from end-strength reductions, lower expenditures on support equipment, and efficiencies created by consolidating repair efforts

Terminate Logistics Airlift (LOGAIR) System

The Air Force has operated a CONUS air distribution system called the Logistics Airlift (LOGAIR) system for the past 40 years. LOGAIR provided air movement of high-priority spare parts and repairables to, from, and between depots, operational bases, and aerial ports. Replacing LOGAIR is a concept called door-to-door distribution that utilizes a mix of small package express air carriers (Federal Express, Airborne, United Parcel Service, etc.) for high-priority shipments and surface carriers for routine and hazardous cargoes. Savings result from a combination of decreased transportation costs over a dedicated airlift system and reduced manpower since dedicated air terminals will no longer be required. Savings for this initiative are 716 manpower positions and \$420 million.

The Air Force fully supports the *DMR* and will continue to be proactive in the identification, implementation, and reporting of *DMR* decisions. Capitalizing on *DMR* savings benefits the Air Force, the Department of Defense, and the Nation.

Conclusion

Implementation of the *DMR* is a continuing process within DoD to best implement the Packard Commission recommendations, improve the defense acquisition system, and better manage our defense resources. Unlike prior management reports, the *DMR* was not imposed on DoD by an outside agency, special task force, or blue ribbon panel. The *DMR* was written and is being implemented by the people who best know the strengths and weaknesses of the Department — DoD employees.

The *DMR* does not take a short-term focus. By design, it takes a long-term view that is critical to the proper emphasis of responsibility, accountability, and streamlining in an organization of the size

and complexity of DoD. The *DMR* did not respond to perceived weaknesses with a quick fix within a single fiscal year, rather the *DMR* is a road map to new and better ways of doing business. As evidenced by the initiatives described in this report, new business-like practices are directly modeled after successful practices in the private sector and will lead to lasting efficiencies in the Department in the 1990s and beyond. These successes are primarily achieved through the high priority and focus given to the *DMR* effort. The DoD leadership sees the implementation of the *DMR* as part of its day-to-day responsibilities, and through this leadership the

implementation schedule and savings are on track.

Since approval of the *DMR* in 1989, the Department has been making improvements in the management of resources and has made great strides in promoting improved efficiency and lowering overhead costs. The *DMR* management initiatives will save over \$70 billion between 1990 and 1999. These savings come from improved business practices and not from program or force level cuts. The Department of Defense is carrying out aggressively the charge to become more efficient and business-like in maintaining the world's best armed forces.

PERSONNEL (MANPOWER AND HEALTH)

Introduction

In consonance with changes in the development of the regional defense strategy, the Department has reduced the number of military and civilian personnel in the force structure. As we implement these personnel reductions, the Department has two major objectives: to maintain the highest state of readiness consistent with available resources and to treat people fairly.

Planned active military personnel reductions are now more than half complete, and the Department is meeting the difficult challenge of maintaining a balanced total force. Maintaining readiness and capability, while simultaneously reducing and reorganizing the force, is extremely difficult as past experiences in postwar eras have revealed. Nonetheless, the reduction and restructuring plan currently being implemented maintains the balance the Nation requires.

The Total Force

The total force will integrate the capabilities and strengths of our active and reserve components and our civilian employees to produce the most efficient and effective force possible. While the Department must meet force requirements with available resources, it must also meet the requirements dictated by national security policy, military strategy, and overseas commitments. These capabilities must be sustained with forces that are fewer in number, but which are professionally-led, highly-trained, and well-equipped.

During the ongoing drawdown, the Department will continue to maintain a balanced total force. The active force will focus primarily on deterrence, forward presence, regional security, and the conduct of worldwide contingency operations in response to regional crises. Our reserve forces will be full partners with the active forces, playing important combat and support roles while maintaining high levels of readiness. Reserve forces will also continue to play important roles where job continuity and specialized skills are required.

In order to structure the total force in the most effective and efficient manner, the inseparable linkage between active and reserve forces must be taken into account. As the active force strength is reduced, the reserve force must also be adjusted as part of a total force structure approach. Recent experience and success in Operation DESERT SHIELD/STORM, and in military and disaster relief operations, have demonstrated the wisdom of fully integrating active, reserve, and civilian capabilities. This force consists of not only our active duty personnel and civilian employees, but reservists and military retirees as well. These motivated, highly talented, and experienced personnel have worked side-by-side with the active force in a broad range of operations. The special skills and attributes of each component of the total force complement those of the others.

The total force will also be structured to provide the foundation for reconstitution of additional forces to help deter or counter any potential global military challenges. To maintain this force reconstitution capability, the Department will continue to focus on long lead-time manpower training and industrial base skill requirements.

Preparedness

Past experience and lessons learned have clearly proven the importance of being prepared. In a future contingency or crisis, the personnel resources of the total force — active, reserve, retired, civilian (including foreign national), and contractor — will be used to fill manpower requirements. The Department of Defense is prepared to mobilize its resources to support national security objectives during contingencies or crises, including the activation of all or part of the reserve components, as well as utilizing military and civilian personnel, supplies, and materiel.

During peacetime, DoD prepares contingency plans. Those plans are then tested in training exercises and often in real-world crises. The Department

works year-round to refine plans continually through careful study and analysis of operations.

The transition from peacetime to the high intensity of military operations in a specific contingency or crisis is a great challenge. The ability to provide for necessary filler and replacement personnel over the course of a crisis is critical to the success of operations. For example, in many potential crisis situations, reserve component activation may be the quickest and, in some cases, the only way to provide necessary capabilities.

Recruiting

The tank commanders, petty officers, flight crew leaders, and Marine gunnery sergeants for the next century are enlisting in the armed forces today. Our recruiting efforts must be carefully adjusted as the force structure is reduced to assure that we continue to provide the high quality of personnel needed to man the total force. Although significant adjustments are under way, including the reduction of recruiting levels

by one-fourth, the quality of today's recruit remains high. Recruiting high-quality people must continue, since lower quality recruits increase training requirements, lower readiness, and reduce the operational flexibility of the armed forces.

Currently, DoD is competing effectively with the private sector to enlist high-quality volunteers from America's youth for military service, but this situation must be closely monitored. The most recent tracking study pointed to a 10 percent decline in youth interested in enlistment. This lower interest is accompanied by a decline in the youth population cohort which is expected to reach its low point in 1996. The lower interest and smaller market are partially offset by a reduction in the number of new accessions. Ongoing force reductions can also have a collateral effect on recruiting as young people, their parents, and school counselors conclude that a military career is not as secure as it once was, or that we are no longer hiring. Our recruiters are working hard to make sure that armed forces opportunities are understood, and we are supporting their efforts

Quality and Numbers of Enlisted Accessions (Numbers in Thousands)

Table 8

| | Quality Indices | | Accessions ^a | | | | |
|-------------------------------|-------------------------------|-----------------------------------|-------------------------|-----------------------------|---------------|---------------|---------------|
| | Percent High School Graduates | Percent Average or Above Aptitude | FY 92 Objectives | FY 93 Achieved ^b | FY 94 Planned | FY 95 Planned | FY 96 Planned |
| Active | | | | | | | |
| Army | 100 | 99+ | 75.0 | 77.6 | 83.4 | 79.8 | 84.8 |
| Navy | 98 | 100 | 58.2 | 58.2 | 67.7 | 55.3 | 61.7 |
| Marine Corps | 99 | 100 | 31.9 | 31.9 | 36.8 | 30.0 | 28.4 |
| Air Force | 99 | 99+ | 35.1 | 35.1 | 37.1 | 31.6 | 31.8 |
| Total | 99 | 99+ | 200.2 | 206.1 | 224.9 | 196.7 | 206.7 |
| Selected Reserve ^c | | | | | | | |
| Army National Guard | 96 | 97 | 65.2 | 71.1 | 42.9 | 41.2 | 63.0 |
| Army Reserve | 99 | 99+ | 58.4 | 67.1 | 24.3 | 36.1 | 50.6 |
| Naval Reserve | 99 | 97 | 19.4 | 25.0 | 13.6 | 13.4 | 14.0 |
| Marine Corps Reserve | 100 | 100 | 7.7 | 7.0 | 7.3 | 7.5 | 7.1 |
| Air National Guard | 99 | 100 | 11.6 | 11.9 | 10.9 | 10.5 | 10.5 |
| Air Force Reserve | 99 | 99+ | 9.1 | 9.0 | 10.5 | 14.0 | 12.3 |
| Total | 98 | 99 | 171.6 | 191.3 | 109.4 | 122.8 | 157.4 |

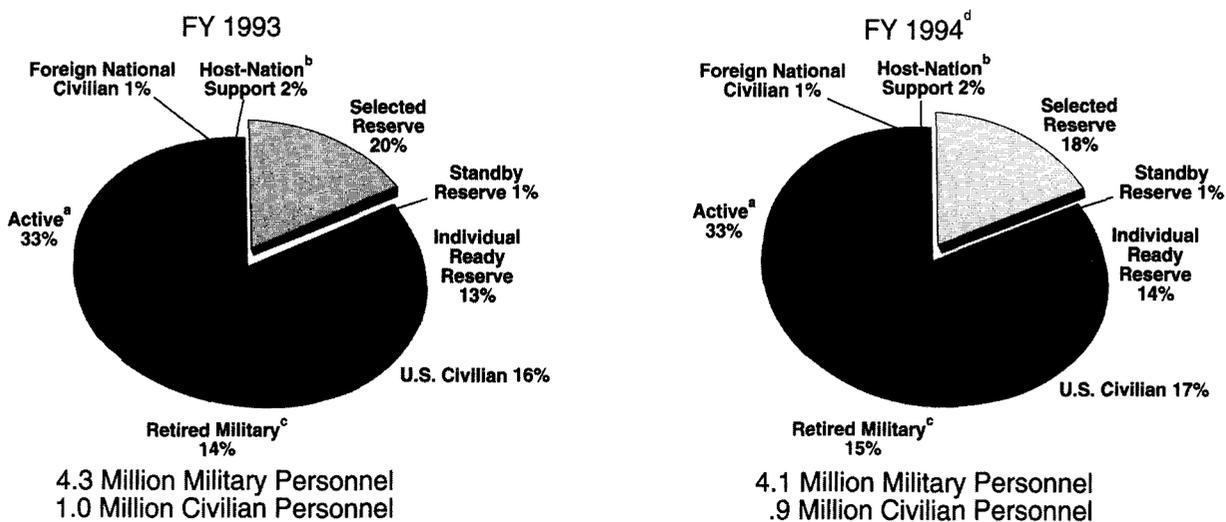
^a Includes prior service accessions.

^b Based on DoD budget plans for FY 1994-95.

^c Includes equivalency certificate and diploma, as well as high school students who enlisted prior to graduation and were expected to graduate.

Composition of the Total Force FY 1993 and FY 1994 (Planned)

Chart 2



^a Does not include the U.S. Coast Guard.
^b Germany only includes military and civilian personnel.
^c Does not include disabled or above age 60.
^d Percentages may not add to 100 due to rounding.

through effective advertising. We anticipate that the number of high-quality recruits will be sufficient for our immediate needs.

The reserve components have been successful in recruiting and retaining sufficient numbers of quality people to meet their manpower requirements. The demands of active military service and the potential sacrifices for reservists were brought into sharp focus during Operation DESERT SHIELD/STORM. However, the reality was clearly understood before the Persian Gulf War; and these and other events, including Hurricane Andrew relief operations, have not hindered reserve recruiting.

Retention

Our goal has been, and will continue to be, the retention of those who are best qualified to serve. To achieve this, DoD must continue to offer challenging and viable opportunities to each military member for professional development and career advancement.

During the last decade, retention patterns were healthy and the Department was successful in retaining a quality force. This success can be attributed pri-

marily to the dedication and sense of contribution and accomplishment of our military members, renewed popularity of the military, improved pay and compensation, and improvements in programs designed to maintain stable living environments for our people. However, we anticipate that there will continue to be retention shortfalls in selected critical specialties. These shortages will continue to require intensive management in order to meet the requirements of the Base Force.

As we manage retention during the drawdown, we must also prepare the civilian work force for the next century. As the largest federal employer, DoD must effectively plan and manage career progression. Of special importance are efforts to provide increased leadership opportunities for minorities and women as well as pursuit of new and creative ways to provide employees with the flexibility to adapt to the conflicting demands of work and family. Our challenge is to explore, analyze, and implement new initiatives that increase quality and productivity.

To meet these challenges, we have undertaken a review of our civilian personnel policies and functions and have begun to consolidate common practices

within the Department. The work force of the 21st century will be hired and trained during the 1990s, and then sharpened through experience to become a streamlined, efficient, and effective force.

Separation

DoD separation policies for both military and civilian personnel are designed to retain the best qualified individuals while treating all members fairly and equitably. For separating members, our policies are designed to use effectively selective early retirements and voluntary separation programs. Programs that require involuntary separations, such as reductions-in-force, are being used only as a last resort.

Voluntary separation programs were extremely successful in FY 1992, obviating in most cases previously planned involuntary separations. Over 20,000 members on active duty were approved for early release or retirement and another 60,000 members were approved for separation under the Voluntary Separation Incentive and the Special Separation Benefit programs. These programs will continue to be used to the maximum extent possible to achieve the necessary reductions in over-strength specialities.

While the vast majority of our reductions will be accomplished through voluntary means, the timing, scope, and magnitude of the reduction to our current all-volunteer force will inevitably require the involuntary separation and retirement of some personnel. Although the Department prefers not to separate members involuntarily, authority to do so will be used when necessary. In FY 1992, early retirement authorities were required to retire selectively about 3,000 members and reduction-in-force authorities were used to select nearly 2,000 Army and Air Force officers for separation in FY 1993. Transition benefits provided by law are helping to mitigate these involuntary personnel actions.

By 1997, the DoD civilian work force will have been reduced by 220,000 from FY 1990, or 19 percent. In effecting these reductions, our goals are to minimize involuntary separations, assist laid-off employees, and achieve a balanced work force.

Coordination and cooperation within the Department and with other executive branch agencies have created a variety of programs and procedures that can

be effectively used. Internally, registration in the defense outplacement and referral system has been expanded to cover all employees and their spouses. Improvements have also been made in our Priority Placement program. In addition, DoD has changed the defense acquisition regulations to require that civilian employees at closing installations be given hiring preference for jobs with caretaker contractors and with those hired to prepare the base for closing. The Department of Labor and the Office of Personnel Management (OPM) have cooperated in DoD efforts to provide early assistance through the Job Training Partnership Act. OPM has relaxed early retirement rules to give DoD greater flexibility and to create targeted vacancies for employees who might otherwise be separated.

Operating Tempos

Table 9

| | FY 1992 (Budgeted) | FY 1993 (Budgeted) | FY 1994 (Planned) |
|-----------------------------------|-----------------------|-----------------------|----------------------|
| Flying Hours/Crew Month | | | |
| Army Tactical Forces | 13.3 | 14.5 | 14.5 |
| Army Reserve | 8.1 | 7.4 | 7.8 |
| Army National Guard | 8.5 | 9.7 | 9.5 |
| Navy/Marine/TacAir/ASW | 24.0 | 24.0 | 24.0 |
| USNR/MCR/TacAir/ASW | 12.5 | 13.0 | 13.0 |
| Air Force TacAir ^a | 20.0 | 19.8 | 19.5 |
| ANG TacAir | 10.1 | 9.7 | 9.7 |
| AFR TacAir | 10.5 | 10.7 | 10.7 |
| Air Force Airlift | 27.7 | 27.7 | 26.9 |
| ANG Airlift | 12.9 | 12.8 | 12.8 |
| AFR Airlift | 11.5 | 11.6 | 11.6 |
| Air Force Strategic ^b | 17.4 | 18.0 | 18.3 |
| ANG Strategic | 13.3 | 13.3 | 13.2 |
| AFR Strategic | 14.2 | 14.8 | 14.8 |
| Navy Steaming Days/Quarter | | | |
| Deployed Fleets | 53.5 | 50.5 | 50.5 |
| Nondeployed Fleets | 29.4 | 29.0 | 29.0 |
| USNR Nondeployed Fleets | 18.0 | 18.0 | 18.0 |
| USNR Training Fleets | 26.0 | 26.0 | 26.0 |
| Army Ground Miles/Year | | | |
| Army Tactical Forces | 800 | 800 | 800 |
| Army Reserve | 200 | 200 | 200 |
| Army National Guard | 288 | 288 | 288 |

^a Fighter

^b Bomber/Tanker — Budget estimate submission data
(September 1992)

Force Readiness

Training is the key element that develops and maintains the readiness of our forces. Operating tempo (OPTEMPO) — resources to support ground vehicle miles, battalion field training days, ship steaming days, and aircraft flying hours — is the primary mechanism used to provide unit training opportunities. The realistic operational experience that results from collective training builds readiness. Operation DESERT SHIELD/STORM was the first wartime test of the total force policy and force readiness programs. The deployment of over 300,000 active duty personnel, along with the activation of nearly 250,000 reservists and National Guardsmen, attested to the importance of high quality and technologically advanced training programs.

At a minimum, OPTEMPO levels must be sustained as forces are reduced. In some areas, such as joint and combined operations, OPTEMPO may need to be increased in order to ensure optimum employment of U.S. forces and efficient integration with our allies. Enhanced realism in training, from basic infantry training with multiple integrated laser engagement system gear to combined-arms exercises at the National Training Center, is enabling us to gain maximum operational training effectiveness. The Department is committed to maintaining OPTEMPOs

at the levels needed to ensure ready forces.

The continuing evolution of both the joint and Service professional military education (PME) systems has pointed the way to success for our operational forces. Lessons learned from our recent experiences in humanitarian, peacekeeping, and disaster relief operations serve as the basis for the continued evolution of our various PME school curriculums. Developing technologies must be exploited to keep military education programs on the cutting edge. The criticality of education in the drawdown of our military forces requires continued emphasis.

Maintaining a high-quality force for future contingencies also requires effective and efficient institutional training for the qualification of individual servicemembers and progression in their military occupations. Individuals must be qualified to perform their job tasks in order to function as members of teams or crews and accomplish their units' missions. Skill progression training has become increasingly important as we strive to keep pace with and take advantage of new technologies. Likewise, current levels of participation in professional education programs must be maintained. The Department is actively pursuing efficiencies in the delivery of institutional training programs, including the establishment of criteria for intra- and inter-service training consolidations. We will continue to emphasize readiness through cost-effective institutional and unit training programs for both active and reserve forces.

Full-Time Support Personnel*
(End Strength in Thousands) Table 10

| | Actual | | Planned | |
|----------------------|--------------|--------------|--------------|--------------|
| | FY 1991 | FY 1992 | FY 1993 | FY 1994 |
| Army National Guard | 55.3 | 56.1 | 53.1* | 48.3 |
| Army Reserve | 30.9 | 31.1 | 30.4 | 27.5 |
| Naval Reserve | 34.1 | 35.0 | 31.2 | 29.3 |
| Marine Corps Reserve | 8.3 | 7.6 | 7.2 | 6.9 |
| Air National Guard | 35.9 | 36.6 | 36.4 | 36.1 |
| Air Force Reserve | 15.6 | 15.6 | 16.7 | 17.4 |
| Total | 180.1 | 182.0 | 175.0 | 165.5 |

*Includes active guard and reserve, military technicians, active

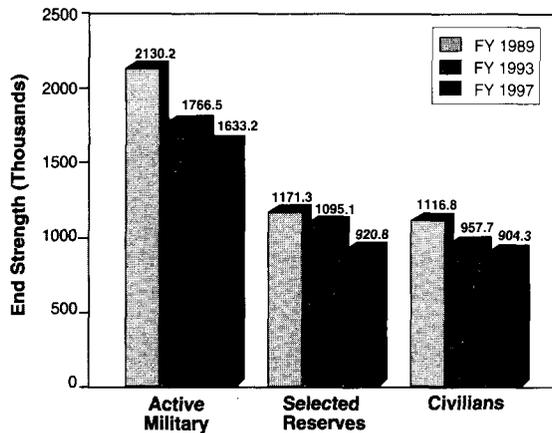
The Department continues to invest in instructional technology to increase the efficiency and effectiveness of our training programs. New methods of delivering instruction over wide area and local area networks are being used. Modeling and simulation initiatives will provide valuable instructional tools. Standards continue to be established to ensure portability, thereby saving development costs. The Department is also placing increased emphasis on improving the life-cycle management of instructional systems.

Quality of Life

The Department of Defense has initiated extraordinary efforts to ease the impact of downsizing and restructuring on the quality of life of servicemembers and their families. We have made every attempt to

DoD End Strengths

Chart 3



maintain essential services at installations that are closing and to maintain such support services until all members have departed.

A major accomplishment is the expeditious implementation of transition assistance programs on each installation, specifically targeted to those leaving the Service. Along with transition assistance, we have stepped up the relocation assistance program aimed at those who are forced to make unplanned moves during the restructuring. Further, our goals to improve the quality of child care and to increase the availability of care in our child development program are being accomplished. Our family advocacy program (spouse and child abuse prevention) has also been stepped up to meet the needs of stressful life changes, to reduce heavy caseloads, and to increase our ability to resolve crises effectively and efficiently.

Department of Defense Schools

Dependent schools overseas continue to be of great importance, and the managers and teachers in the dependent school system have great challenges and responsibilities. The Department seeks to maintain the quality and variety of course offerings. We also strive for stability by limiting student moves within a school year and by monitoring and restricting distances students must travel by bus.

Health Care

The Department of Defense must remain ready at all times to fulfill its challenging mission: to provide medical services and support to the armed forces during military operations; and to provide medical services and support to members of the armed forces, their dependents, and others entitled to DoD medical care. As the Department transitions to a smaller military force, operational medical assets are being reshaped in order to continue to provide a balanced total force that remains capable of accomplishing the medical mission.

The Department provides worldwide medical support during military operations year round and uniquely supports crises in the United States as well. The variety and depth of DoD medical support in the past year are best exemplified by health service support to Joint Task Force Los Angeles; disaster relief efforts in Florida and Louisiana (Hurricane Andrew) and Hawaii (Hurricane Iniki); Haitian refugee relief efforts at Guantanamo Bay, Cuba; provision of hospital equipment sets and technical expertise to the Republics of Georgia and Kyrgyzstan; and U.N. Peacekeeping Forces deployed in the Republic of Croatia. Additionally, medical support under the security assistance program has provided medical materiel and training to over 50 countries.

The Department also provides health care to 8.5 million eligible beneficiaries of the Military Health Services System. Direct care is delivered at 142 military hospitals worldwide, and health services also are purchased from the civilian sector under the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) for eligible beneficiaries.

As a result of the Base Realignment and Closure Act, 17 military hospitals have closed or are scheduled for closure. These hospitals close in conjunction with host-base closures. Joint-Service planning efforts and other departmental actions are continuing to develop and implement transition initiatives for the delivery of health care to eligible beneficiaries remaining in base closure areas.

Medical R&D activities also make vital contributions to the DoD medical mission through robust research efforts focused on human immunodeficiency

virus (HIV), infectious disease, combat casualty care, blood substitutes, military systems health hazards, and other military health problems.

COORDINATED CARE

The coordinated care program is the Department's major initiative to provide effective, integrated management of the delivery of health care in military medical facilities and from civilian providers under CHAMPUS. This managed care initiative is designed to better accomplish the Department's medical mission by improving access to high-quality health care services, while controlling growth in health care costs.

The coordinated care program provides military medical treatment facility commanders the guidance, authority, flexibility, and tools needed to better manage the delivery of care in their service areas. The program's key feature is a system of primary care providers, with the military hospitals at the center of locally managed health care networks. Networks are being developed through arrangements with other federal and civilian providers and organizations located in each military medical facility service area. Other major elements include a participating provider program, new beneficiary cost-sharing incentives, specialized treatment services to provide high technology/high-cost health care in the most cost-effective manner, new provider contracting and payment methods, and improved utilization management and quality assurance programs.

The Department has begun the phased implementation of the coordinated care program elements which do not require changes in federal regulation,

and plans system-wide implementation over a three-year period. Great progress is being made toward the goal of optimizing the accessibility, quality, and cost-effectiveness of the DoD health care system. The course for the future is sound and will ensure the Department will meet its long-standing commitments to DoD beneficiaries.

Conclusion

The Department of Defense is committed to maintaining a fully manned, trained, and equipped force. As the size of the force is reduced, our personnel policies are designed to ensure fair treatment of the men and women in service, to minimize involuntary separations, to remain within fiscal constraints, and to maintain and enhance the readiness of units that remain.

In the late 1970s, major reductions to our defense forces went too far, too fast. As a result, U.S. forces suffered major losses in capability characterized by serious shortages in equipment, munitions, spare parts, and key personnel. The lesson from history is that we must carefully and simultaneously balance resources while maintaining readiness and capability, and sustaining the military the United States needs today and in the 21st century. Additionally, we will be successful in the future only if we continue to invest in people and technology.

Key decisions made today will enable the servicemen and women of tomorrow to go into battle well-equipped and well-prepared. As demonstrated in the success of Operation DESERT SHIELD/STORM, prudent and balanced personnel policies and programs are vital to the security of the Nation.

INDUSTRIAL BASE

Introduction

The health of the defense industrial base is vital to U.S. national security and is key to implementation of the regional defense strategy. The defense industrial base must maintain its capability to efficiently and effectively produce and maintain goods and services to meet requirements for peacetime, contingency, and reconstitution — a difficult challenge. That challenge must be met, both now and in the future, in the context of a rapidly changing global environment.

The changing world situation, the new regional defense strategy, and reductions in defense expenditures are all affecting the industrial base of the United States. The defense industrial base consists of a complicated network of contracting, subcontracting, and vendor firms, as well as DoD maintenance depots and defense arsenals. The system of relationships between and among firms and between these firms and DoD is sensitive to the changes that are occurring in the global and domestic economic environment. For example, the need for large-scale development and production of weapon systems and munitions has diminished. Likewise, the large-scale industrial capacity to build, field, and rapidly expand production of major weapon systems has also diminished. Maintaining a smaller technologically superior force capable of addressing regional contingencies, and potentially reconstitution, places a different set of demands and pressures upon the industrial base than those resulting from the large, unitary threat of the past.

To meet these challenges and their concomitant effects upon the force structure and the industrial base which supports that force structure, the Department has defined four principal goals for the program. The defense industrial base must support the Base Force in peacetime, support planned contingency-related needs, provide production capacity capable of combating an emerging global threat under realistic warning time assumptions, and support DoD in an efficient and cost-effective manner.

To accomplish these goals, the Department is over-

seeing the capability of the defense industrial base to meet DoD requirements and to ensure defense needs are met in both peacetime and times of conflict. The Department must both monitor changes in the industrial base and deal decisively with those changes.

IDENTIFYING POTENTIAL PROBLEMS

The Department has established a multilevel process that provides early warning of potential problems. At the first level, review efforts are focused on potential industrial base problems in the area of major weapon systems. Major program terminations, or other significant changes in acquisition rates, can affect the defense industrial base. At the second level, in the area of support items, the Department closely monitors the capacity of the defense industrial base to produce critical support items. The Joint Staff develops a list of critical items based on information provided by the unified and specified commands and the Military Services.

The third level of problem identification consists of conducting a broad array of scientific studies. DoD has divided the industrial base into eight analytical sectors in order to better study the major components of the defense industrial base and to account for the unique characteristics of each. These sectors are ships, aircraft, combat vehicles, space, communications and electronics, missiles, ammunition, and combat support. Some sectors, like ships, aircraft, and combat vehicles, are primarily associated with platforms. Others, like ammunition, combat support, and missiles, are composed primarily of items that affect sustainability.

The level of dependence on DoD spending varies by sector. For example, in the case of ammunition, DoD is the only major customer. In comparison, in the electronics sector, DoD purchases are only a small part of the huge electronics market. This diversity gives each sector special problems that the Department must continually analyze and study. These studies provide the means by which DoD obtains an early warning of sector problems and

identifies actions that can be taken to protect national security interests.

The fourth level of problem identification is communicating directly with leaders in industry and elsewhere. Concerns may be raised by industry, by the Military Services, or by any other interested party. In the future, potential problems should most readily be discovered at the field activity level on the basis of interactions between the plants and DoD field representatives to the plants. These interactions will become an early warning system for potential problems that would trigger additional action by DoD.

MEASURING INDUSTRIAL BASE REQUIREMENTS

Requirements drive what the industrial base must be able to produce and how fast it must produce it in both peace and war. The first goal of the defense industrial base is to support the Base Force in peacetime, now and into the future. The Base Force has been constructed to support the regional defense strategy across a wide range of potential military contingencies. Consequently, the combat capability of the Base Force must be sustained at a high level over time.

To maintain a technologically advanced Base Force, combat platforms and support items will have to be upgraded or eventually replaced. In addition to the efficient execution of the current program, the question of whether or not specific industrial capabilities will be available at some point beyond the six-year window of the FYDP is a key issue. Program terminations may result in closure of key facilities or loss of special skills, processes, and technologies. If future restoration of a critical, unique capability — or restart of an idled capability — would be prohibitively costly, then some action must be taken within the FYDP to preserve key elements of that production process. For many support items, the primary long-term industrial base issue is balancing war reserve stocks with investment in industrial capability. The industrial base must be capable of maintaining and modernizing stocks of supplies and equipment to meet Base Force demands of the future.

The second and third defense industrial base goals are concerned with supporting contingency-related needs and providing the production capacity required to respond to the emergence of a new global threat.

These goals impose challenging requirements. The Department uses illustrative planning scenarios as the technical basis for formulating and analyzing programming and budgeting objectives. The scenarios provide the specific programming requirement that must be met and enable the Department to measure the resources needed to support many of our readiness, sustainability, mobility, and combat-power goals.

The potential for military conflict in regional contingencies poses the most immediate and challenging requirement for the defense industrial base. U.S. forces are sized and equipped to fight major regional contingencies of limited duration. The Department plans for a variety of regional scenarios, and these plans are key to determining quantitative requirements for support items. The defense industrial base may be called upon to augment war reserve stocks, by accelerating current production, prior to a major regional contingency (if time is available) and restore war reserve stocks expended in the conflict in order to effect a rapid recovery.

A reconstitution planning scenario is used to represent the U.S. response to the emergence of a threat to U.S. interests on a global scale, a scenario that is much larger than those used for the major regional contingencies. In this scenario, the creation of additional new forces would be necessary to deter or defeat a potential adversary.

DATA COLLECTION AND ANALYSIS

The third phase of the Department's industrial base effort is the collection on a voluntary basis of and analysis of accurate and comprehensive information. Data collection has been initiated for items that have been identified as critical, major weapon system acquisition changes, and for items where a potential problem may be indicated. Collecting this information is key to the Department's success in conducting cost-benefit analyses of options, establishing solutions, and making specific program decisions.

The Department's data collection program follows a five-step process. The first step is to determine the industrial base production capability for the item under consideration. Specific data account for the time required to reestablish labor, facilities, technologies, and material sources, and then how production would

grow after reestablishment. Any costs incurred in achieving needed production rates will also be collected. The second step is to document the processes and events necessary to achieve the above production based on the program funded in the FYDP. The output of these first two steps will be an identification of the production levels that could be achieved and how long it would take to achieve them, if no special corrective actions were taken by DoD. Requirements for an item are stated in terms of quantity and delivery date. If the requirement can be met and no problem exists, then additional analysis is unnecessary. If significant shortfalls are indicated, then the data collection process could advance to the next step.

Step three is to identify what actions could be taken to achieve the needed production capacity more rapidly. In effect, this step identifies ways to shorten the time and increase the output documented in step two. For some easily produced support items, actions in this category involve maintenance of qualified sources or the layaway and preservation of some industrial capability. Solutions for combat platforms and more complex support items often involve potentially endangered capabilities that could take a long time to regenerate. Examples of some of the most significant factors to be considered include: (1) unique engineering, manufacturing, and test facilities that are not readily duplicated without extreme cost and time; (2) unique manufacturing processes that are not readily duplicated without extreme cost and time; (3) scientific material and design technologies that are not readily duplicated and are critical to design, manufacturing, or maintenance of the end product; and (4) skills that are difficult to acquire, train, and maintain.

The fourth step is to identify potential substitute items. Substitutes apply to both the end item as well as

its components. Closely qualified or other potential suppliers for products, processes, or technological capability should be identified. The time it would take to develop a new technological solution for the requirement should be considered. The final step is to estimate the costs associated with these actions.

DECISIONMAKING BASED ON COST-BENEFIT ANALYSIS

The role of cost-benefit analysis is to evaluate alternatives and facilitate decisions. The analysis follows three general steps. The first step is an evaluation of risk, both the risk associated with requirements levied on the industrial base (demand-side risk), and risk associated with the industrial base capability to provide necessary goods and services (supply-side risk). Supply-side risk is a measurement of potential shortfall in achieving the quantity and schedule projections in a given alternative. Demand-side risk measures the importance of the shortfall against the requirement. Once risks are evaluated, the second step is to aggregate and analyze the information gathered in the data collection phase to form a final cost estimate for each alternative. The final step is to evaluate the costs and risks to decide which, if any, alternatives should be selected.

Conclusion

The Department's industrial base effort monitors appropriately the defense industrial base to ensure that it is capable of meeting national security objectives. It has built within it the flexibility to accommodate change and uncertainty. Collection and analysis of data allow decisionmakers to select policy alternatives with full information about related costs, risks, and benefits.

ENVIRONMENT

Introduction

The Department of Defense is dedicated to fulfilling its environmental goals and continues to build on past efforts to expand and improve environmental quality across the full spectrum of Department activities. In early 1992, Secretary Cheney issued the *Defense Planning Guidance* which directed that the Department fund environmental compliance, restoration, and pollution prevention sufficient to achieve sustainable compliance with federal and state environmental laws and with governing standards overseas. Additionally, the Secretary directed that DoD provide federal leadership in environmental protection. Reflecting this commitment and in compliance with statutory requirements, DoD requested and Congress appropriated 1992 supplemental funding of over \$1 billion — for a total annual environmental program budget of over \$4.1 billion.

The Department continues to make significant progress in all areas of environmental enhancement. New management initiatives continue to be adopted, and new and maturing environmental quality activities and projects are producing results.

INFORMATION MANAGEMENT

The Department added environment to the DoD Corporate Information Management program in 1992. The goal of the environmental CIM program is to provide timely and accurate information to managers at all levels within DoD and eliminate duplicative information systems and software. Efforts in the environmental CIM program will improve DoD's ability to comply with environmental laws and regulations and will provide for timely and accurate analyses to assist senior personnel in making tradeoff decisions. The environmental CIM program will ensure common environmental data elements and systems which can communicate effectively with other DoD systems.

EDUCATION AND TRAINING

DoD is developing progressive environmental edu-

cation and training programs to support establishing a highly qualified environmental work force. The military departments have established select environmental education and training programs at the following schools: Army Logistics Management College at Fort Lee, Virginia; Air Force Institute of Technology at Wright-Patterson Air Force Base, Ohio; and the Naval Civil Engineer Corps Officer School at Port Hueneme, California. These schools are assessing interservice and interagency opportunities for education and training to ensure efficient program development.

The Department is working closely on cooperative environmental education and training programs with other departments and agencies, including the Departments of Energy and Interior, the Environmental Protection Agency (EPA), the Council on Environmental Quality, and the Advisory Council on Historic Preservation. Also, the Defense Systems Management College at Fort Belvoir, Virginia, has incorporated environmental instruction into the program manager's training curriculum.

Environmental Quality Activities

The Department increased the level of environmental quality activities during 1992 and instituted program initiatives in eight key areas.

POLLUTION PREVENTION

The key to a cleaner environment is to prevent pollution before it occurs. Prevention is accomplished by eliminating or reducing pollution at the source, rather than controlling it after the pollution is generated. DoD's pollution prevention strategy emphasizes four areas:

- Systems acquisition — Eliminating environmental problems during system design before the system is manufactured and delivered. For example, the Air Force prohibited the use of certain hazardous and environment-damaging materials in the design, manufacture, and operation of the new F-22 fighter plane

with no sacrifice of cost, schedule, or performance. The hazardous materials the Air Force prohibited included chlorofluorocarbons (CFCs). The use of cadmium and chromium will be minimized in the F-22 program.

- **Material substitution** — Substituting a nonhazardous product in place of a hazardous one within the same process. For example, Kelly Air Force Base, Texas, replaced cyanide stripping paint baths for airplanes with noncyanide strippers. The Air Logistics Center at Kelly saved \$300,000 annually on treatment and disposal costs and reduced pollution. In addition, Scranton Army Ammunition Plant, Pennsylvania, successfully eliminated the need for a chromic acid rinse as part of the process to prepare steel surfaces for painting.
- **Process improvement** — Making the process more efficient, reducing or eliminating steps, or changing the process to reduce the need for hazardous materials, and reducing emissions. For example, Naval Aviation Depot, Jacksonville, Florida, eliminated vapor degreasers by using an alternative cleaning process. The depot eliminated 300,000 pounds of waste annually and reduced volatile organic compounds emissions by 66 percent.
- **Improved material management** — Managing the inventory more efficiently to reduce quantities and types of hazardous materials on hand at installations and in the supply system. For example, Naval Air Station, Point Mugu, California, developed a centralized hazardous materials control system. In the first year, hazardous material purchases decreased 49 percent and hazardous waste disposal decreased 73 percent.

These efforts are showing results and have reduced pollution, improved worker protection, reduced long-term liability, provided more efficient use of natural resources, and saved money. Additionally, these efforts enable the Department to avoid future pollution control and contamination cleanup costs. For these reasons, greater emphasis is now placed on pollution prevention as a way to lower costs and to adopt more environmentally neutral or beneficial alternatives.

One measure of success for the Department's pollution program is in hazardous waste disposal. In 1987 the Department established a goal to reduce annual

hazardous waste disposal by 50 percent before the end of 1992. Through 1991, hazardous waste disposal was reduced by 54 percent — one year ahead of schedule. It is noteworthy that the reduction was achieved even during a time of increased production and maintenance activity related to Operation DESERT SHIELD/STORM.

The Department's industrial facilities reduced their hazardous waste disposal rate by over 63 percent. These facilities — shipyards, maintenance depots, ammunition plants, and air logistics centers — account for approximately 60 percent of all the hazardous waste generated by the Department.

The Department was recognized as a national leader in pollution prevention by winning two of the EPA Administrator's Awards for Pollution Prevention — out of over 800 businesses, educational facilities, local governments, and individuals nominated nationwide. The Naval Air Warfare Center in Warminster, Pennsylvania, won an award for developing a new single coat paint, Unicoat, that reduces volatile organic compounds and hazardous waste by 67 percent. Fairchild Air Force Base, Washington, won an award for serving as a model for comprehensive pollution prevention planning and implementation. The Army Depot Systems Command, Chambersburg, Pennsylvania, was runner-up for an award for developing a program to pool pollution prevention R&D efforts across multiple depot facilities.

The worldwide increase in concern over the problem of ozone depletion is shared by the Department, and DoD has escalated efforts on this aspect of the pollution prevention strategy. Although the Department's policy for eliminating CFCs, halons, and other ozone depleting chemicals (ODCs) dates back to 1989, new initiatives are still being implemented.

In support of President Bush's February 1992 decision to accelerate the phaseout of the production of ODCs by 1995, the Department strengthened its policy in August 1992. First, DoD is giving priority attention to revising specifications and requirements to eliminate the use of ODCs. Second, the Department is reevaluating all operational and training uses of ODCs and increasing the effort to evaluate, approve, and use substitutes. Finally, the Department is requiring that higher levels of senior acquisition executives for each

Service component review, evaluate, and personally approve the use of ODCs if needed in new systems or modifications to existing systems.

Over the next year, the Department will focus increased attention on pollution prevention in the areas of systems acquisition and material substitution — which involves changing military specifications and standards. In addition, the Department will establish a new reduction goal for hazardous waste disposal. Efforts to eliminate ODCs usage will grow, with increased emphasis on R&D of substitutes for military-unique applications.

RECYCLING

The Department has been active in recycling for decades — from recycling of aluminum and steel vehicle drives in World War II, to the collection and reloading of artillery shells today. The Department is implementing the President's Executive Order 12780 on recycling through active participation in the Council on Federal Recycling and Procurement Policy and through the development of an Affirmative Procurement Plan. DoD, along with several other federal agencies, sponsored the first U.S. Government Buy Recycled Products Trade Fair and Showcase to encourage the procurement of products containing recycled materials. The trade fair was a great success — attracting over 3,000 participants and over 200 vendors.

Most installations already have recycling programs in place, and the remaining installations will be implementing plans in the near future. Many installations have received national and local awards for their recycling efforts. The sale of recyclable materials has grown dramatically over the past several years, reaching \$31.5 million in FY 1991, and the proceeds are directed back to the original installations to be used for additional environment projects and morale and welfare activities.

Even with the increase in recycling, the costs for solid waste management are climbing. To contain these costs, the Department is developing an integrated approach to solid waste management. These results will be announced next year, including implementation of reduction goals.

Increased recycling and reduction of the solid wastes are only part of the solution. The Department is increasing emphasis on buying products made from recycled content material through an affirmative acquisition program. By stimulating a demand, we increase the proceeds from sales of material for recycling, increase the types and quantities of materials recycled, decrease disposal costs, and conserve natural resources.

COMPLIANCE

The Department of Defense environmental compliance program addresses hazardous waste management, underground storage tanks, solid waste management, air pollution abatement, water quality and safe drinking water management, the National Environmental Policy Act, and other statutory requirements. Each of the military departments use a multimedia environmental assessments program to maintain compliance with local, state, and federal environmental regulations. The Department is placing renewed emphasis on enhancing environmental compliance through education and training, establishing an environmental ethic throughout the defense community.

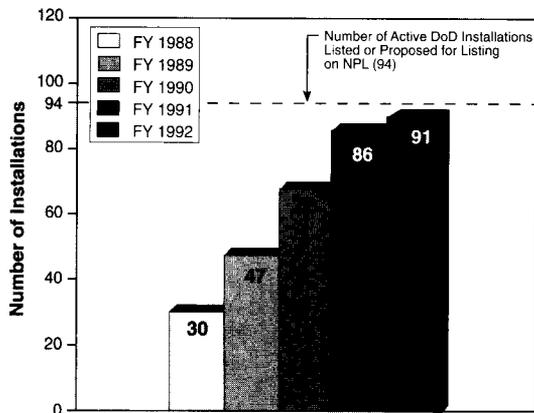
An education and training conference was held in 1992 to assess the environment training currently available through the military components. That conference became a springboard for developing a better integrated DoD environment training and education plan. Additionally, new efforts are under way to improve public awareness of DoD's environmental compliance activities. One such effort involved roundtable discussions with environmental organizations at Fort McNair, Washington, D.C. Finally, the Department and EPA jointly developed an updated strategy for continued participation in the Chesapeake Bay Preservation Program.

RESTORATION

One of DoD's environmental management efforts is to accelerate restoration of contaminated sites by implementing all required cleanup actions quickly. Accelerated cleanup reduces health and environmental risks and reduces costs in the long run. The DoD program focuses on the final product, a clean site rather than on the process, and the return of land to productive use as quickly as possible. Faster cleanup and disposal require creative

Progress in Cleanup of DoD NPL* Installations as of September 30, 1992

Chart 4



Cleanup Under Way or Completed

*National Priorities List (NPL) — The Environmental Protection Agency's compilation of the sites scoring 28.5 or higher using the Hazard Ranking System. Such sites are first proposed for NPL listing. Following a public comment period, proposed NPL sites may be listed final on the NPL or may be deleted from consideration.

and innovative approaches and more effective working relationships with regulators.

DoD has made steady progress over the past year with the Defense Environmental Restoration Program (DERP). Over 38 percent of DoD's potentially contaminated sites have been successfully closed out. In FY 1992, the Department invested over \$1.5 billion in cleanup. Much of our effort was on evaluating and cleaning up sites that have been placed on EPA's National Priorities List (NPL). Of the 1,800 DoD installations in the DERP, only 94 installations are listed on the NPL. Initial studies for the 94 installations have been completed, and the Department is moving quickly towards remediation and cleanup. Currently, cleanup work is ongoing at 91 of the 94 installations on the DoD NPL (see Chart 4).

This work includes immediate actions needed to protect the public health such as providing alternative drinking water supplies and the quick removal of

contaminants. Other courses of action include the installation of long-term remedies such as ground water treatment facilities.

To expedite cleanup, DoD is working with managers in the regulatory community to resolve conflicting environmental laws and regulations and developing government-wide efficiency in dealing with types of contamination. In addition, DoD project managers are working to reduce the time consumed in site studies and sampling, working to enable the Department to move more decisively and expeditiously to clean up or close out the sites.

Another aspect of DoD's accelerated cleanup effort is finding applications for new technologies. DoD programs are designed to encourage the development of faster and more cost-effective innovative techniques and to help remove the barriers to innovation.

NATURAL AND CULTURAL RESOURCES STEWARDSHIP

Conserving natural and cultural resources while fulfilling the defense mission remains an important challenge for DoD. The military departments continue to stress training the armed forces while being compatible with the environment. Additionally, requirements to preserve, protect, and restore valuable natural and cultural resources are integrated into installations' land management plans.

The Legacy Resource Management Program goals are to identify, protect, restore, and manage significant resources under DoD control. This program has encouraged DoD installation managers to go beyond mere compliance and to take more comprehensive approaches to managing resources in support of the military mission. To date, more than \$35 million has been invested in over 400 projects on 160 military installations. DoD-wide projects include preparation of a handbook for occupants of historic military quarters, inventory of Native American rock art, and the development of an archeological data base. Installation projects focus on developing inventories of endangered species and resources, testing new technologies for managing our resources and educating both DoD employees and the public on the value of our resources. DoD is increasingly turning to volunteer and partnership efforts with other agencies,

conservation groups, and individual citizens to encourage the sharing of resources and expertise. As we look to the future, military lands are emerging as vital links to preserving space, culture, species, and ecological systems.

DISEASE CONTROL AND INSTALLATION PEST MANAGEMENT

The Military Services fully accomplished the enormous agricultural quarantine requirements for all vehicles, equipment, and materiel returned to the United States from Operation DESERT SHIELD/STORM. The largest preclearance quarantine program in U.S. history involved moving over 100,000 vehicles, 12,000 tracked vehicles, 8,000 tents, 2,000 helicopters, 20,000 containers of cargo, and 300,000 tons of ammunition back to the United States free of soil and pests of agricultural importance. In the area of contingency operations, the U.S. Navy provided vector-borne disease control during Haitian refugee operations at Guantanamo Bay, Cuba. In addition, the Military Services conducted comprehensive vector-borne disease surveillance and control support to Hurricane Andrew relief efforts in Florida and Louisiana.

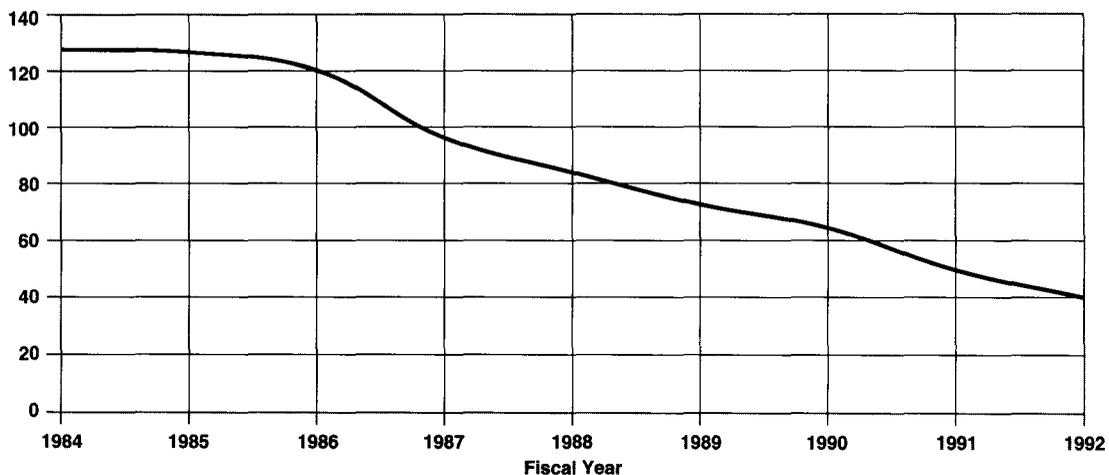
DoD's emphasis on integrated pest management programs for installations prevents adverse effects of pesticides on the environment by employing environmentally

safe nonchemical pest control methods. These programs will reduce overall pesticide use in DoD. The Armed Forces Pest Management Board developed specific guidance to prevent the environmental impact of pesticides through technical publications on standards for the design of pest control shop facilities and pesticide spill prevention and management. In response to DoD's mandate to minimize use of CFCs, all aerosol pesticides with CFC propellants used by DoD were replaced with alternate propellant systems.

Several regulations have been implemented or redesigned to implement better current programs. A comprehensive tri-Service quarantine regulation for the armed forces was updated and published this year. It is intended to prevent the introduction into the United States of diseases and agricultural pests from movements of vessels, aircraft, and other transportation of the armed forces. A new policy was developed to implement provisions of the Federal Noxious Weed Control Act. This establishes close cooperation between the states and the Department for coordination of weed control programs and management of regulated undesirable plants on our installations. The Department also has 34 memoranda of agreements with states dealing with reciprocity in pesticide applicator training and certification programs, on-site inspection at military installations, and coordination of vector/pest surveillance and control programs.

DoD Civilian Worker Deaths

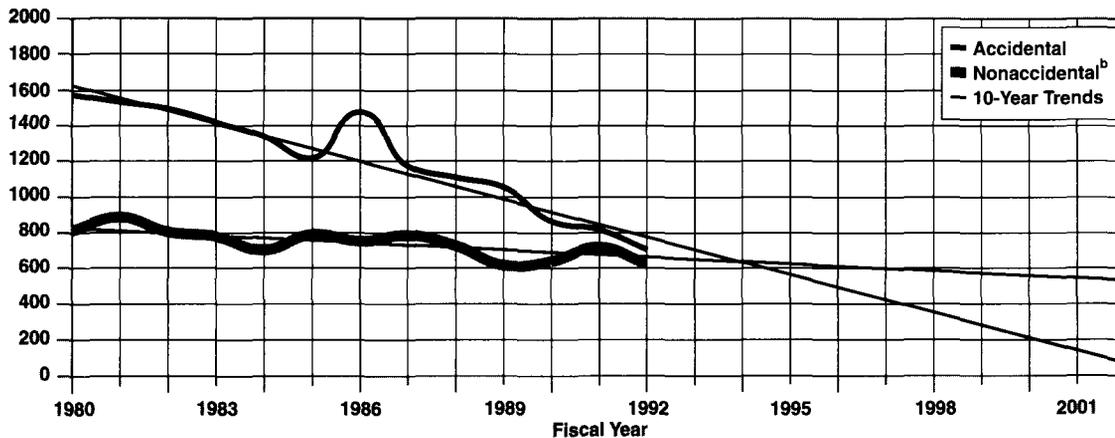
Chart 5



Deaths resulting from on-the-job injury/illness. Includes deaths from prior year exposures in the year they occurred.

DoD Military Deaths^a

Chart 6

On- and Off-Duty^a Does not include deaths due to hostile action.^b Nonaccidental includes deaths due to natural causes, homicide, disease, and suicide.**SAFETY AND OCCUPATIONAL HEALTH**

The Department has made great progress in reducing accidental deaths, injuries, occupational illnesses, and damage to property and weapons systems. Through strong and attentive leadership, DoD's accident prevention programs are working to help preserve combat capability and conserve the lives of those who serve the Nation. These programs encompass all aspects of DoD activities, from tactical training to Operation DESERT STORM, and from explosives handling to routine support operations — year-round and both on- and off-duty.

As shown in the graphs, the savings are significant and directly translate into warfighting capability. The Department is working hard to create a future environment where peacetime accidents are no longer the major cause of death in the military. DoD has made significant progress in countering the greatest single cause of death — private motor vehicles. Promotion of occupant restraints and motorcycle helmets, extensive driver training, and emphasis on safe driving have been successful.

AMMUNITION AND EXPLOSIVES SAFETY

The DoD Explosives Safety Board is chartered by Congress to identify and prevent conditions that will

endanger life and property both inside and outside DoD or host-country installations. This year the board surveyed 227 U.S. and allied installations worldwide, including in Southwest Asia and the Middle East. These surveys noted significant improvements in the safeguarding and storage of U.S.-titled ammunition. Working closely with the Military Services and NATO, the board made significant progress in reducing differences between U.S. explosives standards and those of its allies.

The Department developed cost-effective designs for explosion-resistant facilities, improved ammunition storage criteria, developed new methods for inhibiting the propagation of detonation between ammunition items, and improved methods for characterizing ammunition hazards. These actions reduce risk by improving facilities and criteria for safe storage and handling of chemical and conventional ammunition. The Department also continues to ensure the safe consolidation of ammunition stockpiles resulting from base closures and the return of ammunition from Operation DESERT STORM and Europe.

The board conducted biennial site surveys of all chemical demilitarization and storage areas, placing emphasis on process controls and on personnel and environmental safety. The Chemical Stockpile Disposal Program has been developed to destroy the

unitary chemical stockpile on Johnston Atoll as well as the eight CONUS sites. DoD demilitarized over 300,000 pounds of lethal chemical munitions in FY 1992. The Johnston Atoll Chemical Agent Disposal System will complete the operational verification test in January 1993 prior to beginning full-scale disposal operations.

Conclusion

The Department is pursuing a broad spectrum of ini-

tiatives to become the federal leader in environmental compliance and protection and set the standard for both the Nation and the world. Programs are in place to clean up contaminated sites, establish and maintain a record of compliance with environmental laws, and prevent pollution before it happens. DoD actions will continue the beneficial stewardship of natural and cultural resources of the 26 million acres of DoD lands while protecting the health and safety of military and civilian personnel.

Part III

Defense Components

NUCLEAR FORCES AND STRATEGIC DEFENSE

The U.S. nuclear deterrent consists of three major elements: nuclear offensive forces; strategic command, control, communications, and intelligence (C³I) systems; and strategic defensive forces. Each of these force components contributes uniquely to the Nation's ability to deter and defend against nuclear attack.

Nuclear Forces in a Changing World

The revised U.S. defense strategy focuses on regional conflicts and the capabilities needed to defend U.S. interests in the post-Cold War world. As the risk of superpower confrontation recedes, we are changing, along with the former Soviet Union, our nuclear force structures. We are moving to eliminate those nuclear forces no longer required and to remove from alert those systems that do not need to be ready for immediate launch, but which can be returned to an alert status should conditions demand. Despite this revolutionary change, nuclear weapons are still needed to deter nuclear attack — the most fundamental and critical of U.S. national security objectives.

While the breakup of the Warsaw Pact means that our nuclear forces are not now required to deter a massive Soviet conventional attack in Europe, they continue to provide a stable, visible deterrent to nuclear attack or coercion by nations who have access to the technologies of mass destruction. A strong U.S. nuclear force provides a secure retaliatory capability that serves to deter the use of weapons of mass destruction while providing unambiguous warning to potential aggressors who have acquired these capabilities or are in the process of acquiring them.

The United States remains committed to retaining a reduced theater nuclear force posture as a link between its conventional and strategic nuclear forces and to demonstrate its continued commitment to the NATO alliance. NATO will cut its stockpile of land-based nuclear weapons — which consists only of aircraft bombs after the withdrawal of ground-launched nuclear weapons — by more than 80 percent over the next few years. The U.S. nuclear force not only serves as a deterrent to nuclear attack, but also serves to reassure friends

and allies of our continued global commitment.

While a smaller, but still effective, deterrent force is an absolute requirement, the proliferation of military technology has increased the need to develop and field effective ballistic missile defenses. The continuing aggressive development of a strategic defense — centered on the Global Protection Against Limited Strikes (GPALS) system — is vital to reshaping our forces to the realities of today's changing world.

U.S. Nuclear Force Reductions

The Strategic Arms Reduction Talks (START) Treaty, signed by President Bush and former Soviet President Mikhail Gorbachev in July 1991, was updated by the Lisbon Protocol in May 1992 to reflect the new multilateral character of the accord following the demise of the Soviet Union. The treaty was approved by the U.S. Senate in October 1992 and has been ratified by the Russian Federation and Kazakhstan. Ukraine and Belarus have yet to do so.

Even before the pact's entry into force, the United States has begun to retire older nuclear systems for programmatic reasons. These reductions would have been required in any case to meet START limits. All Poseidon submarines carrying Poseidon (C-3) and Trident I (C-4) missiles are being retired, as are all land-based Minuteman II missiles. The Poseidon missiles have already been removed from the submarines. The Minuteman II deactivations are well under way, with all of these missiles slated to be removed from their silos by 1995. All nuclear-ruled B-52G bombers will be retired by the end of 1993.

As part of his earlier nuclear initiatives of September 1991 and January 1992, President Bush announced changes in and cancellations of several nuclear programs. The B-2 bomber program was reduced from 75 to 20 aircraft, and advanced cruise missile (ACM) procurement was capped at 640. (The cap was later reduced to 460 for programmatic reasons.) The heavy warhead program for the Trident II (D-5) missile was terminated. The short-range attack missile (SRAM II)

program was canceled, as was the mobile version of the Peacekeeper missile and the Small Intercontinental Ballistic Missile (ICBM). The entire class of ground-launched short-range nuclear weapons was eliminated. Finally, all nuclear weapons, except submarine-launched ballistic missiles (SLBMs), have been removed from U.S. surface ships, attack submarines, and land-based naval aircraft, and nuclear depth bombs have been retired.

On January 3, 1993, Presidents Bush and Yeltsin signed the START II Treaty, the culmination of President Bush's nuclear initiatives. This treaty will result in substantial reductions in the number of warheads deployed on the strategic nuclear forces of both the United States and Russia, bringing their levels well below START ceilings.

A critical element of the START II Treaty is the ultimate mutual elimination of all ICBMs carrying multiple warheads (referred to as multiple independently-targetable reentry vehicles, or MIRVs). The destructive potential of these systems and the incentive to use these high-value assets before their potential destruction by an adversary make them more likely to be considered as first-strike weapons, hence posing the single greatest threat to strategic stability. The agreement to eliminate MIRVed ICBMs represents the adoption of a more stable posture as befits the new relationship.

Under the terms of the START II Treaty, the United States and Russia will initially reduce total deployed warheads to a number between 3,800 and 4,250 on each side by the end of the seven-year START reduction period. In the second phase, overall force levels will be further reduced to between 3,000 and 3,500 by the year 2003 (or by the end of the year 2000 if the United States can contribute to the financing of the destruction or elimination of strategic offensive arms in Russia).

Within the seven-year period following entry into force of the START Treaty, each side would also be limited to no more than 1,200 MIRVed ICBM warheads (of which no more than 650 could be on heavy ICBMs) and 2,160 SLBM warheads. By the year 2003, all MIRVed and heavy ICBMs would be eliminated, and SLBM warhead limits would drop to between 1,700 and 1,750. The number of warheads counted for heavy bombers with nuclear roles will be

U.S. Strategic Nuclear Forces Table 11

| | End of FY 1993 | START (1999) | START II ^a (2003) |
|----------------------------|-------------------|-----------------|---------------------------------|
| ICBMs | | | |
| Minuteman II ^b | 227 | 0 | 0 |
| Minuteman III | 500 | 500 | 500 ^c |
| Peacekeeper | 50 | 50 | 0 |
| Total | 777 | 550 | 500 |
| SSBNs/SLBMs | | | |
| Poseidon/C-4 | 8/96 ^d | 0/0 | 0/0 |
| Trident I/C-4 | 8/192 | 8/192 | 8/192 |
| Trident II/D-5 | 6/144 | 10/240 | 10/240 |
| Total | 22/432 | 18/432 | 18/432^e |
| Bombers^f | | | |
| B-52G | 0 | 0 | 0 |
| B-52H | 95 | 95 | 95 |
| B-1B | 96 | 96 | 0 |
| B-2 | 0 | 20 | 20 |
| Total | 191 | 211 | 115 |

^aThis column presents one possible force structure under the START II Treaty.

^bNo longer on alert.

^cWarheads would be downloaded from three to one per missile.

^dIncludes two SSBNs no longer assigned a nuclear role.

^eWarheads would be reduced by about one-half.

^fTotal aircraft inventory, excluding B-52 and B-1B aircraft assigned conventional roles. Because of START Treaty counting rules, the numbers shown are greater than the values for primary aircraft authorized.

the number these aircraft are actually equipped to carry. The two sides also agreed that up to 100 heavy bombers that had never been equipped to carry long-range nuclear cruise missiles could be reoriented to conventional roles, without any requirement for extensive physical modifications to the aircraft, and that these reoriented heavy bombers would not count against the overall totals established by the START II Treaty.

The START Treaty is not superseded by the follow-on treaty, but will continue in force parallel to it. This will allow the START Treaty to provide (except as modified by the START II Treaty) the basic counting rules, definitions, verification procedures, and conversion and elimination procedures that will be used to implement the START II Treaty.

The United States plans to deploy about 4,250

nuclear warheads in the years 1999-2000 and 3,500 warheads after the year 2003. These levels are based on the military sufficiency of U.S. forces relative to the potential Russian threat. By the year 2003, all Peacekeeper missiles will be eliminated and the U.S. ICBM force will consist entirely of single-warhead Minuteman IIIs. At the end of the first phase of reductions, the United States will have no more than 2,160 SLBM warheads — a 37 percent reduction from the planned post-START level. By the year 2003, that number will drop to no more than 1,750, representing a 50 percent reduction from previously planned levels. The U.S. sea-based deterrent will be composed of Trident submarines carrying Trident SLBMs. A mix of conventional and dual-purpose long-range bombers — including B-2, B-1, and B-52H aircraft — also will be deployed.

These dramatic developments were made possible by the political revolution that has swept Central and Eastern Europe and the former Soviet Union over the last two and a half years and the steadfast military commitment of the United States and its allies to contain communism. It was the fundamental political and economic transformation of the Soviet Union and the resultant diminution of the East-West rivalry that enabled us to take initiatives and to reach agreements that will revolutionize the strategic relationship and the nuclear postures of the two sides.

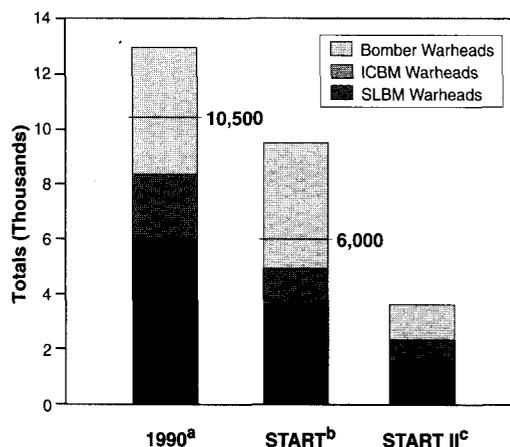
Modernization of Nuclear Forces

While dramatically reducing our offensive nuclear forces, we must ensure that the residual force provides an effective and robust deterrent to nuclear attack. This will require the continued maintenance of a diverse mix of offensive nuclear forces as well as a reliable C³I network. As military technology spreads, the United States must be able to deter, as well as defend against, the threat of limited ballistic missile attack from an increasing number of potential adversaries.

In signing the START and START II Treaties, the President has determined that, with full implementation of these agreements, the residual U.S. arsenal can, with appropriate modernization, provide the effective and flexible nuclear deterrent that will be required for the foreseeable future. Efforts to extend the service life of the existing Minuteman III ICBM force, along with the previously authorized introduc-

U.S. Strategic Nuclear Warheads

Chart 7



^a Numbers shown are actual warheads. The number 10,500 is shown for comparison purposes only and indicates the number of warheads that would be accountable under START counting rules if applied retroactively.

^b The United States and the former Soviet Union agreed to a sublimit of 4,900 on the aggregate number of warheads on deployed ICBMs and deployed SLBMs. The START Treaty limits each side to 6,000 accountable warheads, as indicated on the chart. Due to the bomber discount rules, however, the actual number of deployed warheads exceeds 6,000 by approximately 3,500.

^c Numbers shown are actual warheads. The START II Treaty eliminates the bomber discount rules of the START Treaty, counting each bomber as having the number of warheads it is actually configured to carry. This chart represents the limits that would be imposed by the second phase of the START II Treaty to be in force by the year 2003 (or 2000).

tion of the B-2 stealth bomber in the mid-1990s and completion of the 18-ship Ohio-class ballistic missile submarine force in 1997, are the extent of modernization efforts currently planned.

Nuclear Offensive Forces

U.S. nuclear offensive forces are made up of three distinct and complementary components: land-based ICBMs, sea-based ballistic missiles, and long-range bombers.

LAND-BASED INTERCONTINENTAL BALLISTIC MISSILES

The reductions now envisioned in the U.S. nuclear arsenal will result in a significantly smaller ICBM force, with the Minuteman III being the only deployed U.S. ICBM by the year 2003 (or the year 2000). The Department's efforts now focus on ensuring that the

service life of the Minuteman III can be extended to the year 2010 and beyond. Replacement of aging components in the guidance computer and associated electrical systems and refurbishment of the second- and third-stage rocket motors are planned. The Department also intends to explore advanced guidance technologies that could support replacement of the current Minuteman guidance system. Increased emphasis will be placed on detecting signs of age-related deterioration in the first-stage motor, which dates from the 1970s and has never gone through a depot-level refurbishment.

Plans for the Peacekeeper missile system include continued maintenance and testing, including flight testing through Fiscal Year (FY) 1996, and preparations for the system's eventual retirement. The previously planned Rapid Execution and Combat Targeting upgrade and other major modifications to Peacekeeper have been canceled.

SEA-BASED BALLISTIC MISSILES

Nuclear-powered ballistic missile submarines (SSBNs) armed with SLBMs have assumed even greater importance as a component of the nuclear arsenal. The ability of the SSBN force to remain virtually undetected at sea makes it the most survivable and enduring element of the U.S. nuclear force structure. The Trident II (D-5) missile, with its increased accuracy, range, and payload, gives the SLBM force the capability to hold at risk essentially the entire range of potential strategic targets now and in the foreseeable future. Under the START II Treaty, SLBM warheads would constitute as much as 50 percent of the 3,500 allowable deployed warhead total by the year 2003.

By the end of FY 1993, the U.S. SLBM force will consist of six pre-Ohio-class SSBNs armed with the Trident I (C-4) missile, eight Ohio-class SSBNs also carrying the Trident I, and six Ohio-class SSBNs equipped with the Trident II (D-5) missile. The four remaining Ohio-class SSBNs, funded in prior years but not yet completed, will also carry the Trident II. The FY 1994 budget supports continued operation of the Ohio-class SSBN force as well as continued production of D-5 missiles for operational testing and load-out of the Ohio-class SSBNs still in production. The maintainability of the Trident I system, along with considerations of cost, effectiveness, and changing requirements, will determine whether or not the eight

SSBNs armed with Trident I missiles are modified to carry the more capable and modern Trident II missile. Evaluation of the most effective warhead loading of the SSBN force, in light of the warhead restrictions in the START II Treaty and the termination of production of the heavy D-5 warhead, is ongoing.

LONG-RANGE BOMBER FORCES

The U.S. long-range heavy bomber force consists of B-52 and B-1B aircraft. In the mid-1990s, the first B-2 stealth bombers will become operational. All three bomber types are capable of delivering either nuclear or conventional weapons to any point on earth. They can attack fixed and mobile targets and large deployed ground forces, assess damage inflicted in earlier strikes, and conduct follow-on missions. In the nuclear role, the bomber force can deliver a combination of standoff weapons and gravity bombs, thereby complicating enemy air defenses. In the conventional role, bombers can be used alone to deliver standoff or gravity weapons or to add mass to a coordinated attack involving other platforms.

The START II Treaty, which counts each bomber with a nuclear role as having the number of warheads it is actually capable of carrying, effectively results in far lower numbers of nuclear bomber warheads than allowed by the START Treaty. Accordingly, we are planning to accelerate the retirement of SRAM-A missiles and of air-launched cruise missile (ALCM)-carrying B-52Gs, to put a portion of the ALCM-B force into dormant storage, and to reduce to 460 the number of ACMs produced. The B-1Bs will be reoriented to a conventional role and will not be counted under START II. Under the START II Treaty, the U.S.-planned nuclear long-range bomber force will consist of B-2s equipped with gravity bombs and B-52H standoff cruise missile carriers, armed with a mix of ALCM-Bs and ACMs. These changes will result in a smaller, but highly potent and modernized nuclear bomber force.

In recognition of the changing national security environment, the roles and missions of long-range heavy bombers are changing. While the nuclear mission remains important to our strategy of deterrence, the emphasis on that mission is decreasing, and our bombers are becoming increasingly available for conventional missions. Those missions are receiving

increased attention and funding. The significant contributions made by B-52s in Operation DESERT STORM demonstrate the value of long-range heavy bombers in major regional conflicts. The FY 1994 budget includes funding for conventional upgrades for the B-52H and B-1B forces. Highest priority is placed on the B-1B, which will form the core of our future conventional bomber capability. With an improved electronic countermeasures system to complement its high speed, excellent maneuverability, and relatively small radar cross-section, the B-1B will have much better survivability than the B-52H in a moderate threat environment. The B-1B is also receiving the Global Positioning System (GPS), new electronics, and computer upgrades that will enhance its employment of more accurate and effective conventional munitions, such as the Joint Direct Attack Munition, the Joint Standoff Weapon, and the Tri-Service Standoff Attack Missile. The B-52H and B-2 are also scheduled to be equipped with more modern weapons as they become available.

Strategic Command, Control, Communications, and Intelligence (C³I)

Even as the United States draws down its nuclear forces, timely and effective command and control remains vital to the credibility of these forces as a deterrent against nuclear attack.

The strategic C³I system includes warning sensors, command centers, and communications systems. Sensor systems furnish information on the size, source, and scope of an attack. Intelligence provides the threat backdrop for the warning and assessment of an attack. Command centers play a central role in decisionmaking and control of strategic forces. Communication systems connect warning sensors to command centers and link commanders with their forces.

The FY 1994 budget continues a major effort to improve satellite warning capabilities. A new system, a follow-on to the Defense Support Program (DSP), will offer worldwide coverage, enhanced detection capability, greater survivability, and faster reporting. It will be able to detect and accurately assess both long-range and short-range ballistic missile attacks against the United States or its allies.

As the Nation moves toward deployment of

defenses against limited ballistic missile attack, our command and control infrastructure must be modified to accommodate these new capabilities. Consequently, the FY 1994 program includes plans to augment the Cheyenne Mountain Complex and other facilities with the necessary command and control systems for national missile defense.

As a cost-saving measure, with no significant degradation in effectiveness, the airborne elements of the strategic command and control system have been restructured. A portion of the EC-135 fleet, which performs communications relay and serves as backup airborne command posts, is being deactivated. With the launch of the first Milstar communications satellite this year, strategic forces will be provided two-way, low-data-rate communications links that are highly resistant to jamming and nuclear effects.

Strategic Defense Forces

The strategic defensive forces of the United States provide protection against nuclear attack or coercion. To complement our current defense against bomber or cruise missile attack, we are developing a ballistic missile defense system that could protect the United States, its forward-deployed forces, allies, and friends against limited ballistic missile strikes.

BALLISTIC MISSILE PROLIFERATION

The proliferation of military technology of increasing sophistication and destructiveness is a trend that must be considered as we develop military forces for the 1990s. A prime example of this is the proliferation of ballistic missiles and weapons of mass destruction, including the capability to design, test, and fabricate chemical, biological, and nuclear weapons.

Today, more than 15 Third World nations have ballistic missiles. By the year 2000, perhaps 20 such nations may have them, and some of those missiles may be armed with chemical, biological, and possibly nuclear warheads. These technologies pose a threat that is largely regional in character. However, the trend is clearly in the direction of systems of increasing range, lethality, and sophistication. After the turn of the century, some countries hostile to this Nation could acquire ballistic missiles that could threaten the United

States. Over the next 10 years, we are likely to see several Third World nations establish the infrastructure and develop the technical knowledge required to undertake ICBM and space-launch vehicle development, although testing and production of such missile systems would take some time.

One of the lessons of the Persian Gulf War with major implications for future regional contingencies is the political and military importance of possessing a capability to protect against the threatened or actual use of ballistic missiles and weapons of mass destruction. The Gulf War demonstrated that we face such a direct threat today and foreshadowed the possible consequences should a dictatorially-governed regime gain the capability to threaten the United States with long-range missile attack.

Deploying defenses to protect against this threat is an important element in the defense strategy. The United States cannot accept a situation in which the threatened or actual use of ballistic missiles is allowed to constrain a U.S. President's flexibility in employing military power when necessary to support U.S. national security objectives and commitments abroad or to pose an unconstrained threat to U.S. forces when they are deployed in the field. The United States also cannot ignore the growing threats posed by ballistic missiles to the territory and forces of U.S. friends and allies. The important role that defenses played in the U.S.-led international Coalition and in the support of Israel during Operation DESERT STORM is a good example of the importance of this capability.

BALLISTIC MISSILE DEFENSE

President Bush's decision in January 1991 to refocus U.S. ballistic missile defense efforts on a capability to provide protection against limited strikes, including accidental or unauthorized launches of up to 200 warheads, was a direct response to the changing international security environment. It took into account the positive changes occurring in our relationship with what are now the independent states of the former Soviet Union, and our growing concern over the threat posed by the proliferation of ballistic missiles.

The Department continues to develop for deployment a ballistic missile defense system that will provide protection to the United States, its forward-

deployed forces, allies, and friends against limited ballistic missile strikes. The concept under which this system is being developed is called GPALS. The GPALS program is integrating the development and deployment of highly effective national and theater ballistic missile defenses to achieve the goals specified in the Missile Defense Act and to meet existing military requirements.

As part of GPALS, and consistent with the Missile Defense Act, the FY 1994 budget continues to support a program to develop and field an Antibalistic Missile (ABM) Treaty-compliant defense, located at a single site and capable of providing protection to the continental United States (CONUS) against northerly attacks composed of a few tens of reentry vehicles. Because the capability provided by such a system is constrained by the ABM Treaty, the system could not defend the continental United States to the level offered by the full GPALS system. This single-site defense would, however, be the first step in the deployment of the highly effective ballistic missile defense system that is the objective of the GPALS program. Last year, the Department's plan for developing GPALS included an option — encompassing prudent management of cost and schedule risks — to achieve an initial national ballistic missile defense capability with preproduction hardware at a single site by FY 1998. If that option were not exercised, the plan called for deploying the initial national ballistic missile defense capability with production hardware in FY 2002. Responding to modifications in the Missile Defense Act that relaxed the sense of urgency for fielding an early U.S.-based defense and that required a low-to-moderate risk and low-to-moderate concurrency program, and in light of budget reductions, the Department's revised plan for GPALS delays deploying the initial single-site defense to FY 2004, while retaining an option to field a contingency capability as early as FY 2000.

Ballistic missile proliferation poses a threat not only to the United States and its friends and allies, but to the former Soviet Union as well. This threat and the need for enhanced defenses to address it have been recognized by the democratically elected government of Russia. President Yeltsin announced in January 1992 that he was "ready to work out and subsequently create and jointly operate a global system of defense." In the Joint Statement at the Washington Summit six months

later, the two Presidents endorsed a global protection system and established a High-Level Group to develop the concept, its legal basis, and means for its implementation. The subsequent work of this High-Level Group and of its subordinate working groups suggests that our two nations are finding some common ground on the role that ballistic missile defenses can play. The United States is continuing discussions with Russia, allies, and others to consolidate progress toward implementation of a concept for a global protection system.

THEATER MISSILE DEFENSE (TMD)

The theater missile defense (TMD) program, a key element of the GPALS effort, is developing technologies and systems to deny hostile forces the effective use of theater missiles in regional conflicts. This program will integrate treaty-compliant theater and strategic defensive capabilities and incorporate allied contributions to regional defenses. TMD systems will provide a stand-alone capability that will be improved significantly by the deployment of space-based surveillance systems (Brilliant Eyes) and space-based interceptors (Brilliant Pebbles).

The TMD program involves all four Services and several allies in the development of technology and the selection of systems to provide an antimissile defense. The program includes missile interceptors, fire-control and long-range surveillance radars, and improved battle management systems. The near-term goal is to improve antimissile capabilities, beginning with enhancements to existing systems, such as the Army's Patriot missile. Emphasizing deployable and rapidly relocatable advanced theater defenses, the Theater High-Altitude Area Defense (THAAD) missile system has entered into the demonstration/validation phase of acquisition. The first elements of the system are planned for deployment in the mid-1990s, with the full system to be fielded by the end of the decade.

AIR DEFENSE

The mission of U.S. air defense forces is to maintain sovereignty over U.S. airspace, to provide warning of a bomber or cruise missile attack against North America, and to limit damage should such an attack occur.

Modernization of U.S. interceptor forces and surveillance systems is almost complete. Air National Guard F-15s and modified F-16 interceptors (complemented by Canadian CF-18s) will continue to provide a defense against penetrating bombers and cruise missile carriers. North Warning System (NWS) radars along the Arctic and Labrador coasts, and over-the-horizon backscatter (OTH-B) radars on the Atlantic and Pacific coasts, would provide reliable early warning of bomber attacks approaching from the north, east, or west. The diminished threat of such attacks, however, will permit a reduction of the interceptor force to 10 squadrons by 1994. Operating costs will be reduced by maintaining fewer aircraft on alert, limiting operating hours for some NWS radars, and maintaining the OTH-B sites in inactive status following completion of testing.

Despite the reduction in the near-term threat, advances in cruise missile technology and the possible proliferation of these difficult-to-detect weapons raise a new challenge that cannot be met merely by upgrading current systems. The Air Defense Initiative is exploring some of the more promising technical approaches for surveillance, interception, and battle management.

Conclusion

For more than four decades, the policy of nuclear deterrence, supported by the nuclear forces of the United States, has kept our territory and forces safe from nuclear attack. While nuclear deterrence remains a cornerstone of U.S. defense policy, the forces that support that policy are being reshaped to account for the changing nature of the threat. Our offensive forces, while smaller in size, must, however, remain flexible, robust, and enduring. The proliferation of ballistic missile technology and weapons of mass destruction to nations that may be willing to use them requires improved ballistic missile defenses. The strategic and theater ballistic missile defenses being developed under the GPALS program will provide such protection to the United States as well as to U.S. and allied forces in the field.

LAND FORCES

The Army and Marine Corps constitute the land forces of the United States. They include light forces suited for rapid crisis response, expeditionary forces for operations in littoral areas, heavily armored forces for high-intensity conflicts, as well as special operations forces tailored for a variety of missions. As was demonstrated during the Persian Gulf War, land forces are the only component of the U.S. force structure capable of seizing and defending territory. Such a capability remains a vital instrument of U.S. national security policy.

Army and Marine forces are complementary and frequently operate as a team, in conjunction with the other Services and regional allies. While the Army is responsible for sustained land combat, the Marines — as soldiers of the sea — are charged with supporting naval campaigns, with an emphasis on amphibious operations. Together, these forces provide a diverse portfolio of combat capabilities to protect our national interests.

Land Force Missions in a Changing World

Land forces are essential to our ability to execute the new regional defense strategy, beginning with deterrence. We want to have sufficient ground combat power to persuade any potential adversary that aggression is a risk not worth taking. This message was reinforced by the dramatic successes achieved by U.S. and Coalition forces in the Persian Gulf. To accomplish national objectives, land forces will emphasize the following capabilities:

- **Forward Presence.** Land forces must maintain a credible forward presence, albeit at reduced levels, to protect U.S. interests and promote international stability. To that end, the Army stations forces in Europe, Northeast Asia, Latin America, and other regions, while Marines operate afloat in the Mediterranean, the Persian Gulf, the western Pacific, and from land bases in Japan. The Marine expeditionary unit monitoring Balkan relief efforts from the Adriatic Sea illustrates the func-
- tions our forward-deployed forces perform. With the reduced risk of global war, we have been able to scale back our land-based deployments abroad. Troops based in CONUS will provide intermittent presence by participating in exercises overseas, training host-nation forces, taking part in humanitarian assistance efforts, and performing other tasks.
- **Crisis Response.** Crisis-response capabilities assume increasing importance as the United States reduces its presence abroad. With a greater portion of the force stationed at home, we must ensure that we can deploy troops on short notice when emergencies arise. To satisfy this obligation, land forces maintain a mix of light, heavy, amphibious, and special operations elements that can be employed as part of a joint or combined force. Combat-essential stocks of munitions, fuel, equipment, and other items are positioned ashore and afloat to reduce response time in areas of crisis. Land forces must be able to augment forward-deployed and contingency forces quickly when additional combat strength is needed to meet operational demands. The rapid deployment and prompt reinforcement of land forces in the Persian Gulf during Operation DESERT SHIELD and in Somalia during Operation RESTORE HOPE, were prime illustrations of U.S. crisis-response capabilities.
- **Reconstitution.** Tomorrow's smaller forces must also be able to reconstitute themselves should a global threat reemerge. Reconstitution capabilities include forming, training, and fielding new fighting units. The nucleus of our reconstitution capability rests in the two Army cadre divisions within the reserve component. Critical elements of these divisions will be manned in peacetime to hasten the assembly of new forces, should they be needed in wartime.
- **Strategic Deterrence and Defense.** The Army will protect against the threatened or actual use of ballistic missiles and weapons of mass destruction. As components of the TMD program, Army systems

such as Patriot and THAAD will provide rapidly deployable and relocatable antimissile protection.

- **Support for Civil Authorities.** Land forces perform a variety of functions in support of civil authorities. Examples include disaster relief efforts, arms control activities, emergency assistance measures, and counterdrug operations. The aid provided by soldiers and Marines to the victims of Hurricane Andrew in Florida and Louisiana and Hurricane Iniki in Hawaii illustrates this kind of support.
- **Multinational Operations.** Land forces will continue to promote cooperative relationships between the United States and other nations. Such activities include peacekeeping operations, combined exercises, cooperative research and development (R&D) programs, and other efforts designed to advance U.S. security objectives. This role is typified by the Somalian relief operation, in which a Marine strike force cleared the way for a U.S.-led coalition equipped to protect ongoing humanitarian efforts.

Reshaping the Force

The Army and Marine Corps will carry out the new regional defense strategy with substantially reduced forces. Prudent reductions will be made to both the active and reserve components of the force. The Base Force provides the framework within which these reductions will be accomplished. The restructured force will be based largely in the United States, with selected units remaining abroad. Resources will be allocated among units for manning, training, and modernization purposes according to their peacetime role and wartime deployment sequence. As we reshape the Army and Marine Corps, we must not jeopardize their ability to protect our national interests.

ARMY

The Army provides the ability to conduct sustained land operations across all types of terrain, against a broad array of threats. The Army's active force consists of forward-deployed, contingency, and reinforcing forces that provide a wide range of capabilities. Forward-deployed forces are well-suited to respond to crises that may occur within their theaters (see Chart 8). Contingency forces consist of airborne, air assault, light infantry, and heavy forces, complemented by special operations units. These forces are prepared for

worldwide deployment from CONUS. When necessary, contingency operations can be initiated within 24 hours by the 3,000 soldiers of the Ready Brigade of the Army's 82nd Airborne Division, which maintains around-the-clock alert at Fort Bragg, North Carolina, near transport planes waiting at Pope Air Force Base. Reinforcing heavy forces — tailored to conduct prolonged operations against large, heavily armored forces — are also maintained within the United States and in Europe. The Army's reserve components are designed to provide combat and support forces to augment the active force. These forces also comprise the core units necessary to reconstitute a larger force in the event a global threat reemerges. Maintaining a force with a broad mix of capabilities is critical to meeting the diverse types of threats for which we must now prepare.

By 1995, the Army will consist of 4 corps and 20 active and reserve divisions, down from 5 corps and 28 divisions in the 1980s. The active force will decrease from 18 divisions with an end strength of 732,000 in FY 1990 to 12 divisions numbering 536,000 personnel in FY 1995. The 12 active divisions will include 1 airborne, 1 air assault, 2 light infantry, 5 mechanized, and 3 armored divisions. As we begin 1993, active-duty end strength numbers 610,450 — the lowest level since 1950.

Reserve components — including the Army National Guard and the U.S. Army Reserve — will continue to play a vital role. Reductions in these forces are tied to cuts in active end strength, particularly those resulting from the reduced threat in Europe. Army National Guard forces will be reduced from 10 to 6 full divisions and 2 cadre divisions. This reduction will be accomplished by converting two infantry divisions to heavy divisions and consolidating two infantry divisions and one armored division into a heavy division. The resulting force will include one light infantry, four mechanized, and three armored divisions (including the two cadre divisions). Total end strength in the Army reserve component will decline from 736,000 in FY 1990 to 567,000 in FY 1995. The force will include 338,000 National Guard members and 229,000 Army reservists.

Constituting approximately 20 percent of the Army work force, civilians operate most bases, maintenance depots, and laboratories and are major contributors to

deployment tempo of Marine forces will increase in the future. When necessary, Marines can link up with squadrons of maritime prepositioning ships in different areas of the world, each squadron carrying enough equipment and supplies to sustain a Marine expeditionary brigade (MEB) of approximately 16,000 people for a month. The rapid deployability and global reach of the Marines enhance crisis-response capabilities in areas where the United States does not maintain a permanent military presence. The Marine Corps will maintain three active and one reserve division, three active and one reserve aircraft wing, and associated active and reserve combat service support units, although at somewhat reduced levels. Active Marine end strength will decline from 197,000 in FY 1990 to 170,000 in FY 1995, while reserve component levels will go from 45,000 to 35,000. Civilian strength levels will decrease from 21,000 in FY 1990 to 17,000 in FY 1995.

sists primarily of heavy forces, capable of operating across the beach and in sustained ground combat. An Army corps comprising two divisions will preserve a strong U.S. presence in Europe and uphold NATO as the basic element of stability on the continent. Reinforcements will come from three active Army divisions and selected National Guard forces and a Marine expeditionary force (MEF) based in the United States.

The land portion of the Pacific Force will provide a stabilizing influence in the region. Continued forward presence will be provided by a reduced MEF in the western Pacific and a reduced Army division in South Korea. Reinforcements will be available from an Army division in Hawaii and an Army brigade in Alaska.

The land portion of the Contingency Force will consist of the remaining five active Army divisions, one MEF, and special operations forces. This force will provide a full range of light, airborne, air assault, amphibious, and armored units for rapid deployment worldwide. Contingency forces will have larger active support elements than other U.S.-based forces and be extremely versatile. Army reserve component divisions are available to provide sustainment capability and additional fighting units.

**Army and Marine Corps
Divisions**

Table 12

| | Component | |
|---------------------|-----------|-----------|
| | Active | Reserve |
| Army | | |
| Armor | 3 | 2 |
| Mechanized | 4 | 2 |
| Airborne | 1 | 0 |
| Air Assault | 1 | 0 |
| Infantry | 5 | 6 |
| Total | 14 | 10 |
| Marine Corps | 3 | 1 |

NOTE : Indicates official inactivations/activations/conversions as of January 1, 1993. During FY 1993, an active component infantry division is scheduled to convert to a mechanized division, one armor division and one infantry division of the reserve component will inactivate, and a reserve component infantry division will convert to a reserve component armor division. Two reserve component divisions will be converted to cadre divisions during FY 1994. Two active component divisions are scheduled to be inactivated during FY 1995.

TRAINING

Combat readiness will continue to be maintained through tough, realistic training. Forces must have opportunities to practice their warfighting doctrine, rehearse tactics, and master their equipment. As a reflection of the new defense strategy, increased emphasis will be placed on joint and combined exercises stressing interoperability and joint warfighting doctrine. Exercises will be conducted at field training centers that replicate terrains around the world and, as a cost-saving measure, at simulation centers.

Combat training centers are located in the United States and abroad. In FY 1994, 29 Army battalions will rotate through the National Training Center in California. U.S. soldiers will train with units from other NATO countries at the new Combat Maneuver Training Center in Germany. At the Battle Command Training Program in Kansas, leaders will perfect the development of battle plans. Army-Air Force training will continue at the Joint Readiness Training Center, which moves from Arkansas to

BASE FORCE

Land forces play a central role in the Atlantic, Pacific, and Contingency components of the Base Force. The ground element of the Atlantic Force con-

Louisiana during FY 1993. Likewise, Marine units will practice infantry, tank, and air operations with other U.S. forces at the Marine Corps Air-Ground Combat Center in California.

Modernizing to Meet Future Challenges

The dramatic successes achieved by U.S. forces in Operation DESERT STORM underscore the wisdom of past investments in modern weaponry and equipment. While the end of the Cold War has permitted us to relax the scope and intensity of our modernization efforts, it has not erased the requirement for a technologically superior force. We must continue to pursue promising new technologies that can enhance the performance and protect the lives of our troops on the battlefield. Where possible, we will conserve limited modernization dollars by incorporating advanced features into existing equipment. Investments in new systems will be made

as necessary to preserve the combat edge of our forces as they are reduced in size. Table 13 depicts the key acquisition programs of the Army and Marine Corps.

Modernization of Army and Marine Corps forces will include investments in the following areas:

- **Maneuver.** Rapid movement complemented by accurate firepower, necessary to defeat opponents on the modern battlefield, will be provided by investments in close combat, antiarmor, and helicopter systems. Close combat capabilities will be enhanced through the acquisition of improved small arms and mortars and better combat identification systems. Forced-entry operations will benefit from the capabilities offered by the Advanced Amphibious Assault vehicle, designed to operate over long ranges on sea or land. Antiarmor pro-

Key Army and Marine Corps Modernization Programs: FY 1992-95 (Dollars in Millions)

Table 13

| | FY 1992 Actual | FY 1993 Budgeted | FY 1994 Planned | FY 1995 Planned | Year Procurement Objective Will Be Reached (At Current Rate) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|---|
| Army RDT&E | | | | | |
| Comanche Helicopter | 514.6 | 418.1 | 444.5 | 473.4 | N/A ^a |
| Longbow | 248.6 | 306.8 | 291.0 | 135.0 | N/A ^a |
| Advanced Field Artillery System | 89.9 | 136.9 | 176.0 | 211.2 | N/A ^a |
| Marine RDT&E^b | | | | | |
| Short-Range Antitank Weapon (SRAW) | 6.9 | 7.7 | 25.2 | 8.5 | N/A ^a |
| Advanced Amphibious Assault Vehicle | 37.6 | 37.6 | 24.9 | 32.7 | N/A ^a |
| Advanced Field Artillery Tactical Data System | 7.9 | 8.2 | 11.9 | 5.5 | N/A ^a |
| Army Procurement (Funding/Quantity) | | | | | |
| Blackhawk Helicopter | 508.0/60 | 428.3/60 | 456.4/60 | 399.9/60 | 2012 |
| SINGARS Radios | 272.7/20,811 | 223.2/13,255 | 365.0/36,600 | 392.0/38,300 | 2000 |
| MLRS Launchers | 182.8/44 | 257.2/44 | 276.0/44 | 243.0/34 | 2005 |
| PLS Trucks | 99.2/281 | 315.7/961 | 488.2/945 | 16.8/0 | 1994 |
| Javelin | 0/0 | 0/0 | 215.4/1,394 | 287.3/2,194 | 2006 |
| Marine Corps Procurement (Funding/Quantity) | | | | | |
| Light Armored Vehicle — Air Defense | 1.0/3 | 10.0/0 | 68.0/12 | 0/0 | 1994 |
| SINGARS Radios | 52.4/3,250 | 58.8/4,190 | 47.9/3,015 | 48.1/3,078 | 1999 |
| Intelligence Support Gear | 29.6/N/A ^c | 41.4/N/A ^c | 22.6/N/A ^c | 57.0/N/A ^c | N/A ^c |
| Night Vision Equipment | 24.4/N/A ^c | 36.8/N/A ^c | 12.9/N/A ^c | 16.9/N/A ^c | N/A ^c |
| Pedestal Mounted Stinger | 12.9/5 | 28.1/26 | 20.0/24 | 25.3/24 | 2002 |

^aNot applicable to RDT&E programs

^bNavy funds managed by Marine Corps.

^cRoll-up of multiple items

grams such as the Army Armored Gun System and the man-portable Javelin — for use by soldiers and Marines — will improve the capability of light forces to defeat tanks. Helicopter initiatives such as the Army Comanche and Longbow Apache and the Marine CH-46 replacement program will strengthen the performance of armed reconnaissance, attack, and assault missions, respectively.

- **Fire Support.** Land forces must be able to protect maneuver elements, neutralize enemy fire support capabilities, and bring hostile forces under attack at long range. Fire support will be provided by systems offering greater range, faster response times, and improved accuracy, such as the Advanced Field Artillery System (AFAS) and its companion Future Armored Resupply Vehicle-Ammunition (FARV-A). Deep-attack programs include the Army Tactical Missile System armed with the Brilliant Antiarmor submunition.
- **Air Defense.** Army and Marine elements must be protected from aircraft and ballistic missile attack. The Avenger, a “Humvee” with Stinger missiles, will provide soldiers and Marines located in rear areas with a rapidly deployable air defense system capable of operating around-the-clock. The Marine Light Armored Vehicle-Air Defense, featuring a shoot-on-the-move capability, will also guard against low-flying enemy aircraft as it accompanies other maneuver forces. Defenses against aircraft and missiles at medium to high altitudes will be provided by the Army’s Improved Patriot missile, the Corps Surface-to-Air Missile (Corps SAM), and the THAAD system. Upgrades to the Marine Corps Hawk missile system and a complementary radar program, the AN/TPS-59, will provide a rapidly deployable limited missile defense.
- **Command, Control, and Communications (C³).** The speed, accuracy, and interoperability of battlefield information flow must be improved. In years ahead, U.S. forces will draw on the enhanced capabilities provided by the new Army Tactical Command and Control System and the Marine Tactical Command and Control System. These comprehensive systems will integrate communications networks, computer assets, and command posts to improve battlefield decisionmaking. Major communications systems include the Single-Channel Ground and Airborne Radio System (SINCGARS) and Mobile Subscriber Equipment. Navigational aids, such as the GPS, will provide forces with precise information on their location on the battlefield.
- **Intelligence and Electronic Warfare.** Commanders must have rapid and accurate means of detecting and tracking enemy forces. Programs like the Joint Surveillance and Target Attack Radar System (JSTARS) will make timely and highly detailed intelligence information available to ground combat elements. Unmanned aerial vehicles, operated by soldiers and Marines, will be used to acquire targets, survey the battlefield, and initiate electronic countermeasures. Intelligence information will be collected, processed, and reported by means of systems such as the Marine Tactical Remote Sensor System, Portable Communications Intelligence System, and Secondary Imagery Dissemination System.
- **Combat Service Support.** Investments in this area focus on providing our forces with improved intratheater transport, meals, health care, and other services. Containerization of cargo will hasten the shipment of ammunition and supplies. Logistical support will be provided by a variety of systems, including UH-60 Blackhawk and CH-47D Chinook helicopters, as well as the ubiquitous “Humvee.” The new family of medium tactical wheeled vehicles offers substantial improvements over the outdated trucks now used to haul unit equipment. Heavy trucks, such as the Palletized Loading System (PLS) and Heavy Equipment Transporter System, will speed the delivery of ammunition and tanks to combat forces. The new vehicles will incorporate features such as a central tire inflation system that improve the agility and off-the-road mobility of our forces. Performance of key support functions will be enhanced through investments in items such as mobile field kitchens, deployable medical systems, water purification equipment, and chemical decontamination units.
- **Ammunition.** Land forces must maintain adequate stocks of ammunition for both war reserves and training. Future investments in this area will strike a balance between these competing demands. Special emphasis will be placed on ammunition that is highly effective against protected targets, such as the

new family of antiarmor munitions employed by Abrams tanks during the Gulf War.

Conclusion

The changes being made in our land forces respond to the demands of a new security environment. Although

tomorrow's forces will be smaller, they will continue to provide the rapid responsiveness, versatility, and strength needed to carry out the diverse missions they may be called on to perform. From forward presence to crisis response to humanitarian assistance operations, U.S. soldiers and Marines stand ready to execute the national defense strategy and protect American interests at home and abroad.

NAVAL FORCES

Naval forces play a central role in the U.S. defense strategy. With the shift in focus from global to regional contingencies, the capabilities that these forces provide and their routine presence in forward areas give us the ability to respond to emerging challenges. As part of the transition to a smaller force structure, the Navy and Marine Corps are developing innovative deployment concepts that emphasize tailored expeditionary packages for joint operations. The new structure places a premium on operational capabilities that can be projected from the sea in littoral areas. The new strategic concept provides the unified command commanders with an interoperable naval force, sized for any contingency and shaped for joint operations.

Naval Missions in a Changing World

Naval forces are well suited to the demands of the regional defense strategy. In support of national objectives, they provide the following capabilities:

- **Strategic Deterrence.** The ballistic missile submarine force remains an essential element of the U.S. strategic deterrent, as discussed in the Nuclear Forces and Strategic Defense chapter.
- **Forward Presence.** A major part of the Nation's forward-presence strategy is carried out by naval forces. Naval task forces operating abroad demonstrate the United States commitment to regional stability and provide a ready means of averting or containing crises. One result, which is difficult to quantify, is a more positive American image abroad: reassurance for friends and allies, enhanced negotiating leverage, and visible evidence of U.S. resolve.
- **Crisis Response.** America's naval forces, employed in an expeditionary role, constitute an enabling force for other forces, both U.S. and allied. Consistent with the increased emphasis on regional contingencies, the focus of naval operations has shifted to the world's littoral areas. These land areas generally include confined and congested sea and air spaces in which identification of enemy forces is difficult. Threats in these environments include diesel submarines operating in shallow waters, mines, sea-skimming cruise missiles, and, possibly, tactical ballistic missiles. Meeting these challenges requires significant shifts in the resources devoted to naval forces.
- **Reconstitution.** Reconstituting the capability to fight a global war remains an important objective, although we can now count on a somewhat longer planning horizon than was possible before. The Fast Frigate Trainer (FFT) program is a key element of our plans to use reserve ships in any future force reconstitution. As part of that concept, the FFT program will provide a means of augmenting battle forces with up to 40 additional surface combatants over a 6- to 12-month period. Over the longer term, the health of the industrial and technological base clearly affects our ability to surge production of ships and weapons.
- **Humanitarian Support.** Naval forces, both active and reserve, play an important role in humanitarian relief operations, both at home and abroad. Natural disasters and other crises have created life-threatening situations for tens of thousands of people around the world. Naval forces are often called upon to aid the victims of these tragedies and, if necessary, to protect caregivers from those who would deny them aid. Recent operations include assistance to the people of Somalia, Bangladesh, Iraq, Haiti, the Philippines, Guam, Florida, Louisiana, and Hawaii.
- **Counterdrug Interdiction Support.** Naval forces remain fully integrated in the counterdrug joint task force organizations of the unified and specified commands, committed to supporting all aspects of the DoD counterdrug mission. In 1992, active and reserve naval forces flew 35,592 hours and steamed 4,817 days in support of counterdrug operations.

Reshaping the Force

As the threat of global war recedes and defense resources shrink, we must adapt our naval forces to meet

Major Navy Forces (FY 1987-99)

Table 14

| | 1987 | 1992 | 1993 | 1994 ^a | 1995 ^a | 1996 ^a | 1997 ^a | 1998 ^a | 1999 ^a |
|--|------------|------------|------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| Strategic Submarines | 37 | 30 | 22 | 16 | 16 | 17 | 18 | 18 | 18 |
| Aircraft Carriers ^b | 15 | 15 | 14 | 14 | 13 | 13 | 13 | 13 | 13 |
| Attack Submarines | 102 | 86 | 89 | 86 | 87 | 84 | 79 | 76 | 70 |
| Surface Combatants ^c | 209 | 138 | 133 | 137 | 141 | 145 | 148 | 148 | 147 |
| Amphibious Ships | 61 | 58 | 55 | 51 | 51 | 51 | 51 | 51 | 51 |
| Mine Warfare Ships | 4 | 9 | 14 | 15 | 15 | 16 | 16 | 16 | 16 |
| Support and Combat Logistic Force (CLF) Ships | 119 | 110 | 103 | 100 | 91 | 88 | 86 | 85 | 85 |
| Mobilization Force Category A | 22 | 19 | 18 | 16 | 16 | 16 | 16 | 16 | 16 |
| Total Ship Battle Forces | 569 | 465 | 448 | 435 | 430 | 430 | 427 | 423 | 416 |

^aPlanned^bIncludes ship in extended overhaul and the training carrier.^cIncludes hydrofoil patrol boats.

new challenges. Top priority will be given to maintaining technological superiority as the force is reduced in size. Emphasis will be placed on command, control, and surveillance; battlespace dominance; power projection; and force sustainment. The restructured force will provide the robust and diverse capabilities needed to carry out the regional defense strategy.

FORCE REDUCTIONS

The Navy is well into a significant contraction. From a peak of 569 ships in FY 1987, the force will decline to 435 ships by FY 1994, a reduction of 24 percent. Seventy-four ships were deactivated in FY 1992 including 2 aircraft carriers, 42 surface combatants, 16 support ships, 5 amphibious ships, and 9 submarines (see Table 14).

One consequence of these deactivations is that the average age of the remaining surface combatants is declining, due largely to the retirements of DDG-2 and DDG-37 class destroyers and FF-1052 class frigates.

Since naval forces and resources are shrinking, deployments must be carefully planned. New patterns must be, and are being, implemented. The current battle group deployments in the North Arabian and Mediterranean Sea illustrate the flexibility and crisis-response capabilities that today's operating pattern provides.

Although funds and forces are declining, combat effectiveness remains a top priority. The FY 1994-95

program will ensure that our forces get the tough and realistic training they need to preserve their combat edge. Exercises with other forces, both U.S. and allied, will hone combat skills while keeping readiness levels high. To complement this training, individual elements of the force will be given regular opportunities to practice their skills on air, land, and sea ranges.

ORGANIZATIONAL CHANGE

Changes in both the threat and resources have served as catalysts for organizational changes. The Navy headquarters staff has been reorganized to parallel the Joint Staff and enhance joint operations, to increase participation by fleet commands in the allocation of resources, and to better integrate force planning among the naval warfare areas. A new Naval Doctrine Command has been established, with the charter to integrate naval operations more fully with the other Services and to improve efficiency.

Additionally, naval command, control, and communications policy and resource functions have been consolidated to support the recently established space and electronic warfare mission area. The Copernicus architecture, being implemented by the Navy, provides a foundation for bringing on line new technologies that will improve the flow of information afloat, ashore, and ultimately, among the Services.

Reductions in resources place a premium on streamlining infrastructure to yield efficiencies from the shore base.

**Significant Navy Modernization Programs: FY 1992-95
(Dollars in Millions)**

Table 15

| | FY 1992 Actual | FY 1993 Budgeted | FY 1994 Planned | FY 1995 Planned | Year Procurement Objective Will Be Reached (At Current Rate) |
|--|-------------------|---------------------|--------------------|--------------------|---|
| Navy RDT&E | | | | | |
| Integrated Undersea Surveillance Systems | 325.5 | 251.8 | 214.7 | 205.3 | N/A |
| New Attack Submarines | 0 | 86.8 | 501.4 | 648.3 | N/A |
| Tomahawk | 60.9 | 30.9 | 49.5 | 88.3 | N/A |
| DDG-51 | 92.5 | 112.1 | 108.8 | 93.8 | N/A |
| DD-21 | 0 | 0.3 | 10.5 | 21.0 | N/A |
| SH-60B | 33.7 | 34.9 | 47.5 | 37.3 | N/A |
| SH-60F | 19.5 | 39.1 | 27.0 | 18.7 | N/A |
| Navy Procurement (Funding/Quantity) | | | | | |
| CVN-76 | 0/0 | 3,831.1/1 | 0/0 | 0/0 | 2003 |
| MK48 ADCAP | 204.2/108 | 165.9/108 | 104.4/108 | 0/0 | 1994 |
| SSN-21 | 234.7/0* | 0/0 | 0/0 | 0/0 | 1993 |
| Tomahawk | 411.2/176 | 400.6/200 | 259.0/216 | 276.8/217 | To Be Determined |
| DDG-51 | 3,974.6/5 | 3,244.4/4 | 2,783.1/3 | 2,393.1/3 | 2000 |
| SH-60B | 266.7/13 | 234.5/12 | 214.5/7 | 203.9/7 | 2001 |
| SH-60F | 242.0/12 | 172.2/12 | 250.4/12 | 298.1/12 | 1998 |

*Final design costs for the SSN-21 class funded in the Ship Building and Conversion, Navy, account.

Continued adjustments are needed to balance resources between operating forces and the support establishment. These savings are essential to force readiness and to our modernization programs.

INSTITUTIONAL CLIMATE

The Department of the Navy is making significant cultural changes. A program has been implemented to eradicate any form of sexual harassment or gender discrimination. The goal is to have a completely professional force that offers men and women meaningful and rewarding career opportunities in service to the Nation.

QUALITY OF LIFE

Maintaining an acceptable quality of life for our people is essential to retaining a motivated, professional force. The peacetime personnel operating tempo goal — at least 50 percent of a tour in home port and deployment no longer than six months — is key to maintaining an acceptable quality of life. Consistent with this goal, and in line with the regional defense strategy, we have reduced slightly some of our forward deployments. Additionally, priority has been given to funding programs that address housing

shortfalls, add child support facilities, and improve property maintenance.

Modernizing to Meet Future Challenges

While tomorrow's forces will be smaller and structured for new challenges, they will maintain our essential technological edge. This will be accomplished through acquisition of selected new systems (see Table 15), combined with upgrades and service-life extensions of existing systems.

MINE WARFARE

One of the major lessons of Operation DESERT STORM was the need for strong mine countermeasures (MCM) capabilities. MCM forces must be able to deploy rapidly to remote regions of the world, and they must have adequate command and logistics support to operate in deep and shallow water. In recognition of these requirements, the FY 1994-95 budget increases funding for MCM programs. It provides for conversion of a helicopter landing ship to serve as a command platform, a base for explosive ordnance disposal teams, a helicopter station, and a maintenance base for both MCM ships and aircraft. Additionally, the Navy will charter heavy-lift

ships to provide worldwide reach for its MCM vessels, which currently have limited open-ocean capability and therefore cannot transit rapidly to distant areas.

SURFACE COMBATANTS

The DDG-51 (Flight IIA) modification program is adding dual helicopter hangars to DDG-51s. Operation DESERT STORM corroborated the value of basing multipurpose helicopters on surface combatants in naval battle groups. Procurement of the first DDG-51 outfitted to support helicopters is funded in FY 1994. Ship self-defense systems are being emphasized to guard against the increasing threat posed by antiship cruise missiles.

COMBAT LOGISTIC FORCES

Combat logistic forces are being restructured to strengthen support for carrier battle groups in regional contingencies. AOE-6-class replenishment ships will provide improved ammunition and logistic support for the fleet.

ANTISUBMARINE WARFARE (ASW)

Although the pace of antisubmarine warfare (ASW) efforts has declined with the reduction in the deep-water submarine threat, the shallow littoral operating environment presents new challenges. Our ASW programs recognize this. The Low-Frequency Active sonar system is being readied for introduction on a new ship class designed around the Small Waterplane Area Twin Hull concept. This system enhances deep-water detection of submarines and is also being tested in shallow-water areas. Mark 48 advanced capability and Mark 50 torpedoes also are being evaluated for shallow-water employment. Full-spectrum signal processing and lightweight fiber optics are new technologies also being applied to ASW.

SUBMARINES

The Seawolf attack submarine program has been reduced to two ships, commensurate with the reduced threat, reduced resources, and the need to preserve an important element of the industrial base. We are in the early stages of exploring the configuration and potential acquisition requirements of a new, lower-cost attack submarine. Studies of the submarine industrial base are continuing, and concept definition

studies for a possible new submarine have begun. Specific plans await the results of these assessments.

AMPHIBIOUS FORCES

Amphibious forces play an essential role in expeditionary operations and forward presence. Amphibious ready groups (ARGs) often provide our first response in contingency operations. Lift capacity for at least 2.5 MEBs will be maintained through the replacement of retiring amphibious ships with deliveries of LHDs, LSD-41s, LSD-41(CV)s, and other amphibious vessels.

Freedom of Navigation

The United States remains committed to the principle that the world's seas must be open to all nations. The armed forces continue to be the instrument for the United States to exercise and assert its navigation and overflight rights and freedoms consistent with the 1982 Law of the Sea Convention. As a matter of policy, the United States will not acquiesce in unilateral acts of other states that unlawfully restrict the rights and freedoms of the international community in navigation and overflight and other related high seas uses. When these rights are not exercised by nations, claims constraining use of the seas may come to be accepted as binding. Accordingly, it is necessary for maritime nations, such as the United States, to protest excessive claims through diplomatic channels and to exercise their navigation and overflight rights in the disputed regions. Our Nation has accepted this responsibility as a tenet of national policy. Therefore, the Department maintains an active Freedom of Navigation program. From October 1, 1991, to September 30, 1992, Freedom of Navigation assertions were conducted against the following countries with maritime claims contrary to international law.

| Country | Excessive Claim Challenged |
|----------------|--|
| Algeria | Prior permission for military-related vessels to enter 12 nautical mile (nm) territorial sea |
| Brazil | 200 nm territorial sea |
| Burma* | Prior permission for warship to enter 12 nm territorial sea |
| Cambodia | Prior permission for warship to enter 12 nm territorial sea |

| | |
|---------------------|---|
| Cape Verde | Prior permission for warship to enter 12 nm territorial sea |
| China | Prior permission for warship to enter 12 nm territorial sea |
| Congo | 200 nm territorial sea |
| Djibouti | Excessive straight baselines |
| Dominican Republic* | Excessive straight baselines |
| Ecuador* | 200 nm territorial sea |
| India | Prior notification for warship to enter 12 nm territorial sea |
| Iran | Prior permission for warship to enter 12 nm territorial sea |
| Liberia* | 200 nm territorial sea |
| Maldives | Prior permission for warship to enter 12 nm territorial sea |
| Nicaragua* | 200 nm territorial sea (and over flight clearance), 25 nm security zone |

| | |
|---------------|---|
| Nigeria | 30 nm territorial sea |
| Oman | Excessive straight baselines |
| Pakistan | Prior permission for warship to enter 12 nm territorial sea |
| Peru* | 200 nm territorial sea |
| Sierra Leone* | 200 nm territorial sea |
| Somalia | 200 nm territorial sea |
| Sudan | Prior permission for warship to enter 12 nm territorial sea |

*Denotes that Freedom of Navigation assertion was also conducted last year.

Conclusion

The FY 1994-95 defense program adapts our naval forces to the requirements of the regional defense strategy. It provides a lean, robust Navy and Marine Corps optimized for joint operations and capable of responding quickly to any challenges that arise.

AVIATION FORCES

Aviation forces are a vital component of our national military capability — in deterrence, forward presence, and crisis response. Their rapid deployability and global striking power make them a strong and versatile element of the U.S. military structure. The inherent flexibility of these forces stems from their ability to operate from a variety of platforms — both naval and land-based — and from expeditionary as well as fixed sites.

Aviation forces operate a broad range of aircraft, reflecting the diverse nature of the missions they perform. Aviation inventories include fighter, attack, and electronic combat aircraft as well as conventional bomber and specialized support aircraft. These forces can operate around-the-clock, in all types of weather. They provide air superiority, interdiction, close air support, and antisurface and antisubmarine warfare capability as well as tactical reconnaissance, surveillance, air defense suppression, and command and control support. These aircraft also support the introduction of ground forces and assist in prosecuting combined-arms campaigns.

Aviation Missions in a Changing World

Aviation forces play a prominent role in the regional defense strategy. Often the first to respond, they signal to friends and potential aggressors alike America's commitment to defend its vital interests. The rapid responsiveness and enormous striking power of these forces were demonstrated vividly in Operation DESERT STORM. Once American and other Coalition aircraft took to the skies, they quickly achieved air superiority, enabling Coalition land and naval forces to carry out their missions free of the threat of enemy air attack.

Looking to the future, we have established the following objectives for our aviation forces in support of the national military strategy:

- **Strategic Deterrence and Defense.** Aviation forces make a significant contribution to U.S. air defenses. F-15 and modified F-16 fighters assigned to air

defense squadrons protect North America from bomber or cruise missile attack. These aircraft would be supplemented in an emergency by fighter units based in CONUS.

- **Forward Presence.** Aviation forces are a flexible, yet highly visible component of the U.S. military posture abroad. Whether flying alone or as part of joint or combined exercises, the presence and activity of these forces are widely observed. Forward basing of forces is also an indicator of U.S. commitment to the stability of regions critical to our security. The movement of a carrier or deployment of a land-based fighter wing signals America's will and ability to defend its vital interests.
- **Crisis Response.** Since aviation forces offer a varied set of response options, they are given a diverse mix of missions to perform. Their tasks can range from forcing down a jetliner carrying suspected terrorists to conducting strikes in support of specific national policy objectives. Aviation forces play a vital role in levels of conflict below war. In low-intensity conflicts, these forces can perform air superiority, infiltration, exfiltration, reconnaissance, surveillance, limited strikes, and other missions. They also provide air support for land and naval forces. U.S. aviation forces enforcing the no-fly zones in Iraq are a current example of crisis response below the level of full-scale war. Aviation forces are crucial to our ability to reinforce forward-deployed or allied forces promptly in a crisis. During a major contingency, we would rely initially on the active force, augmented by the significant capability of the reserve components.
- **Reconstitution.** For a global threat, should one reemerge in the future, additional forces would have to be reconstituted, although we would also rely extensively on the reserve components and the active structure. Since considerable warning time would likely precede any large-scale conflict, we are putting into storage aircraft that are not needed now but that have useful life remaining and could be returned to service should future circumstances require. Aviation forces require relatively long lead

times for reconstitution. Prudent modernization is therefore necessary, even in times of decreasing resources. Additionally, we must continue to pursue actions that reduce lead times for follow-on procurement, such as the development of technology demonstrators. The forthcoming Advanced Short Takeoff-Vertical Landing technology demonstration program is one example.

- **Support for Civil Authorities.** Aviation forces are actively involved in counterdrug operations. C-130 airlift aircraft also provide extensive support for humanitarian operations. The airlift of food to Somalia and the aid provided to victims of Hurricanes Andrew and Iniki are recent examples.
- **Multinational Operations.** Aviation forces actively participate in peacekeeping operations, combined exercises, cooperative research and development (R&D) programs, and a number of other activities with other nations. The good will and training gained through joint and combined exercises strengthen our forces and may help reduce the likelihood that they will be engaged in future combat.

Reshaping the Force

Major changes are being made in the size and shape of U.S. aviation forces. By the end of FY 1993, the Air Force will have reduced its fighter force by 27 percent from the high in FY 1987. Similarly, the naval aviation force will have been cut by 15 percent. Further reductions are planned (see Table 16).

The magnitude of these force reductions should not divert attention from the significant restructuring that is under way. The Air Force has completely reorganized, from its flight-line operations up to its headquarters. For example, the air division level of command has been eliminated, reducing functional redundancy and freeing scarce resources. The conventional capability of the bomber force is being enhanced, and these aircraft are being assigned increased responsibility for conventional missions. The Air Force is converting some single-purpose wings to composite wings. These new wings will provide more versatility and responsiveness by combining various weapons systems into tailored force packages that will be able to deploy quickly. This composite feature is also represented in naval aviation. A number of Marine Corps aircraft are

Major Aviation Forces^a (FY 1987-95)

Table 16

| | 1987 | 1992 | 1993 | 1994 ^b | 1995 ^b |
|-------------------------|--------------|--------------|--------------|-------------------|-------------------|
| Naval Aviation | | | | | |
| Navy Active | 782 | 678 | 610 | 622 | 616 |
| Navy Reserve | 101 | 116 | 116 | 120 | 120 |
| Marine Active | 354 | 326 | 328 | 328 | 306 |
| Marine Reserve | 96 | 72 | 72 | 72 | 72 |
| Air Force | | | | | |
| Air Force Active | 1,798 | 1,212 | 1,158 | 1,098 | 1,098 |
| Air Force Guard/Reserve | 894 | 858 | 816 | 816 | 810 |
| Total | 4,025 | 3,262 | 3,100 | 3,056 | 3,022 |

^aPrimary Aircraft Authorized (PAA) — fighter and attack aircraft
^bPlanned

being deployed on Navy carriers, and the mission of carrier aviation is being reoriented to focus on littoral areas, where Marine close air support missions flown from carriers would complement traditional carrier strike operations.

AIR FORCE

The Air Force provides the Nation with versatile and responsive striking power that can be employed worldwide on short notice. At the theater level, Air Force assets are a key element of U.S. forward presence. They provide a large part of the defensive umbrella and offensive capability vital to joint combat operations.

Air Force fighter and attack forces are equipped with A-10s, F-4s, F-15s, F-16s, F-111s, and F-117s. The majority of Air Force fighter and attack aircraft are multirole, capable of accomplishing air-to-air and air-to-ground missions. Some are optimized for single missions, such as close air support or air superiority. Support aircraft round out the force structure. These aircraft perform reconnaissance, airborne warning and control, electronic combat, special operations, and search-and-rescue functions. The Air Force force structure will be reduced to 26.5 fighter wing equivalents by the end of 1995. This reduction will be offset in part by conventional enhancements now programmed for the heavy bomber force.

All of the bomber aircraft currently in the inventory have some conventional capability. As existing bombers are enhanced and new ones are developed, conventionally armed bomber forces will become even more capable. Heavy bombers provide an ability to strike critical targets worldwide with conventional munitions from CONUS if required.

NAVAL AVIATION

The Navy and Marine Corps provide the Nation with aviation forces operating forward from the sea. Naval aviation forces, on patrol in foreign waters, can project U.S. combat power into littoral regions of the world when crises demand a quick, effective response. When Marines go ashore, carrier-based aviation provides them sustained, high-volume air support. The landward reach of naval operations will be extended through the use of expeditionary airfields. Rugged naval aircraft, in particular the F/A-18 and the AV-8B, are particularly well suited to this task.

The Navy aviation structure will remain at 11 active and 2 reserve carrier air wings. Infrastructure and support reductions and consolidations will achieve cost savings. Also, the Marine Corps and Navy plan to integrate three Marine F/A-18 squadrons and one EA-6B squadron into Navy carrier air wings.

Marine Corps aviation provides offensive and defensive air support as well as close air support to Marine ground forces. It also supports other joint force elements as necessary. Marine aircraft are capable of operating from both naval platforms and austere expeditionary land bases. Their employment as part of Marine air-ground task forces facilitates close coordination of air and ground operations.

The Marine force structure will remain at the current level of three active and one reserve wing, although the wings will be somewhat reduced in size.

COMMAND STRUCTURE

As part of the force restructuring, headquarters staffs have been reorganized. The Air Force has consolidated three former commands — the Strategic Air Command, Tactical Air Command, and Military Airlift Command — into two new commands, the Air Combat Command (ACC) and Air Mobility Command.

The ACC is the resource manager for all CONUS-based Air Force fighter and attack aircraft as well as bombers, ICBMs, reconnaissance aircraft, command and control aircraft, and some tankers and theater airlift assets. The ACC also provides forces for the new unified Strategic Command, the North American Aerospace Defense Command (NORAD), and theater commanders as necessary. The Navy headquarters has been reduced in size and now mirrors the Joint Staff. The Marine Corps has eliminated its permanent MEB headquarters staffs.

JOINT PROGRAMS

U.S. forces rely increasingly on joint doctrine and programs. Joint doctrine provides for enhanced joint force command and control structures. This includes the role of the Joint Force Air Component Commander, which enables the integration of air operations into a unified effort under the Joint Force Commander.

Joint programs will become even more important as DoD continues to downsize. More emphasis will be placed on finding common solutions to pressing mission needs. Reflecting this importance, the Department has strengthened joint program policy to ensure successful execution. Joint acquisition programs — including the Joint Standoff Weapon, Joint Direct Attack Munitions, and Tri-Service Standoff Attack Missile — figure prominently in aviation modernization plans.

ACTIVE AND RESERVE MISSIONS

The missions assigned to active and reserve units also are being adjusted. The Navy, for example, is shifting the mission of its Fleet Electronic Warfare Support Group as well as adversary training squadrons to the reserves, which will reduce active force requirements by about five squadrons. The Air Force is shifting some bombers to the reserve component. By 1995, 33 percent of our fighter and attack forces, 48 percent of tankers, and 63 percent of intratheater transport aircraft will be operated by the reserves.

Modernizing to Meet Future Challenges

Operation DESERT STORM underscored two new realities: the uncertainty we face in planning for future

conflicts and the crucial importance of the decisions we make now to acquire new capabilities or to extend the lives of existing systems. While forces must be ready to cope with contingencies as they arise, long-term commitments must also be made. Weapon systems must be preserved, enhanced, or replaced to meet threats that may grow in technological sophistication. With the highly sophisticated weaponry of both Europe and the former Soviet Union readily available for sale on the open market, aviation forces may face defenses in some crises that could approach Cold War lethality. Additionally, intelligence collection — both strategic and tactical — will be increasingly difficult as warring states close their borders to settle both old and new regional disputes and as ethnic populations shift within these borders. As such, airborne imagery and signals intelligence collection systems will become increasingly important. If we are to maintain the technological edge that proved so valuable in the Gulf War, we must invest wisely. Table 17 summarizes our major modernization plans.

Modernization of aviation forces will place a premium on intelligence collection, air superiority, adverse-weather precision strike capability, and the versatility offered by multirole aircraft. Congress has

expressed an interest in understanding how best to balance resources across these several areas. The Department will continue to share its plans as they develop. Modernization of the Air Force and naval aviation will include investments in the following areas:

- **Air Superiority.** We will significantly increase our air superiority capability against current and potential threats by continued development of the F-22.
- **Intelligence/Surveillance/Electronic Combat.** To improve our ability to obtain accurate air-targeting intelligence, we will upgrade our reconnaissance and electronic combat capabilities through procurement of JSTARS, the Advanced Tactical Air Reconnaissance System, the EF-111A System Improvement Program, and advanced capability modifications to EA-6B aircraft.
- **C³.** New C³ systems such as the Contingency Tactical Air Control System Automated Planning System will enhance support to aviation forces. Other initiatives will provide improved jam-resistant air-to-air and air-to-ground C³ support. The emphasis will be on tactical C³ systems that can be quickly adapted to changing battlefield conditions.

Key Aviation Modernization Programs: FY 1992-95 (Dollars in Millions)

Table 17

| | FY 1992 Actual | FY 1993 Budgeted | FY 1994 Planned | FY 1995 Planned | Year Procurement Objective Will Be Reached (At Current Rate) |
|-----------------------|-------------------|---------------------|--------------------|--------------------|--|
| Naval Aviation | | | | | |
| F/A-18 C/D | | | | | |
| RDT&E | 69 | 55 | 76 | 45 | |
| Procurement | 2,037 | 1,254 | 1,821 | 1,652 | FY 1997 |
| Quantity | 48 | 36 | 36 | 36 | |
| F/A-18 E/F | | | | | |
| RDT&E | 350 | 890 | 1,488 | 1,433 | FY 2015 |
| A/FX | | | | | |
| RDT&E | 0 | 166 | 872 | 1,758 | FY 2028 |
| Air Force | | | | | |
| F-16 | | | | | |
| RDT&E | 158 | 113 | 122 | 74 | |
| Procurement | 1,050 | 710 | 832 | 822 | FY 2012 |
| Quantity | 48 | 24 | 24 | 24 | |
| F-22 | | | | | |
| RDT&E | 1,621 | 1,938 | 2,347 | 2,504 | FY 2013 |

- **Precision Strike.** Development of the Advanced Strike Aircraft (A/FX) will provide the Navy and the Air Force with increased capability and survivability against current and potential threats. High-speed antiradiation missile (HARM) capability is being added to the F-15, and the F-117 will receive upgrades based on lessons learned in Operation DESERT STORM. Additionally, joint acquisition programs — including the Joint Standoff Weapon, Joint Direct Attack Munition, and Tri-Service Standoff Attack Missile — will continue to receive increased attention.
- **Multirole Capability.** Development of an F-16 replacement (the multirole fighter) has been delayed due to budgetary pressures. Additional F-16s will be procured to replace attrition losses until a successor aircraft is available. Development continues on the F/A-18E/F, which has up to 50 percent more range in Operation DESERT STORM-style scenarios, as well as increased payload flexibility and higher sur-

vivability than the current C/D model.

- **Other Upgrades.** Until new aircraft are available, we will continue to upgrade systems currently in the fleet. For example, the F/A-18C/D will receive radar upgrades, and the A-6E and F-14A/B will be enhanced through structural and survivability modifications. The Department will also preserve and improve existing airborne reconnaissance aircraft, such as the U-2 and RC-135.

Conclusion

Highly mobile, capable, and survivable aviation forces are key to this Nation's ability to meet new and enduring defense challenges in an era of declining resources and reduced forward presence. The force structure and modernization initiatives planned for coming years will ensure that our forces retain the capability and versatility to perform their missions effectively in support of U.S. security interests worldwide.

SPACE FORCES

Introduction

In an era when regional threats may emerge with little or no warning, U.S. forces must be capable of responding with speed, agility, and flexibility anywhere in the world. Space systems underlie every aspect of such a response capability, providing a high state of vigilance, readiness, and global presence. The unique tactical advantages which space systems afford — fresh and timely intelligence and early warning of hostile action, in-place communications, multispectral imagery, precise navigation and weather data — underscore the importance of space assets as force multipliers, complementing and enhancing the capabilities of terrestrial forces.

As space technology and launch capability proliferate, the exploitation of space will become an option for many countries which have hitherto not been a part of the group of space-faring nations. Nations can gain access to space by developing indigenous capabilities, by joining with other nations in co-development programs, or by merely purchasing space services from other countries or commercial consortia.

The potential use of these space capabilities by adversaries in future conflicts makes it vital that the United States maintain its technological edge in space. To do so, the United States must continue to pursue an aggressive and innovative program of research, development, and acquisition of space systems, taking advantage of long-standing U.S. technical strengths, emphasizing the deployment of sophisticated capabilities, and mitigating the effects imposed upon them by the space environment. These space systems and capabilities must be focused to support the worldwide tactical operations of ground, sea, and air forces. U.S. technological and operational leadership in space is not only essential to the overall national security, but indeed underpins the Nation's ability to maintain an effective global posture with the smaller Base Force, to remain competitive in the growing international space market, and to lend critical assistance to threatened allies even when the commitment of U.S. forces is not possible.

National Space Policy and National Security

The President established the National Space Council in April 1989 to provide a coordinated process for developing national space policy and for monitoring its implementation. Acting upon the advice of the National Security Council and the National Space Council, the President has issued a series of national space policy and national security directives to formulate and promulgate national space policy across all three space sectors: national security, civil, and commercial.

National space policy states that the United States will conduct those activities in space that are necessary to national defense. Space activities will contribute to national security objectives by:

- Deterring or, if necessary, defending against enemy attack;
- Assuring that forces of hostile nations cannot prevent our own use of space;
- Negating, if necessary, hostile space systems; and
- Enhancing operations of U.S. and allied forces.

DETECTING OR DEFENDING AGAINST ENEMY ATTACK

Ballistic missile proliferation poses a serious threat to the United States and its allies, and space systems hold great potential for protection against that growing threat.

Spaceborne systems are essential to the ballistic missile defense of the United States and its forces abroad. As our first line of defense, the Air Force is developing the Follow-on Early Warning System (FEWS) for the Department to replace the Defense Support Program. These programs provide worldwide space-based surveillance of ballistic missile launches. FEWS will afford greater coverage than DSP and provide improved detection, especially of low-intensity, short-burning missiles such as the Scud. The fact that there will be no overseas FEWS ground stations will mean lower operating costs than DSP. The first FEWS

satellite is scheduled for launch early in the next decade, and a four-year transition period from DSP to FEWS is anticipated.

For active defense against limited ballistic missile strikes, the Department continues to pursue the GPALS concept. The GPALS architecture consists of:

- Space and surface-based sensors capable of providing global, continuous surveillance and tracking — from launch to intercept or impact — of ballistic missiles of all ranges;
- Spaceborne, airborne, and surface-based interceptors capable of providing high-confidence, continuous, global interdiction of ballistic missiles of all ranges; and
- A command center infrastructure which supports the centralized command and decentralized execution of the ballistic missile defense system while maintaining human control of the system at all times.

National space assets can also be used to tactical advantage in the defense of U.S. forces against enemy attack. The Tactical Exploitation of National Capability (TENCAP) program exploits selected national space systems to provide tactical support to combat commanders at all echelons. Mobile TENCAP units can receive, process, and disseminate time-sensitive intelligence to operational commanders. TENCAP was key to military intelligence operations in both Operations JUST CAUSE and DESERT SHIELD/STORM. The Army alone deployed over 20 systems during the latter to provide critical information to support target development, battlefield intelligence, and mission execution for Coalition forces. All four Services have become heavily reliant on TENCAP and will be even more so in the future.

Space-based reconnaissance, surveillance, and intelligence systems are essential to both the deterrence of and defense against hostile attack. The National Reconnaissance Office (NRO) is a combined activity of DoD and the Central Intelligence Agency, organized as a DoD agency and funded through the National Reconnaissance Program, which is the single, national program to manage U.S. government intelligence collection from spaceborne and assigned airborne reconnaissance. The NRO's mission is to ensure that the

United States has the technology and spaceborne and airborne assets needed to acquire intelligence worldwide, including to support such functions as monitoring arms control agreements, indications and warning, and the planning and conducting of military operations. The NRO accomplishes its mission through R&D, acquisition, and operation of spaceborne and airborne data collection systems.

ASSURED USE OF SPACE

Assuring that forces hostile to the United States cannot prevent our own use of space demands a variety of systems which are versatile, reliable, responsive, and robust. A prerequisite to the operation of any space system is the ability to reliably place it on orbit, and DoD is able to call upon a proven fleet of expendable launch vehicles (ELVs) for this capability. FY 1992 saw a dozen launches of DoD payloads aboard Atlas, Delta, and Titan ELVs, from both Cape Canaveral and Vandenberg Air Force Base, with a launch success rate of 100 percent. Table 18 presents the performance of representative U.S. launch vehicles, including the new Titan IV and the Space Shuttle.

Interest in the potential of rapidly launching small payloads on short notice has led to the development of

Representative U.S. Launch Systems

Table 18

| | Performance (Lbs to 28.5°/100 nm) |
|---------------------------------------|--------------------------------------|
| Pegasus | 800 |
| Titan II | 4,200 ^a |
| Delta II | 11,100 |
| Atlas II | 14,500 |
| Titan IV (without SRMU ^b) | 39,000 |
| Titan IV (with SRMU ^b) | 49,500 |
| Space Shuttle | 51,000 |

^a This Titan II performance figure is for a 100 nm polar orbit.

^b Solid Rocket Motor Upgrade

the Taurus Standard Small Launch Vehicle. Taurus, capable of placing 1,900 pounds into a 400-nautical-mile polar orbit, will have its first launch in 1993. Taurus presages a capability to tailor and launch tactical payloads to meet time-critical needs of warfighting commanders-in-chief (CINCs). Sensors designed to support specific mission requirements, launched into orbits which optimize their tactical utility can significantly enhance space support to the warfighter.

NEGATING HOSTILE SPACE SYSTEMS

Space control consists of those operations conducted to ensure freedom of action in space for the United States and its allies, while denying adversaries such freedom of action. It includes protection of U.S. space systems, negation of enemy space systems (which can include terrestrial elements of those systems), and the necessary supporting surveillance. An important element of space control is an antisatellite (ASAT) capability which allows physical damage to be inflicted upon enemy satellites.

The Army's Kinetic Energy ASAT (KE ASAT) program was originally formulated in response to Soviet military space capabilities. KE ASAT would comprise a three-stage missile launched from a fixed site, while targeting would be provided by the space surveillance network. The program is currently funded only through FY 1993. In response to the rapid proliferation of potential military space capability to many other nations, the requirements for KE ASAT are being updated and appropriate restructuring of the program is under consideration. In addition, a directed energy ASAT contingency capability currently exists at the Tri-Service High Energy Laser System Test Facility at the White Sands Missile Range.

The potential threat posed by the rapid proliferation of space technology and launch capability, coupled with the wide range of space services which can be purchased on the world market by potential adversaries, make capabilities to negate hostile space systems crucial to defense of the United States and its allies.

ENHANCING OPERATIONS OF U.S. AND ALLIED FORCES

To achieve its goal of enhancing the operations of

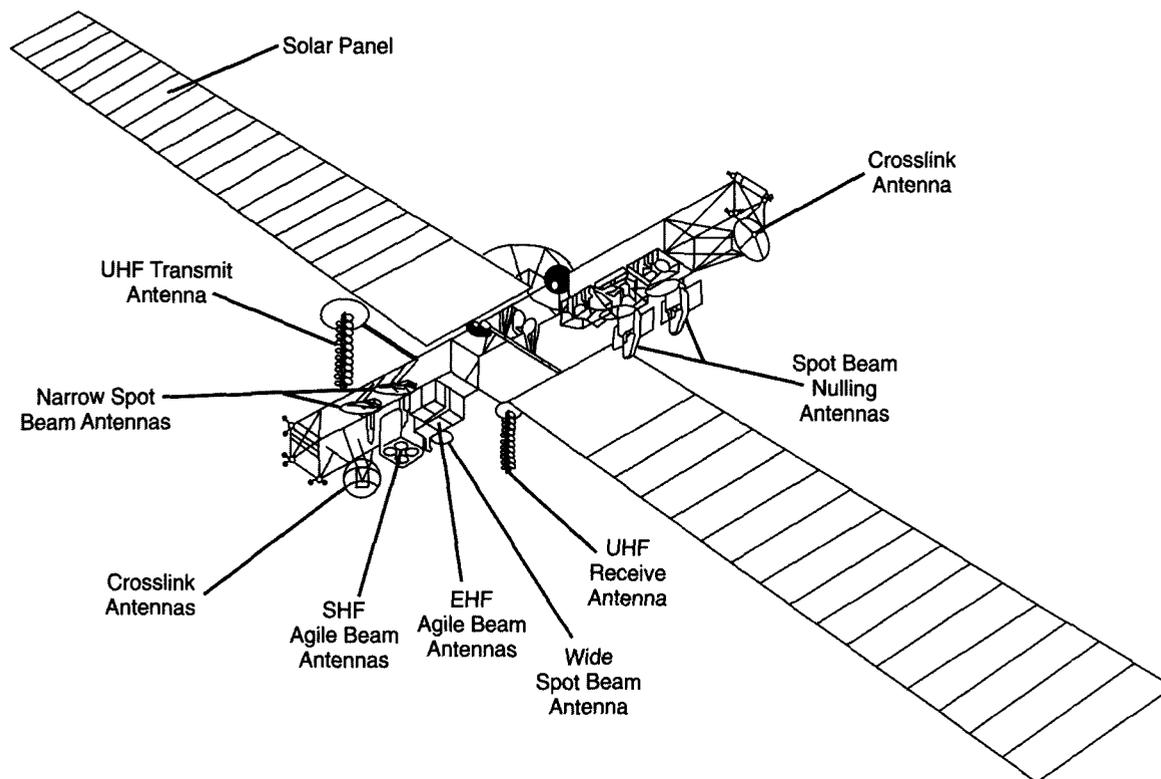
U.S. and allied forces, DoD has developed and deployed a variety of systems which exploit the many natural attributes of space. This concept of using space as a force multiplier has been employed with great success in response to regional conflicts, and will be equally critical to a smaller, contingency-oriented force structure. DoD space systems have been deployed to detect the launch of hostile missiles; collect intelligence; provide C³ to deployed forces; enable aircraft, ships, and ground forces to navigate with great accuracy; and gather meteorological data worldwide.

Robust and surviving C³ — in the face of enemy action — is a primary contributor to force enhancement. The centerpiece of our C³ architecture is the joint-Service Milstar satellite communications program. Scheduled for its first operational launch in 1993, Milstar will provide assured and secure command links between the National Command Authorities (NCA) and the unified and specified CINCs around the world through all levels of conflict. Additionally, it will provide forward-deployed tactical forces with secure, survivable communications which cannot be exploited by an enemy. In short, Milstar will serve as the DoD's core C³ component for combat forces in hostile environments. Each state-of-the-art Milstar satellite has a powerful on-board computer which manages user services and, through crosslinks to other Milstar satellites, ensures connectivity worldwide. Multiple antennas provide wide-beam earth coverage, narrow spot beams for special users, and spot beams with nulling to defeat enemy jammers. The recently restructured Milstar program calls for a constellation of four satellites affording midlatitude coverage to users. A medium-data-rate payload for voice and data communications will be added to the third and subsequent satellites to enhance tactical utility and provide the necessary range extension to tactical forces. A polar adjunct for high-latitude coverage is under study. Prototype Milstar user terminals and on-orbit Milstar test payloads provided the most robust command link between the U.S. Central Command and the NCA during Operation DESERT STORM. The Milstar satellite with its antenna suite is depicted in Chart 9.

Navigation underlies every mission and operation of military forces worldwide. The Department's GPS provides navigation information to air, sea, land, and space forces with precision achievable only from space. Calling upon accurate mathematical models of

The Milstar Satellite

Chart 9



the Earth and triangulation data from four or more GPS satellites, a GPS receiver computes its precise position and velocity, anywhere on or above the globe, around the clock. Precise time is available to the user as a by-product. GPS supports rapid deployment of forces, weapons launch and guidance, intelligence and surveillance operations, over-the-horizon targeting, mine sweeping, and a host of other missions. GPS was largely responsible for the swiftness and precision with which U.S. forces maneuvered in the featureless Iraqi desert during Operation DESERT STORM. Based on that experience, DoD has accelerated its commitment to incorporating GPS into all phases of U.S. military operations. The 17th GPS satellite launch occurred in December 1992, bringing the system a step closer to its 21-satellite initial operational capability, scheduled for 1993. Full operational capability will be achieved in 1995. Full-rate production has been approved for GPS user sets, which will ultimately number some 75,000 throughout the Department.

At the same time, DoD is working closely with the Department of Transportation and other government agencies to assure the maximum civil use of GPS signals, without jeopardizing the system's military utility or encouraging its exploitation by hostile forces. This collective effort has produced a national resource and represents a critical U.S. leadership role in the International Civil Aviation Organization (ICAO). Offering significant improvements to international aviation management and the worldwide transportation infrastructure, GPS allows greatly improved commercial aviation access to world markets. Additionally, military aircraft will realize expanded freedom of navigation, not only from burdensome regulatory requirements, but also from limitations inherent in ground-based equipment. A highly effective partnership between DoD and the Federal Aviation Administration (FAA) has resulted in substantive progress toward development of the ICAO Global Navigation Satellite System (GNSS). The GNSS concept is highly dependent on GPS and contemplates a greatly simplified, continuous,

all-weather, worldwide, and seamless air traffic management and surveillance system. The implementation of an operational satellite navigation system will solve significant capacity and utilization problems in the domestic national airspace system. In addition, DoD and FAA have projected termination of terrestrial navigation systems such as LORAN, OMEGA, and TACAN, which will result in significant cost savings through the elimination of redundant systems.

National Space Policy and DoD Cooperation

In addition to formulating and promulgating national space policy, the National Space Council provides a policy oversight and strategy forum for the U.S. civil, military, and commercial space program, ensuring it remains consistently focused on national goals. To accomplish this mission, the council has identified five key elements of national space policy:

- Developing as a national resource, space-launch capability and infrastructure which are not only affordable and reliable but provide the United States with assured access to space;
- Opening the frontiers of space through manned and unmanned exploration;
- Using space to solve problems on Earth, including arms control treaty verification; military command, control, communications, and intelligence; navigation; meteorology; remote sensing; and other functions vital to national interests and security;
- Generating economic well being through new technologies, processes, products, facilities, and services; and
- Ensuring freedom to use space for exploration and development by developing capabilities to monitor space objects and actions, detect and protect U.S. space assets from hostile action, and actively deny the use of space assets by adversaries.

DoD cooperates in interagency activities in each element of national space policy.

DEVELOPING A NATIONAL LAUNCH CAPABILITY AND INFRASTRUCTURE

Beginning with the U.S. Army's post-World War II development of the Redstone rocket, the Depart-

ment of Defense has been a driving force in the development of national launch vehicles and systems. However, these vehicles are aging and, except for the Space Shuttle, are not reusable. DoD's expendable launch vehicles grew out of early rocket and missile programs, and even the Space Shuttle, for all of its capability, was designed in the 1970s. Similarly, improvements in associated test, mating, and launch equipment are needed. Commercial versions of our aging launch systems today face intense competition from those of Russia, Europe, China, and Japan. Furthermore, despite major advances, space launch is a risky and expensive business, and launch vehicle configurations are largely driven by payload.

In 1992, DoD and the National Aeronautics and Space Administration (NASA) joined forces to conceive and propose development of the National Launch System (NLS) to improve the national launch capability, reduce operating costs, increase launch reliability and responsiveness, and improve overall space mission performance. The DoD portion of the NLS program has been terminated. The Department, nonetheless, continues planning for a next-generation family of expendable launch vehicles to achieve the required high reliability, standardization, operational orientation, and low-cost attributes of NLS. Although early in the planning stage, an Air Force managed and funded program is anticipated, with NASA assistance in the development of the propulsion systems which would be common to all launch vehicle configurations. Initial emphasis would be on a medium-class launch vehicle, allowing for a growth path toward a heavy-class vehicle in the 50,000 pound to low-earth orbit range. New facilities at Cape Canaveral Air Force Station and Vandenberg Air Force Base will be constructed and infrastructure improvements will continue.

OPENING THE FRONTIERS OF SPACE

The Space Exploration Initiative established the national long-term goals of returning to the Moon and exploring Mars. In addition, both the President and Congress have expressed their support for Space Station Freedom as an enduring presence in space. The Department of Defense regards Space Station Freedom as a national resource, dedicated primarily to civil space activities, but available to DoD in

accordance with national priorities and international commitments.

USING SPACE TO SOLVE PROBLEMS ON EARTH

Initially viewed as an object of study and exploration, space has increasingly become a vantage point from which to study and understand Earth. Perched in space, sensors and instruments can continually monitor ecological, environmental, and politico-military problems affecting the United States and its allies.

As an example, the Landsat program has consecutively placed five remote sensing satellites in orbit to monitor and survey the earth, contributing to scientific efforts in the fields of agriculture, forestry, water resources, land use, marine resources, geology, and cartography. Landsat remote Earth sensing/multispectral imagery data proved enormously valuable during Operation DESERT STORM. The program has benefited a wide spectrum of users including DoD, the private sector, the global change research community, and a variety of government agencies. In response to the President's National Space Policy Directive 5, *Landsat Remote Sensing Strategy*, dated February 1992, NASA and DoD agreed to cooperate in the continuation of Landsat. Based upon their documented needs for space-based, multispectral imagery, NASA and DoD mutually agreed to a management plan for the development and acquisition of Landsat 7, which will support a variety of defense missions and operations: planning and current operations; intelligence, including foreign science and technology assessment; hydrography; mapping; treaty compliance monitoring; nuclear proliferation; counterterrorism; and counter-drug activities. Landsat 7 will provide DoD with high-quality multispectral data through the year 2002. It is essential that this valuable multispectral imagery capability remain available to support our forces.

The Navy's Geosat Follow-On (GFO) satellite reflects DoD's interest in accomplishing complex missions with small, high technology satellites. GFO will provide Navy users at sea and ashore with real-time ocean topographical data such as wave heights, currents, and fronts. The data will also be made available to scientific and commercial users through the National Oceanic and Atmospheric Administration. The new GFO satellite, scheduled for launch in 1995, will weigh only 660 pounds,

carry a passive radiometer and pulse radar altimeter, and determine its precise position in space from GPS. The GFO satellite, which will be the first payload launched on a lofted trajectory from a Pegasus air-launched booster, is depicted in Chart 10.

GENERATING ECONOMIC WELL BEING THROUGH SPACE TECHNOLOGY

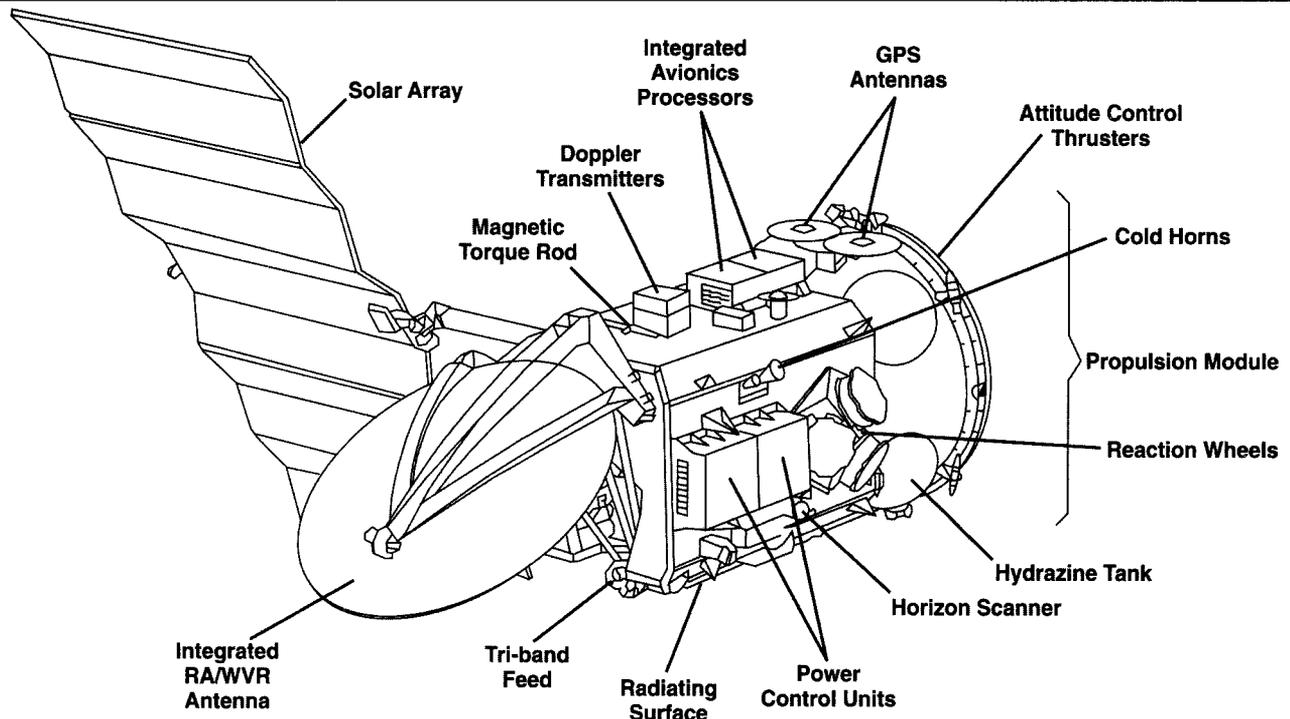
Since the inception of the space program, DoD has been the largest purchaser of space products and services in the United States. Although DoD does not undertake space programs solely to achieve economic ends, it does comply with national policy and legislation aimed at securing the industrial base and encouraging civil participation in the achievement of national goals and objectives. Thus, DoD space policy tasks the Department with:

- Aggressively conducting research and technology development, in cooperation with other research organizations, to preserve and enhance a strong technology base;
- Emphasizing leadership in technology areas having the greatest potential to advance military space capabilities beneficial to the national security;
- Encouraging innovation to increase capability and reduce cost;
- Encouraging private sector technology development in connection with commercial exploitation of space and endeavoring to use products and procedures developed by commercial space enterprises; and
- In cooperation with other agencies, protecting against transfer of space technologies if such transfer were detrimental to the national security interests of the United States.

Progress toward the objective of encouraging commercial exploitation of space is perhaps best illustrated by the very successful commercial space-launch program under which DoD is tasked to facilitate commercial launches on a noninterference, cost-reimbursable basis. This effort includes allowing U.S. companies to utilize DoD launch facilities and infrastructure, providing DoD launch support services for commercial launches, and permitting the launch of DoD payloads by commercial launch vehicles provided that DoD and national security requirements are met. Some notable

Geosat Follow-on (GFO) Satellite

Chart 10



achievements in the commercial space launch initiative include:

- Navy plans to launch its UHF Follow-On satellites with commercial Atlas launch vehicles;
- Army support to NASA's Advanced Communications Technology Satellite designed to spur commercial interest in wideband communications;
- Air Force and the Defense Advanced Research Projects Agency (DARPA) are transferring technology to the private sector in support of the commercial Delta II program; and
- Air Force range personnel are supporting eight commercial space launches in FY 1992.

Conclusion

The United States is critically dependent upon space in the defense and pursuit of its national interests. Satellites provided real-time television coverage of the coup in the former Soviet Union to U.S. viewers, enabled U.S. troops to navigate in the featureless Iraqi desert, and detected and reported the launch of

Scud missiles before they reached targets in Israel and Saudi Arabia. The increasing complexity of the international environment, coupled with the ever quickening pace of scientific and technological advancement, will only intensify the role of space systems and forces in the national defense.

Commensurate advances in civil and commercial space capabilities can be anticipated in areas of interest to DoD. This confluence of interest has led to the formulation and promulgation of national space policy with an eye to achieving significant levels of cooperation and coordination among space activities in DoD and the civil and private sectors. In turn, DoD space policy and programs reflect this increasing synergism, forming segments of larger national efforts. The potential benefits to DoD are space forces which are more capable, responsive, and reliable — and less costly.

DoD space policy supports and amplifies national space policy. Like land, sea, and air, space is recognized as a medium in which military operations can be conducted in support of national security. It is a

medium in which U.S. forces can execute the functions of space support, force enhancement, space control, and force application. It is a medium which is continuous, global, and nearly limitless in its potential for exploitation.

As the United States commits to force reductions and restructuring in response to a new strategic environment, space systems will become increasingly important to the national defense. In time of conflict, these systems represent the first forces on the scene, the principal conduit of information to the National

Command Authorities and the combatant forces, and a vitally important technological force multiplier. The Department must look ahead to new and upgraded systems which better serve the requirements of operational commanders. To surrender U.S. technological and operational leadership in space would make it impossible for the United States to exert global influence in the defense of national interests. For these reasons, space forces will continue to be integral and essential to DoD strategic and tactical operations worldwide.

MOBILITY FORCES

Mobility forces — airlift, sealift, and prepositioning — allow the United States to respond rapidly to crises. Whether our Nation is called on to defend its security interests or to assist humanitarian or peacekeeping efforts, the ability to deploy forces quickly and in adequate strength is critical to America's leadership role in the post-Cold War world. In 1992, the President expanded the mission of the U.S. Transportation Command (TRANSCOM) to include both the wartime and peacetime transportation needs of the armed forces. This expansion laid the institutional foundation for strengthening DoD's mobility capability.

Mobility Missions in a Changing World

Mobility forces are increasingly important for two reasons. First, U.S. forces must prepare today for a wider range of contingencies, in more diverse regions of the world, than they did before. During the Cold War years, when the Soviet threat drove defense planning, the United States prepared for relatively large deployments to known locations. Today, because of the uncertainty about where U.S. combat forces might be sent and how quickly they might be needed, mobility is key to the rapid and effective employment of military power. Second, a greater portion of U.S. forces will be based on American soil in the future. Hence, our Nation must be able to reach out to trouble spots from the troops' home bases.

Mobility forces contribute significantly to the U.S. ability to meet diverse responsibilities in the post-Cold War world. These forces provide the following capabilities:

- **Forward Presence.** The combat equipment and supplies that the United States stores around the world, as part of its prepositioning programs, contribute to forward presence and enhance our ability to deploy combat forces rapidly in crisis. The personnel and additional materiel needed to turn these prepositioned assets into readily available combat power are airlifted to operating locations when crises arise. In this way, prepositioning allows the United States
- to meet its security commitments while minimizing its peacetime deployments abroad.
- **Crisis Response.** Mobility forces allow combat and support forces to be delivered to a variety of locations. Different mixes of mobility systems are employed, depending on the needs of a given operation. For contingencies that require rapid deployment of only light combat forces, airlift alone may be sufficient. This was the case in Operation JUST CAUSE in Panama in 1989. For larger operations, such as Operation DESERT SHIELD/STORM, where heavy forces must also be deployed, sealift and prepositioning are used along with airlift.
- **Reconstitution.** The world would have to change significantly from what it is today and from what we expect it to be at the beginning of the 21st century for reconstitution of U.S. combat forces to be necessary. Such a change, were it to occur, would drive the Department to reevaluate the adequacy of its planned mobility assets. If a larger sealift force were required, additional capacity could be obtained relatively quickly from ships provided by U.S. allies — the same approach used during the Cold War. It would take longer to generate significantly more airlift capacity, as the types of aircraft used to move military equipment are not available in the commercial sector.
- **Humanitarian Operations.** Mobility forces have delivered food, medical supplies, and other provisions to the war-ravaged people in Somalia and Bosnia-Herzegovina as well as to volcano and earthquake victims in the Philippines and the former Soviet Republic of Georgia. A total of 11,300 short tons of emergency relief supplies was delivered outside the United States in 1992. U.S. mobility forces also contributed to large-scale disaster relief efforts in the United States after Hurricanes Andrew and Iniki and in Guam following Typhoon Omar, transporting 25,000 short tons of emergency materials. The military is uniquely equipped to provide this kind of rapid, large-scale aid, and it will continue to play

an active role in humanitarian operations in the years ahead.

Mobility Force Goals

Looking at the possible threats the United States might face in the post-Cold War world, the Department has developed a set of force deployment objectives. These objectives reflect the deployment demands of major regional crises as well as of smaller contingencies. For a major crisis, the goal would be to deliver forces in the following order:

- **Initial Forces.** The first deliveries would include light Army and Marine elements, several fighter aircraft squadrons, and one or more carrier battle groups. These forces, arriving in a matter of days, would provide an initial response and secure airfields and seaports.
- **Other Early-Arriving Forces.** Next to arrive would be one or more MEBs, at least one heavy Army brigade, plus additional fighter squadrons and carrier battle groups. All of these forces could be delivered within the first several weeks. With their arrival, the units in the theater could defend ports and assembly areas against threats, including armored assaults. The Army and Marine brigades would provide ground combat power, while the air forces would protect against enemy air threats and conduct combat operations.
- **Additional Ground Forces.** The remainder of a heavy Army corps and a MEF would be delivered within the first six weeks. At this point, the cumulative combat forces in the region should be able to stabilize the conflict until additional forces arrive.
- **Remaining Forces.** The combat and support forces needed to mount a counterattack would be delivered as quickly as possible thereafter. The ultimate size of the force would depend on the threat, the political and military objectives being pursued, and how the theater commander planned to fight.

Today's Mobility Forces

Mobility forces consist of a mix of military and commercial aircraft and ships, augmented by land- and sea-based prepositioning programs. The contribution of each element varies depending on whether the

forces are operating at peacetime, crisis, or wartime levels.

AIRLIFT

Today's airlift system, when fully mobilized, provides about 50 million ton-miles per day of cargo capacity and about 150 million miles of capacity per day for moving people. Commercial aircraft contribute about 35 percent of the cargo capacity and about 95 percent of the passenger capacity. Military aircraft provide the remainder.

Commercial aircraft are best suited for moving personnel and smaller, packaged cargo (referred to as bulk cargo). Planes enrolled in the Civil Reserve Air Fleet (CRAF) would provide this capability in a military emergency. The CRAF program is activated in three stages. Stage I provides about 25 percent of the total CRAF contribution for cargo and over 10 percent of the CRAF contribution for personnel. Stage II provides an additional 30 percent for cargo, an additional 25 percent for personnel, and 13 aircraft for medical evacuation. All three stages are activated by CINTRANS, with the approval of the Secretary of Defense.

During a major crisis, the activation of CRAF Stages I and II would greatly speed the deployment of early-arriving land and air units. With CRAF augmentation, passenger delivery rates would improve by 40 percent, allowing troop arrivals to keep pace with cargo deliveries.

Military transport aircraft can move the full range of combat equipment as well as conduct special types of operations, such as airdrops and aerial refueling. Approximately half of the crews assigned to active airlift aircraft come from the reserve component. In a crisis or war, the Air National Guard and Air Force Reserve would provide additional aircraft and crews to augment the active fleet.

SEALIFT

Like airlift, sealift capacity comes from both military and commercial sources. Today's force, excluding prepositioning vessels and assuming full augmentation by commercial ships, provides about 12 million square feet of capacity for unit equipment and over 2 million

short tons of capacity for supplies. This is sufficient to move the unit equipment of about three divisions (plus their support) and about 30 days of supplies in a single sailing. Commercial ships provide about 35 percent of the total capacity for unit equipment and about 80 percent of the capacity for supplies. Military ships provide the remainder.

Military sealift programs are structured to complement the capability available in the commercial fleet. With containerships carrying an increasing portion of commercial cargo, DoD is adapting its plans to take advantage of the efficiencies these vessels provide. Most military supplies, including a substantial portion of ammunition, can be shipped in containers, as can some unit equipment — for example, tents, tool sets, and radios. Larger items of equipment — such as tanks, artillery pieces, and personnel carriers — that will not fit into containers must be moved on modified containerships or other vessels. Roll-on/roll-off (RO/RO) ships are the most efficient for these larger cargoes. These ships can be loaded and unloaded relatively quickly in areas with modern port facilities. Breakbulk ships equipped with cranes for unloading cargo are preferable for deployments to less developed regions.

While there are still RO/RO and breakbulk ships in commercial service, many of these vessels are no longer economically viable in a trade dominated by containerships. Some of the ships retired from commercial service still have useful life and can be employed effectively in military operations. Eight such ships were purchased in the early 1980s and today serve as Fast Sealift Ships. These vessels are augmented by the 97-ship Ready Reserve Force (RRF), which is managed by the Maritime Administration within the Department of Transportation. The RRF includes RO/RO and breakbulk ships as well as tankers and crane ships — all of which provide surge capability for major operations. On their second and subsequent voyages, these vessels would contribute to sustainment by delivering additional supplies and ammunition.

During a deployment, cargoes would be matched to the ships best suited to carry them. For the early-deploying elements of a heavy Army corps and a MEF, military RO/RO ships maintained in a high readiness status would be used. Supplies and ammunition would be sent on commercial and RRF ships. The remaining

combat and support equipment would be transported on both commercial ships and lower-readiness ships in the RRF.

During a major crisis, today's fleet — with full augmentation by commercial vessels — could deliver, in a single sailing, all of the combat and support forces associated with the four deployment objectives identified earlier, but not as quickly as required. Moreover, if the commercial fleet continues to shrink at the rate currently projected, additional capacity — in addition to improved speed — will be called for by the beginning of the next century.

PREPOSITIONING

To speed the deployment of forces in a crisis, the United States prepositions military equipment and supplies abroad, both on land and at sea. Land-based prepositioning facilities provide storage space for about 8 million square feet of unit equipment and almost 225,000 short tons of supplies. The prepositioned materiel includes unit equipment for selected combat and support elements of three Army divisions, plus an armored cavalry regiment in central Europe; sufficient supplies for a heavy Army corps in Europe to perform a variety of missions until additional materiel arrives by sea; combat equipment and supplies for a MEB in Norway; and support equipment and initial supplies for 750 aircraft in Southwest Asia.

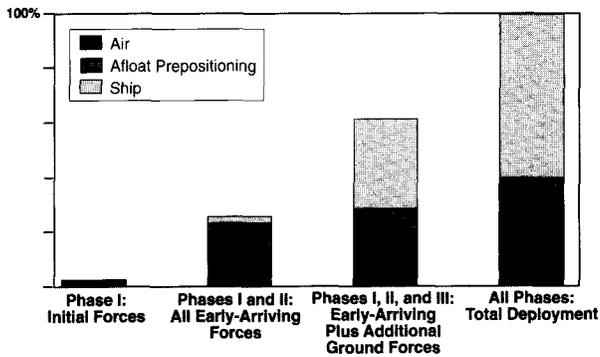
Sea-based assets — on maritime prepositioning ships and Afloat Prepositioning Force ships — provide an additional 1.8 million square feet of storage for unit equipment. These vessels also carry 350,000 short tons of supplies. The material prepositioned afloat is sufficient to equip three MEBs (one each in the Atlantic, Pacific, and Indian Oceans) and to supply some early-arriving Army and Air Force units. The sustainment package is designed to allow a force, deployed by air, to operate for a period of up to 30 days. The package also contains equipment needed to unload ships in areas lacking port facilities (logistics over the shore, or LOTS, systems). The afloat prepositioning ships, like some of the other vessels used for crisis response and rapid reinforcement, are chartered from the U.S. commercial fleet.

Chart 11 shows how airlift, sealift, and prepositioning combine to meet the deployment objectives of

Arrival of Unit Equipment by Delivery Mode

Chart 11

(Cumulative Deliveries Over Time)



NOTE: The majority of personnel would deploy by air.

a major contingency. The chart tracks the arrival of unit equipment by delivery mode. Note that the equipment of the initial forces is delivered entirely by air, with afloat prepositioning — combined with airlift — providing much of the equipment for other early-arriving forces. As the deployment proceeds, sealift delivers an increasing proportion of cargoes. Over the course of the operation, the majority of the material (60 percent by weight) is transported by sea, with air deliveries accounting for approximately 25 percent of the total. In addition, almost all ammunition and resupply moves by sea.

Modernizing to Meet Future Challenges

Today's mobility forces have proven to be effective in the new security environment. In Operation DESERT SHIELD/STORM, U.S. airlift forces, combined with afloat prepositioning, delivered the light forces, fighter squadrons, and MEBs needed for an initial response. Airlift and sealift delivered the remaining combat and support forces and supplies.

Future contingencies may not allow as much time to deploy forces as we had in Operation DESERT SHIELD/STORM. Improvements in each mobility component — and particularly in sealift and afloat prepositioning — will be needed if we are to meet more stringent deployment demands. The FY 1994-99 program provides the enhancements required to achieve our future deployment objectives. Key aspects

of the program are summarized in Table 19 and are discussed in more detail below.

AIRLIFT

The airlift program replaces the aging C-141 fleet, while maintaining cargo capacity at approximately today's level through the end of the century. The program also improves our ability to operate in areas with limited airfield capacity. Again last year, in response to congressional direction, the Department evaluated alternative approaches for meeting future airlift requirements. In conducting this analysis, it took into account real-world constraints at airfields en route to and in potential theaters of operation. In this context, the C-17 was again shown to be the most cost-effective modernization option. Accordingly, the budget request includes funds for 8 C-17 aircraft in FY 1994 and 12 in FY 1995, toward a six-year procurement goal of 79.

SEALIFT

The sealift program completes an initiative begun in FY 1993 to increase cargo capacity in the government-controlled fleet by 5.2 million square feet. Including the acquisitions funded last year, it adds 11 RO/RO ships to the DoD-controlled fleet and 19 RO/ROs to the RRF. The new RRF ships will be maintained in a status that enables them to be ready to sail within five days of a mobilization order. The new DoD-controlled ships could be readied for loading within four days. These latter vessels, combined with the eight fast sealift ships acquired in prior years, will give the Department the capability — almost immediately upon request — to ship two heavy Army divisions to any point in the world within 30 to 45 days. Together, the expanded surge and RRF fleets will enable the Department to achieve its sealift objectives for a major crisis.

To exploit the full potential of the expanded fleets, we must ensure that cargoes can be moved rapidly to ports when crises arise. Under the Strategic Mobility Program, the Army is taking steps to improve equipment delivery and loading times. The program includes procurement of additional rail cars and containers that will be stored at various CONUS bases, improvement of the infrastructure for loading equipment at these installations and at ports, and expansion of deployment training.

**Key Mobility Modernization Programs:
FY 1992-95 Planned (Dollars in Millions)**

Table 19

| | FY 1992 Actual | FY 1993 Budgeted | FY 1994 Planned | FY 1995 Planned | Year Procurement Objective Will Be Reached (At Current Rate) |
|--|-------------------|---------------------|--------------------|--------------------|--|
| Air Force: C-17 Aircraft | | | | | |
| Funding ^a | 2,260 | 2,300 | 3,200 | 4,200 | 2001 |
| Quantity | 4 | 6 | 8 | 12 | |
| Navy: Sealift and Afloat Prepositioning | | | | | |
| Funding | | 2,690 | | 820 | |
| Quantity ^b | | | | | |
| New Ships | | 2 | | 2 | 1999 |
| Converted Ships | | 7 ^c | | | 1993 |

NOTE: Excludes RRF acquisitions, which are funded by the Department of Transportation.

^aIncludes procurement, initial spares, R&D, and military construction.

^bNotional procurement profile — the numbers of new ships and conversions may change when final costs are obtained later in 1993.

^cUp to seven ships, depending on market conditions and complying with the congressional limit of five foreign ship conversions.

PREPOSITIONING

The FY 1994-99 program maintains land-based prepositioning capacity at today's level. It completes an initiative, also begun in FY 1993, to increase ship-based prepositioning capacity by 2 million square feet for unit equipment and by 50,000 short tons for resupply and ammunition. The sea-based portion of the program will provide — in addition to the equipment and supplies currently maintained for three MEBs and early-arriving Army and Air Force units — initial equipment for at least a heavy brigade and support units. The program includes funds to charter two additional containerships to carry resupply and ammunition for the prepositioned heavy forces. This level of sustainment would allow the prepositioned heavy brigade and the initial combat forces to engage in a variety of combat missions until additional supplies arrived by sea. Depending on the operating location, this could be for as much as four weeks. Further, the ship-based supplies could support the first heavy combat forces arriving by sea.

The additional afloat prepositioning ships will be procured as part of a larger program that also includes sealift vessels. About 20 ships will be acquired for both sealift and afloat prepositioning. Both ship con-

versions and new-construction programs will be pursued. We expect to build 13 new ships, the exact number depending on the availability of ships for conversion and on congressionally-imposed conversion limits. Implementation of the National Defense Sealift Fund will strengthen the Department's sealift and afloat prepositioning capabilities over time by encouraging more effective management of transportation resources.

Conclusion

The dramatic success our Nation achieved in deploying a major combat force to Southwest Asia in Operation DESERT SHIELD/STORM demonstrated the wisdom of our past investments in mobility. To meet the potentially more stringent demands of future contingencies, we must enhance our ability to deliver forces rapidly to distant, and possibly less-developed, locations. This will require increases in some mobility systems — one of the few areas in which the force structure will grow. The added capability will ensure that our land, naval, and air forces can be employed to maximum advantage in any future contingencies that occur.

SPECIAL OPERATIONS FORCES

Introduction

The post-Cold War international environment presents the United States and its special operations forces with unprecedented security challenges. For the first time since the 1930s, no single world power confronts the United States with a well-defined threat. The collapse of communism did not remove all dangers to U.S. interests nor did it reduce the necessity for robust, versatile, and ready special operations forces. Diminished superpower competition appears to have unleashed many long-submerged ethnic, religious, and nationalist forces. Those lesser powers which seek to challenge the United States tend to be well financed and have many weapons from which to choose, including terrorism, insurgency, subversion, sabotage, and drug trafficking.

One unfortunate legacy of the Cold War era is the continuing trend toward global diffusion of military technology. Proliferation of weapons of mass destruction is particularly worrisome, and threatens to cast a shadow on U.S. conventional force operations during the coming decade as well as erode military stability in key regions. Efforts are under way to buttress nonproliferation measures such as international agreements, export controls, and sanctions. Should these preventive measures prove inadequate, contingency plans and forces must be available to deal with the threat as it emerges. SOF provide force options across the spectrum from clandestine operations to disrupt weapon development, to selective attacks on completed weapons, storage facilities, and command and control nodes.

Special Operations Forces and Defense Strategy

The regional defense strategy requires that the Nation maintain diverse, highly ready capabilities for addressing selectively a broad range of regional security problems that could threaten national interests. SOF have a role to play in each element of the strategy — particularly in forward presence and crisis response.

The regional defense strategy emphasizes forces with the agility to project power at short notice. In keeping with an environment of decreasing resources and growing uncertainty, two of its principles are the need for efficiency without compromising effectiveness and planning that provides decisionmakers with a menu of options that are readily adapted to the unforeseen and unexpected. SOF can contribute in both respects by reinforcing, augmenting, or supplementing conventional forces and by increasing the array of options available to decisionmakers.

Defining Appropriate Special Operations Forces Missions

Understanding the qualities that make SOF unique is critical to identifying how changes in the security environment and defense policy impact on SOF, and to evaluating the importance and appropriateness of missions and activities. It is important to estimate this value in terms of costs and benefits. In mid- to high-intensity conflict, special operations forces, like air power, armored and infantry divisions, or naval forces, are rarely decisive if used alone.

The value of any combatant arm of the military derives from the synergistic effect obtained from the balanced application of all the elements of national military power. In operations short of war, SOF have particular advantages, but their complexity demands the most careful planning. Unsuccessful special operations can tarnish our reputation for effective use of force and negate any potential political advantage. Some special operations can require years of patient, sustained effort to achieve even modest success.

Special Operations Forces in the Near-Term

Since SOF were never focused exclusively on the Soviet threat, they will require less restructuring than most of the defense community. There will be some change in mission emphasis, such as in meeting the evolving threat of chemical, nuclear, or biological weapons proliferation, but the core SOF missions will not change. Force structure will remain fairly constant,

with some small growth in active duty Civil Affairs (CA) and Psychological Operations (PSYOP) forces.

SOF are moving beyond jointness to become the most practiced of interagency military forces. Virtually all SOF activities are closely coordinated with other U.S. government agencies.

The SOF community will be guided by four themes during the decade of the 1990s:

- SOF must be better integrated with conventional forces in order to maximize their strategic value. SOF are a force multiplier for U.S. conventional forces, and when use of conventional forces is not acceptable, SOF provide decisionmakers with an expanded range of options. As the necessity of fighting smarter with fewer resources compels better integration of SOF and conventional forces, SOF must be incorporated into strategic planning, joint training, interagency exercises, and DoD educational curricula. In all these activities, SOF planners should strive to preserve the elements of autonomy necessary to encourage the innovative and unconventional approach that is so fundamental to successful special operations.
- SOF's strategic value derives from five broad mission areas, each requiring unit specialization. SOF perform foreign internal defense, special reconnaissance, direct action, counterterrorism, and unconventional warfare missions. SOF planners must ensure a balanced force structure to provide capabilities for all these missions.
- Future special operations missions and activities will require greater specialization in training and force structure. Requirements for SOF missions will increase as the sophistication of our adversaries grows. Linguistic, cultural, and political skills are growing in importance as the regional security environment becomes more complex.
- Particular care in planning is necessary to prevent tasking inappropriate missions for SOF. All special operations have key elements that distinguish them from conventional operations such as unorthodox approaches, unconventional training and equipment, uncommon political sensitivities, and unusual intelligence requirements. The utility of SOF

increasingly hinges upon individual discretion, political awareness, and discipline. All SOF preparation for missions must underscore the importance of political sensitivity and accountability.

Validated Requirements

Special operations C³ has made significant progress in joint and combined interoperability as well as the development of light and versatile equipment. Low Probability of Intercept/Detection radio, High Frequency Manpack radio, UHF TACSAT, SINCGARS, Milstar, and the UHF Position Locator radio system will enhance SOF operations. Although C³ interoperability programs and plans may have to be modified to account for regional differences, these enhancements will provide interoperable C³ not only to the unified Special Operations Command (USSOCOM), but also to the theater special operations commands.

Recent SOF training exercises and contingency operations validate the need for maintaining and enhancing a variety of individual and organizational capabilities and characteristics.

At the level of the individual special operator:

- Developing innovative mindsets and cutting edge military skills that push the limits of human and technological capability; and
- Expanding linguistic, social, and transcultural skills.

At the SOF organizational level:

- Assimilating new technologies that refine true interoperability with conventional forces and improve unconventional capabilities. SOF must constantly update tactics and techniques to keep pace with accelerating modernization;
- Forward presence of SOF to facilitate host-nation support for quick response to regional crisis situations; and
- Ensuring that SOF doctrine is kept abreast of the evolving international security environment. The global nature of SOF missions mandates joint operations, fully integrated to the lowest levels. The requirement to operate globally has profound

implications for the way forces are deployed, supplied, and extracted.

Special Operations Forces in Coalition Operations

With the downsizing of the U.S. military and a reduction in operating funds, as well as the general reluctance of foreign nations to accept unilateral U.S. action, it is necessary and appropriate to turn to coalition arrangements to accomplish specific objectives. Coalition operations in Operation DESERT STORM, humanitarian operations supporting the Kuwaitis and the Kurds in Iraq, and the peacekeeping and humanitarian relief activities in the former Yugoslavia and in Somalia are all examples of consensus building among nations, and organizing to solve broad arrays of international problems on a united front.

SOF are particularly well suited for making important contributions in the context of coalition warfare. One major SOF contribution to Operation DESERT STORM was to extend the command and control system from the Coalition headquarters to all national elements in the field. Special operations personnel with appropriate linguistic, cultural, and political training were assigned to each national command element where they operated communications and information processing equipment compatible with that at the headquarters. They provided command, control, and intelligence information to their host commanders, ensuring coherent, unified action before, during, and after hostilities.

Also in Operation DESERT SHIELD/STORM, PSYOP personnel played a critical role in encouraging desertion, defection, and surrender, thereby contributing significantly to the early termination of the conflict. Civil affairs personnel were especially key to the post-conflict consolidation and recovery operations in Kuwait and during Operation PROVIDE COMFORT.

Recent Operations

SOF are important in supporting general purpose forces in mid- and high-intensity conflicts, and are highly effective at the lower end of the conflict spectrum.

During the past year, SOF executed operations in the following five mission areas:

- Foreign Internal Defense (FID). One role of SOF is to train, advise, and assist host-nation military and paramilitary forces to assume responsibility for eliminating internal instability within their own countries. FID operations foster internal development of the economic, social, political, and military segments of a nation's structure.
- Special Reconnaissance (SR). SR complements national and theater intelligence collection systems by obtaining specific, well-defined, and time-sensitive information of strategic or operational significance. SR operations place U.S. or U.S.-controlled eyes on target in hostile, denied, or politically sensitive territory when authorized.
- Direct Action. In the conduct of direct action operations, SOF units may employ raid, ambush, or direct assault tactics. SOF may employ munitions and other devices; conduct standoff attacks by fire from ground, airborne, or maritime platforms; provide terminal guidance for precision-guided munitions; and conduct independent sabotage.
- Counterterrorism. The primary mission of SOF in this interagency activity is to apply highly specialized capabilities to preempt or resolve terrorist incidents abroad.
- Unconventional Warfare (UW). UW includes, but is not limited to, the interrelated fields of guerrilla warfare and other low-visibility, covert, or clandestine operations, as well as subversion, sabotage, intelligence collection, and escape and evasion.

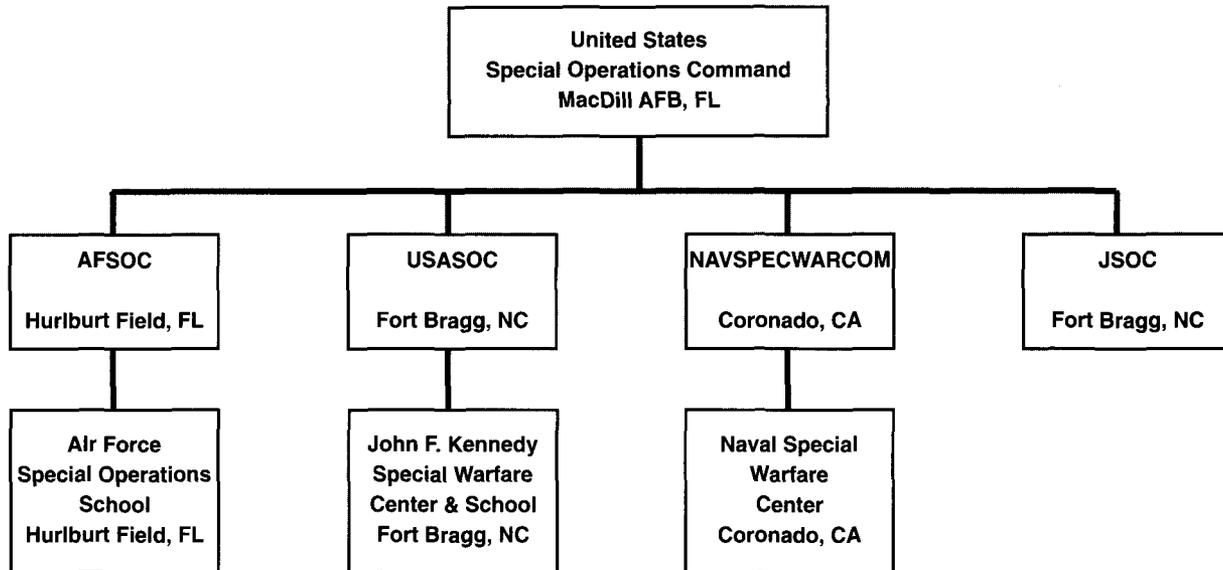
Additional assigned missions include psychological operations, CA activities, and collateral special operations such as security assistance and support to counterdrug activities.

The sensitivity of special operations precludes a specific discussion of most SOF activities in this report. However, examples of some recent operations include the following:

- During Operations DESERT CALM (October 1991-September 1992), INTRINSIC ACTION (August-September 1992), and SOUTHERN WATCH (on-

USSOCOM Components and Training Organizations

Chart 12



going since August 1992), SOF supported U.S. Central Command in Saudi Arabia and Kuwait. Additionally, elements of SOF provided specific assistance to the United Nations weapons and munitions (chemical, biological, and nuclear) inspection effort in Iraq.

- When the plight of the Kurdish refugees in northern Iraq compelled the international community to provide humanitarian assistance, SOF activities in Operations PROVIDE COMFORT I and II and POISED HAMMER (October 1991-September 1992) supported relief activities from Turkey and provided a capability for direct action missions if called upon. This support included distributing tons of food, water, and relief supplies, developing an automated system to manage relief efforts, and establishing local security to prevent harassment and intrusions. Similar relief is being provided in Somalia in Operation PROVIDE RELIEF/RESTORE HOPE (ongoing since August 1992).
- During Operation PROVIDE HOPE (April-September 1992), SOF provided humanitarian assistance to Russia and other new independent

states of the former Soviet Union.

- In the aftermath of typhoons in the Pacific, SOF assisted in the evacuation of Japanese and Korean nationals. During Operation BALM RESTORE (December 1991), they assisted in cyclone relief operations in American Samoa, and they supported Joint Task Force Eleuthera (September 1992) in the Caribbean with hurricane relief assistance in the Bahamas. Finally, during Operation PROVIDE PROMISE (July-September 1992), SOF assisted the U.N.-sponsored humanitarian effort in the former Yugoslavia.
- CA and PSYOP specialists have contributed significantly to Operations SOUTHERN WATCH in Iraq, RESTORE HOPE in Somalia, and in the U.S. effort at Guantanamo Naval Station, Cuba (November 1991-August 1992), helping to ensure the orderly organization and management of a large group of refugees.

In all of these activities, SOF participated with other U.S. and friendly forces in humanitarian assistance disaster relief activities.

Support to counterdrug operations occupied most of the SOF capabilities in South America. These deployments were in support of U.S. and host-nation objectives of the Andean Ridge Drug Strategy. In this effort, SOF trained host-nation police and armed forces dedicated to the counterdrug mission, primarily through exercises and mobile training teams. SOF teams conducted 204 counterdrug missions in support of the Drug Enforcement Administration, the U.S. Information Agency, and the State Department's Narcotics Assistance Staff.

The most telling benchmark for indicating the ambitious operations tempo for SOF aggressiveness in 1992 is the brilliant record of deployments abroad: SOF conducted 953 deployments (14,131 personnel) to 103 countries to accom-

plish tasks in their primary mission areas.

Conclusion

The international security environment is one of increasing change and ambiguity. In this environment, SOF contribute significantly to the positive influence that the United States has had on international security, political stability, and economic progress. Nonetheless, in the current transition from the Cold War era, some nation-states will still be tempted to pursue policies that place U.S. and allied interests at risk. SOF will play an increasing role in supporting U.S. national policy. Their versatility and availability for immediate deployment offers the National Command Authorities a range of alternatives.

COUNTERDRUG PROGRAM

Introduction

On September 18, 1989, broad, new guidance was issued to the Department of Defense to assist in the swift and effective implementation of the President's National Drug Control Strategy within the Department. The detection and countering of the production, trafficking, and use of illegal drugs was designated as a "high priority national security mission" and all of the CINCs of the unified and specified commands were directed to prepare specific plans for the implementation of counterdrug missions within their respective areas of responsibility.

During the last three years, the Department of Defense has performed its counterdrug missions with increasing effectiveness. It has vigorously persevered in a wide range of counterdrug initiatives and activities in support of the Department of State; federal, state, and local law enforcement agencies; and cooperating foreign countries. In 1992, and despite significant reductions in fiscal resources in almost every other defense program, including a major reduction of the armed forces, the Department devoted increasing effort and funding to its drug interdiction and other counterdrug activities. Recent surveys and other data have also shown decisively that the Department is keeping its own house in order. Illegal drug use among members of the armed forces continues to decline. The enhancement of programs for certain civilian employees of the Department and of defense contractors has also had significant impact.

With steadfast support for its counterdrug programs from both active and reserve military personnel and from its dedicated civilian population, the Department has clearly and unequivocally demonstrated its commitment to this critical national effort.

Overall Progress in the Counterdrug Programs

To fully appreciate the progress that has been made by the Department of Defense in the performance of the counterdrug missions that have been assigned to it

since the fall of 1988, it is only necessary to compare the condition of its several counterdrug programs today, with the condition of those programs only a very few years ago.

As recently as FY 1989, the counterdrug budget of the Department was \$380.3 million. In the fiscal year that ended on September 30, 1992, that budget was approximately \$1.247 billion. Since 1989, the detection and monitoring effort has increased almost five-fold. Since 1990, the tempo of counterdrug operations, measured by level of effort, has grown by more than 250 percent. The number of missions performed by Forces Command in support of domestic law enforcement has increased 1,110 percent. The Atlantic Command's flying hour program has risen by 32 percent and its ship steaming days have increased by 68 percent. The number of support missions conducted by the Southern Command has increased from 71 in 1990, to 89 in 1991, and 99 in 1992.

Budget figures and level of effort data do not, however, begin to tell the story. A more accurate understanding of the degree to which the Department has performed its counterdrug missions can only be obtained from an examination of each mission.

Attacking the Flow of Drugs at the Source

The Andean Ridge region continues to be the primary source of cocaine consumed in the United States. At the request of U.S. ambassadors, and in coordination with U.S. law enforcement agencies which have counterdrug responsibilities, DoD has assisted the Andean Ridge countries by training host-nation forces to fight drug traffickers within their respective countries. Since 1989, the Department has provided well over \$200 million in training, equipment, and operational planning support to the Andean Ridge host-nation forces.

The involvement in the counterdrug efforts of the source countries has, of course, been limited to a support role. Military personnel provide operational and instructional support and human rights training for

host-nation forces, but no DoD personnel are permitted to accompany host-nation forces during actual field operations. The training and equipment that have been provided to host-nation forces (both police and military) have led to numerous successes in Colombia, Bolivia, Ecuador, and Peru.

Because narcotraffickers do not respect the borders of sovereign nations, DoD has recently assisted in the coordination of plans for regional operations. Through the use of DoD ground-based and airborne detection and monitoring assets, host-nation air interdiction forces have shown an increasing ability to disrupt the flow of cocaine coming from major growing areas in Peru and Bolivia into the major processing and transshipment centers in Colombia. Such operations promote cooperation among Andean nations and demonstrate the potential of air interdiction as an effective means of disrupting the flow of cocaine. As host-nation capabilities improve, more regional operations will be possible. Future activities will continue to emphasize joint and combined operations and will seek to incorporate counterdrug activities of all cooperating nations in the region affected.

Attacking the Flow of Drugs in Transit

Since 1989, the Department has continued to improve its detection and monitoring of suspect narcotics-trafficking aircraft and maritime vessels in the transit zone, while supporting the interdiction efforts of law enforcement agencies within cooperating host nations and at our own borders. These efforts involve the close integration of a wide range of fixed and mobile DoD assets including U.S. Navy ships, airborne early warning aircraft, land- and ocean-based aerostats, ground-based radars, and other sensors and platforms.

In addition, the Department has continued to enhance its near real-time capability both to collect intelligence and to disseminate it to drug law enforcement agencies (DLEAs). In 1989, the law enforcement agencies and the Department of Defense had very little experience working together and did not effectively and jointly plan counterdrug operations. Each agency essentially produced its own intelligence estimates and threat assessments. Today, most operations are closely and effectively coordinated, and quarterly interagency counterdrug intelligence assessments are available to all participants. The Department of Defense also hosts

the quarterly National Counterdrug Planning Conference, and the counterdrug CINCs host similar regional planning conferences to ensure better cooperation, interoperability, and communications, and to reduce redundancy and duplication of effort.

Attacking the Distribution and Use of Illegal Drugs in the United States

The support provided by the National Guard to the individual states and territories has also increased significantly during each of the last three years. All 50 states, 4 territories, and the District of Columbia have aggressive counterdrug programs that support the eradication of marijuana and provide either surface or aerial reconnaissance, surveillance, and transportation support to law enforcement agencies.

The number of National Guard man-days that have been dedicated to counterdrug support for law enforcement has more than doubled since 1990, breaking the 1 million mark in 1992. The number of containers that have been inspected by National Guard personnel at ports of entry in support of the U.S. Customs Service has, for example, increased by more than 79 percent during the same period.

The National Interagency Counterdrug Institute, operated by the California National Guard under the direction of the National Guard Bureau, has now trained several thousand managers from all levels of federal, state, and local law enforcement agencies, the National Guard, and the reserve and active components of the armed forces, and is now conducting significant training in several parts of the country.

Demand Reduction

Independent of our extensive program of support to DLEAs, the Department of Defense has maintained a highly effective program for combatting the illegal use of drugs among military members, their families, and defense contractors. DoD has long been committed to enforcing restrictions on the illegal use of drugs through periodic random testing of military and certain civilian employees; prevention education for all DoD communities; and the requirement that all DoD contractors working in areas of national security and public health and safety institute a program for achieving a drug-free work force.

Throughout the decade of the 1980s, and as recently reflected during the 1992 Worldwide Survey of Substance Abuse and Health Behaviors Among Military Personnel, we have developed what is essentially a drug-free uniformed military force. The 1992 confidential survey, the fifth conducted since 1980, assessed through a self-report questionnaire the extent of drug abuse among members of the armed forces. Reported drug use is at an all time low of 3.4 percent among servicemen and women worldwide. This represents an 88 percent reduction in reported drug use since 1980. The Department's aggressive encouragement and management of demand reduction efforts are clearly producing positive results.

Civilian personnel of the Department who occupy certain designated positions are also subject to a comprehensive demand reduction program that includes random urinalysis testing, education, and training. Persons in positions that have an immediate impact on national security, public health, and safety are subject to the requirements of DoD's civilian drug program.

The Department of Defense is justly proud of its demand reduction accomplishments and we remain committed to supporting this facet of the Department's overall counterdrug program as well as the supply reduction activities that are part of the President's counterdrug strategy.

Progress in the Unified and Specified Commands

The CINCs of the Atlantic (LANTCOM), Pacific (PACOM), North American Aerospace Defense (NORAD), Southern (SOUTHCOM), and Forces (FORSCOM) Commands have executed their respective counterdrug missions under detailed plans approved by the Secretary of Defense. To facilitate effective command and control, three fully operational joint task forces (JTFs) have been dedicated to DoD's counterdrug mission: JTF-4 in Key West, Florida; JTF-5 in Alameda, California; and JTF-6 in El Paso, Texas. LANTCOM has deployed a Caribbean counterdrug task group, with appropriate planes and ships, to further enhance DoD detection and monitoring mission in the Caribbean Basin. NORAD has incorporated internal awareness and execution of its counterdrug detection and monitoring mission within the scope of its air sovereignty responsibilities. To that

end, NORAD steady state sensor and tactical response networks have been augmented with surge operations by mobile forces coordinated through FORSCOM and DLEAs to combat drug trafficking into the North American continent.

LANTCOM has significantly enhanced its analysis of smuggling patterns resulting in the ability to shift assets rapidly to counter the constantly changing nature of the drug threat. A series of concentrated intelligence collection efforts have increased the effectiveness of each deployment of operational assets. Significant improvements have been made in the coordination of counterdrug operations with law enforcement agencies, resulting in a smoother hand-off of suspected narcotraffickers from LANTCOM detection and monitoring assets to the law enforcement agencies.

Now more than ever, law enforcement agencies and DoD assets in the Caribbean are engaged in the planning and execution of counterdrug operations as a single, integrated team. LANTCOM has improved its coordination with host-nation law enforcement agencies. This improved coordination among allied naval units has enhanced LANTCOM's ability to detect and monitor suspect traffic throughout the Caribbean. LANTCOM continues its efforts to detect and monitor suspect activities with the most efficient mix of collection assets. Projects have included the expansion of the Caribbean Basin Radar Network, continued progress toward a wide area surveillance system, and the improvement of available sensing assets.

PACOM's strategy for combatting the production and trafficking of illegal drugs employs a two-tier warfighting command and control strategy through the employment of a joint task force. This task force, JTF-5, is PACOM's supported command for all counterdrug operations. Through JTF-5, PACOM conducts operations based on intelligence to detect and monitor both air and maritime narcotraffickers; provides air and maritime support to LANTCOM; and provides support to DLEAs, including transportation, maritime support, and aerial surveillance. PACOM also provides support, with personnel and equipment, to FORSCOM and NORAD for their counterdrug operations along the southwest border. Additionally, PACOM has conducted several counterdrug training missions in host nations in the Pacific.

FORSCOM has consistently increased its level of support to DLEAs throughout CONUS and Mexico. In the first year of its existence, FORSCOM's counterdrug headquarters for the southwest border, JTF-6, conducted only 38 missions in support of law enforcement. Having continually refined its outstanding relationship with Operation ALLIANCE, JTF-6 conducted 408 operational missions in support of Operation ALLIANCE during FY 1992. This represents a 76 percent increase over FY 1991, and almost 11 times the level of 1989. Support missions include ground and aerial reconnaissance, deterrence operations, air and ground transport operations, and engineering projects. Operational support has also increased in the Continental U.S. Army (CONUSA) regions. The CONUSA regions now provide the same type support as JTF-6 and conducted a total of 100 operations, a 35 percent increase over FY 1991. The U.S. Army Reserve Command (USARC), activated October 1, 1991, is now the focal point for coordination of Army Reserve counterdrug support worldwide. USARC provides reserve forces to support FORSCOM counterdrug operations throughout the United States.

NORAD has continued to refine its methods for carrying out detection and monitoring activities. NORAD has concentrated its resources in high intensity drug trafficking areas and in providing support to drug enforcement surge operations. These operations include both airborne and ground radar assets targeted against suspected transit routes. Additionally, direct communications and data sharing are occurring between NORAD, the Federal Aviation Administration, and the U.S. Customs Service to obtain timely identification of routine legitimate traffic and to facilitate rapid response to suspicious flights. The land-based tethered aerostats along the southwest border are now fully integrated into NORAD operations. NORAD continues to explore and develop wide area surveillance capabilities with the over-the-horizon-backscatter radar and airborne warning and control system (AWACS) aircraft.

SOUTHCOM has provided a wide variety of support to the Latin American nations engaged in counterdrug efforts. SOUTHCOM provides Tactical Analysis Teams which operate from numerous embassies to provide timely intelligence fusion and analysis in support of ambassadors and their country teams, in their support of host-nation counterdrug operations. Addi-

tionally, in Central America, the Regional Counterdrug Analysis Team provides support to ambassadors and U.S. DLEAs throughout the region.

The training of host-nation counterdrug forces, both military and police, has grown at a rapid pace throughout the theater with special emphasis on the Andean Ridge countries, especially Colombia. Mobile Training Teams are providing important training in light infantry tactics, riverine operations, maintenance and logistics, and aviation skills. This training has focused on increasing the skills required to use and maintain the equipment being provided to Latin American counterdrug forces through the Foreign Military Sales financing programs, Excess Defense Articles, and drawdown programs under Section 506(a)(2) of the Foreign Assistance Act. Operational support to host-nation counterdrug efforts has also expanded as a result of the success achieved by SOUTHCOM's SUPPORT JUSTICE operations.

In 1989, due in large measure to the newness of the armed forces in counterdrug operations, all counterdrug operational support missions required the personal approval of the Secretary of Defense. As the armed forces have learned the best ways to provide support and law enforcement agencies have become more familiar with the methods of obtaining and utilizing that support, a large number of operations are now approved at the counterdrug CINC level under definitive authority delegated by the Secretary of Defense — a process which greatly expedites and facilitates the support provided by the Department.

Communications Integration

When the Department of Defense became significantly involved in counterdrug support in 1989, communications interoperability among law enforcement agencies and between DoD and those agencies was almost nonexistent. As a result of a four-year effort and the expenditure of more than \$160 million in DoD funds, there now exists a highly effective, secure, long-haul communications system that links 123 nodes at 56 locations of federal law enforcement agencies and the Department of Defense. The Department has also provided significant additional assistance in the form of data base establishment and management and data systems design and installation.

Research and Development

DoD's research, development, test, and evaluation (RDT&E) initiatives have supported not only the Department's counterdrug mission but also the key RDT&E objectives of the National Drug Control Strategy. The efforts have been designed to enhance existing technical and operational capabilities and explore critically needed future new technologies, in particular those with multimission applications. The key elements include emergent and existing technologies to detect and monitor the flow of illegal drugs into the United States; identify contraband and automate cargo container inspection; and improve the interoperability of communications and information systems used in counterdrug enforcement, providing for dual military and law enforcement applications.

Continuing progress has been made by DARPA in developing technologies to detect contraband in cargoes entering the country that otherwise appear legitimate. The DARPA program will result in the establishment of test beds at several ports of entry.

Additional DoD Support to the Counterdrug Effort

Over the past four years, the Department of Defense has established a number of additional programs and activities in support of the President's National Drug Control Strategy.

In 1989, the Department authorized the assignment of 275 military personnel to federal law enforcement agencies and the Office of National Drug Control Policy in order to provide liaison, planning, and training support. The agencies have, without exception, praised the dedication, professionalism, and significant support provided by these fine men and women of the armed forces.

Regional logistical support offices located in Long Beach, California; Miami, Florida; Buffalo, New York; and El Paso, Texas, have been operational since August 1990, providing a wide spectrum of nonoperational support. That support includes formal training; use of DoD facilities; and loan, lease, or transfer of military equipment. Examples of the thousands of pieces of equipment which have been furnished include ground sensors, trucks, night vision devices,

uniforms, body armor, and radios. In addition, DoD has approved the transfer of numerous types of aircraft, weapons, vessels, and armored vehicles for use by federal, state, local, and foreign agencies. Military working dog teams have assisted drug law enforcement agencies with cargo inspections at land, sea, and aerial ports of entry. In 1992, for example, using a record 4,944 team-days in 17 separate operations, military working dog teams assisted in the discovery of 2,705 pounds of contraband drugs.

The training that the Department of Defense has provided to federal, state, local, and foreign drug law enforcement agencies has varied widely. For example, the Army has trained law enforcement officials in foreign language skills, pilot (fixed-winged and rotor) training, helicopter maintenance, tactical survival, and bomb detection. The Air Force has provided training in canine drug detection. The Marine Corps has provided training in tactics, small arms, and riverine operations in selected South American countries. The Navy has trained law enforcement officials in riverine operations. DoD has also trained several hundred personnel from state and local agencies in the tasks required to establish and operate rehabilitation oriented training camps for first-time drug offenders.

Conclusion

During a period of massive change in both the security and fiscal environment, which has included the end of the Cold War, an armed conflict in Panama, a major war in the Persian Gulf, a wide range of unanticipated peacetime demands, and major reductions in the defense budget, the Department of Defense has aggressively performed its new counterdrug missions. Mistakes have undoubtedly been made as part of the learning process, but they have not been the result of a lack of commitment or effort.

In sharp contrast to its expressions of 1988, Congress is now generous in its characterization of the Department's performance. By 1991, the House Armed Services Committee could say in its report on the FY 1992 Authorization bill that "the success of the department is evident." The Chairman of the Committee's Investigations Subcommittee closed his April 1991 hearing with the words: "Keep up the good work!" The Chairman of the House Select Committee on Narcotics Abuse and Control declared in a June

1991 hearing that "... we are proud of the outstanding job that you are doing."

Perhaps a more telling measure of our progress is the views of those to whom we have provided support — the law enforcement agencies themselves. Uni-

formly, those agencies have informed us that the support of the Department of Defense has had a substantial, positive impact on the effectiveness of their own counterdrug efforts. We believe that the Department can take justifiable pride in its execution of this critical, high-priority national security mission.

RESEARCH, DEVELOPMENT, TEST, AND EVALUATION

Introduction

This past year has brought further change in the international security environment and in the resources available to invest in our science and technology (S&T) programs. In response, the Department has revised the acquisition strategy to reflect these new realities and to ensure that the Nation is prepared to meet the challenges of the future. The revised strategy is based on increased investment in S&T programs and emphasizes demonstrations of capability through testing and validation of new systems prior to commencing formal development. These efforts will enable the Department to provide our military forces with the high-technology capabilities required to deter or defeat any potential aggressor, within established fiscal constraints.

Science and Technology (S&T) Strategy

The changes in the world situation have had significant impact on the focus of U.S. weapon acquisition strategies. These strategies, once driven by competition with an aggressive and technically capable adversary, have been refocused. The focus now is on being prepared to meet potential regional challenges while retaining the capability to respond to any emerging global threat. The core of the S&T strategy is to provide for the early, intense, and continued involvement of warfighters; fuel and exploit the information explosion; and conduct extensive and realistic technology demonstrations.

A key element in the Department's acquisition strategy is developing an environment that has our warfighters and technical experts communicating and working closely together to identify and address our most pressing needs. The ability of the warfighters to convey their concepts, doctrines, and needs to the developers is of utmost importance. So too is the ability of the developers to communicate new technologies, ideas, and concepts to the warfighters so that they can influence how the S&T program can be appropriately focused and prioritized. Our plan is to greatly enhance this process through a much expanded and

integrated set of instrumented training ranges and electronically simulated battlefields.

The tremendous increase in the speed and capacity of the modern computer, coupled with the development of increasingly capable computer networks, is creating enormous opportunities for using and handling information. Modern computer capabilities provide the means for the design and production of better and more affordable systems, the rapid training of military personnel, and the creation of more responsive C³I structures. It is this information technology explosion that will form the foundation on which our S&T goals will be achieved.

The third core element of the S&T strategy, the use of advanced technology demonstrations (ATDs), along with simulations and exercises, will provide the tools to help ensure the technology is ready, manufacturing processes are available, and operating concepts are understood before any formal development program is considered. Each ATD will be designed to demonstrate to acquisition decisionmakers that the technology is feasible, affordable, and compatible with the operational concepts and force structure envisioned for the Base Force.

The DoD S&T strategy will not only permit the Department to ensure that we maintain military superiority, but will also provide for development of technologies — such as electronics, composite materials, and information sciences — that have high potential for civilian application.

Science and Technology (S&T) Focus

The Department maintains a broad, sustaining program in all areas essential to its S&T strategy. In addition, the Department has identified seven areas in which we must continue to excel if we are to deter potential enemies, or prevail if deterrence fails. They are:

- Global surveillance and communications;
- Precision strike;

- Air superiority and defense;
- Sea control and undersea superiority;
- Advanced land combat;
- Synthetic environments; and
- Technology for affordability.

During this past year, we have focused our attention on working with the military departments and defense agencies to structure and refine plans to develop and demonstrate those technologies that have the highest payoff in addressing our most pressing military needs.

The Director of Defense Research and Engineering is responsible for providing the leadership to ensure the S&T program is structured to support the goals established in the Department's S&T strategy. The execution of the program is the responsibility of the military departments, DARPA, the Defense Nuclear Agency (DNA), and the Strategic Defense Initiative Organization (SDIO). The military departments are principally responsible for executing developments and demonstrations, DARPA for the leading edge technologies which lead to fundamental changes in future systems and operations, DNA for weapon effects related research, and SDIO for the strategic defense initiatives. The validation of technologies and resulting systems and capabilities is the responsibility of the test and evaluation (T&E) community. The remainder of this chapter focuses in more detail on current efforts within DARPA, DNA, SDIO, and the T&E community.

Defense Advanced Research Projects Agency (DARPA)

DARPA is working to stimulate, develop, and demonstrate technologies which could cause fundamental change in future systems and operations. DARPA emphasizes those technologies which have potential in addressing multi-Service requirements or technologies that are so dynamic as to require exceptional handling for optimal exploitation.

In consonance with the DoD S&T strategy, DARPA's current primary thrust is in information-related technologies including microelectronics manufacturing; advanced electronic packaging; and high-performance computing, communications, and networks. Applications manifested in

ATD programs are structured to exploit the information technology explosion and other advances in areas key to future military strategies. Key areas include identification and targeting of critical mobile targets, shallow water acoustic warfare, and light combat vehicle concepts. These application areas are supported by DARPA's major thrust in advanced distributed simulation technology.

DARPA's key technology thrusts are:

- **Flexible Microelectronics Manufacturing** — Establishing the tools and methodologies to create affordable flexible, scalable manufacturing. DARPA is working closely with SEMATECH, a national consortium of major semiconductor manufacturers, to develop the equipment and techniques necessary for low-cost manufacture of high-value-added products. The approach emphasizes modular processing tools, real-time process control, advanced lithography, ultra-clean technologies, and sophisticated computer-integrated manufacturing systems.
- **Electronic Packaging and Interconnect** — Developing advanced electronic packaging and interconnect capabilities and associated manufacturing processes to reduce the cost and increase performance of weapon systems through the insertion of electronic modules that utilize state-of-the-art technologies. Potential applications include electronics for satellites, advanced work stations, smart munitions, avionics, man-portable devices, and autonomous underwater vehicles.
- **Microwave and Millimeter Wave Monolithic Integrated Circuits (MIMIC)** — Developing techniques for producing affordable MIMICs for use in smart weapons, missiles, electronic warfare, radar, and communication systems. Over 84 chip types have been produced; many are currently available for sale from MIMIC contractors or distributors. Circuits from MIMIC pilot lines were used in systems deployed in Operation DESERT STORM. Recent work has produced substantial improvements in design and manufacturing processes, resulting in large cost reductions coupled with increases in yield, uniformity, reliability, and performance. Increased emphasis is being placed upon development and high-yield production of millimeter wave MIMICs.

- **Networking Technology** — Developing base technologies and demonstrations of networks using the next generation in optical transmission, satellite, and international standards-compliant systems. These technologies will be integrated into unified communications structures. Tools for graphics, data bases, and distributed control use the unified substrate to provide information services to applications including simulation, visualization, C³I, and generalized data processing services. By 1994, these efforts are planned to result in design concepts for a global surveillance, position/target location, communication system.
 - **Software Development Technology** — Developing and demonstrating a new generation of software engineering environments which make possible the development of interoperable and portable software development tools. These new-generation engineering environments actively support modern, disciplined software process models, such as the Software Engineering Institute's Capability Maturity Model, and facilitate software reuse. A longer term thrust is focusing on evolutionary techniques of software development which permit initial rapid prototyping of software, constructed within the constraints of product-line architectures. These techniques are planned to yield high-assurance software that provides required mission capability while allowing for evolutionary growth and modification over a weapon-system life cycle.
 - **High Performance Computing (HPC)** — Establishing the advanced computing technology base that supports the new defense S&T strategy and the Federal High Performance Computing and Communications program. The first 100-billion-operations-per-second-class systems have begun to emerge, and early experimental use has begun in defense and other federal sectors. These new HPC systems are enabling numerous new computing approaches that were previously not possible. High performance network testbeds have been established to develop and demonstrate new levels of resource sharing and distributed system functionality. By 1996, the new HPC technology base will be capable of sustaining trillions-of-operations-per-second computing systems and one-billion-bits-per-second networking with integrated software and systems development environments.
 - **Optoelectronics, Nanoelectronics, and Microelectromechanical Systems** — Exploring revolutionary new devices to gather, process, and transmit information. DARPA is developing optoelectronics technologies to transmit and manipulate data and to demonstrate advantages of those technologies in overcoming communications bottlenecks in computers and networks. In addition, the agency is exploring nanoelectronics techniques of exploiting quantum-mechanical behavior at the nanometer (10^{-9} meter) scale in tailored semiconductor structures. This technology has the potential to revolutionize information handling and processing capabilities. The miniature sensors, actuators, and structural components integrated with microelectronics offer the potential for inexpensive, rugged signal processing and control microdevices.
- DARPA's key system thrusts are:
- **Simulation** — Creating artificial environments which make possible both enhanced operational readiness through realistic training and improved system acquisition through more effective system assessment. DARPA is applying networking, intelligent gateways, high-speed processing, advanced graphics, high-definition systems, semiautomated force models, terrain generation, and human factors engineering techniques to enable distributed, interoperable simulations on synthetic battlefields. This development is focused on the Southwest U.S.A. program which will integrate live play (at the Services' southwest ranges) with virtual and constructive simulations to create a high-fidelity, artificial environment for combat training and system assessment.
 - **Time-Critical Targets** — Developing and demonstrating fully integrated capabilities for detecting, classifying, and prosecuting a wide range of time-critical targets including tactical ballistic missiles, mobile command posts, tanks, and artillery. The focus is on advanced sensors, automatic target detection and identification, and automated intelligence data correlation.
 - **Acoustic Warfare (Shallow Water)** — Developing an acoustic warfare battle management command

and control system to provide the commander with a comprehensive understanding of the complex shallow water acoustic and tactical environment. The system incorporates advanced data fusion algorithms and expert system technologies for the detection, classification, and prosecution of threat submarines in shallow water. Highly automated passive full spectrum and low frequency active acoustic systems have been developed and demonstrated in naval exercises.

- **Light Contingency Vehicle** — Applying advanced vehicle and payload technologies to demonstrate capabilities for deployable, effective, and survivable mobile forces. These technologies include advanced structural materials, propulsion systems, signature reduction techniques, survivability enhancement systems, threat countermeasures, and advanced cockpit displays and electronics.

Defense Nuclear Agency (DNA)

DNA has a unique balance of personnel with operational experience and scientific expertise. DNA's primary thrusts reflect that balance with a focus on ensuring the effectiveness and survivability of the Nation's strategic deterrent. The agency provides essential operational support to the CINCs and Services in key areas such as stockpile management, safety, and security.

DNA's activities are related to the Department's S&T thrusts in the following areas:

- **Lethality.** Examining the spectrum of conventional and nuclear weapons effects to better understand weapon-target interactions will assist in developing weapons appropriate to the changing target base. DNA's approach involves, for example, the evaluation of ground shock loading in varying geologies as well as executing multiple conventional weapons effects tests to validate advanced numerical models.
- **Technical Demonstrations of Hardening.** The principal products from these efforts include radiation-resistant computer memory devices, nuclear weapons effects hardening and mitigation techniques, development of testable hardware designed to be validated without the use of underground tests, and generic system survivability validation methodolo-

gies based on analysis, simulation, and testing.

- **Testing and Advanced Simulators.** DNA develops nonnuclear simulation test facilities and technologies to evaluate the performance and survivability of DoD systems across a spectrum of nuclear environments. Recognizing future limitations on underground testing, DNA is working with the Department of Energy to develop a family of electromagnetic nuclear weapon effects simulators.
- **Weapons Safety and Nuclear Operations Support.** DNA provides operational support to the CINCs and Services. Emphasis is on nuclear weapons safety, the ability of nuclear weapons effects to achieve employment objectives, and on alternative strategies that provide commanders with more flexible weapons employment options.
- **Verification Technology.** DNA's research, development, test, and evaluation in support of verification and compliance for arms control treaties include support to the START Treaty, the Follow-on Agreement, Conventional Forces in Europe Treaty, Threshold Test Ban Treaty, Peaceful Nuclear Explosions Treaty, Chemical Weapons Convention, Open Skies, and other arms control-related agreements such as the Conference on Security and Cooperation in Europe. The agency has developed hardware and techniques now being used for on-site inspections in treaty nations. DNA has also developed a Compliance Monitoring and Tracking System to accommodate data exchanges and monitor U.S. compliance with treaty obligations.
- **Support for Weapons Dismantlement Activities.** DNA is assisting the Assistant to the Secretary of Defense (Atomic Energy) in the execution, technical evaluation, and monitoring of the program to assist in the safe and secure dismantlement of weapons of mass destruction in the former Soviet Union.
- **Support to Nonproliferation Activities.** DNA's unique role in nuclear weapons research also supports DoD initiatives on nonproliferation. The agency exploits technologies and data bases developed from arms control verification activities. To help contain proliferation, the agency has participated in developing on-site inspection regimes as well as assessments of safety, security, and control of nuclear, biological, and chemical materials or weapons in the possession of potential or actual proliferators.

**Strategic Defense Initiative
Organization (SDIO)**

SDIO invests a significant portion of its funding in science and technology. SDIO efforts are focused on miniaturization, hardening, integration, and other new technologies to provide options for defense against ballistic missiles. Activities include advanced technologies for detection, discrimination, surveil-

lance, target acquisition and tracking, and communication. SDIO also supports a research effort in space power and projectile development. Specifically, SDIO has continued technology development in the following areas:

- **Interceptor Technology.** Interceptors continue to be a major focus of our ongoing research efforts with major emphasis on the development of smart

***SDI Innovative Science and
Research Accomplishments***

Table 20

| Research Area | Accomplishment | Potential Application or Impact |
|---------------------------------|---|---|
| Synthetic Diamond | Designed a compact switch for seekers | Extends the range of missile seekers by four times |
| Electric Thrusters | Purchased Hall Thrusters from Russians | An increase of 50 percent in specific impulse over U.S. technology for orbit adjustment |
| Silicon Carbide Memory | Grew new semiconductor material for computer memory which retains information when power is cut off | Drastic reduction in size of spaceborne computers and the electric power that supplies them |
| Computer Architecture | Developed the Associative String Processor with Wafer Scale Integration | Space computer for signal processing at one-tenth the weight but three times faster |
| Aluminum Gallium Nitride Sensor | Fabricated new, highly-sensitive ultraviolet detector | New compact sensor for detecting rocket plumes but requires no heavy cooler |
| Orotron Transmitter | Built a novel free electron source that puts out 10 watts at 120 gigahertz | Compact transmitter for high-frequency space communications |
| Laser Communication | Built and tested a laser communication system in the lab with 1 megahertz data rate | Advanced high-rate communication system for space satellites |
| Missile Tracking | Observed and tracked missiles using a new optical system | Ability to track and seek hard missile bodies passively at great distance |
| Space Environment | Wrote a new book on space environmental effects | Compilation of many new results on design of survivable spacecraft |
| Laser Sensing | Demonstrated Autodyne Doppler Tracking by hitting a missile with a laser beam | New technique for locating the hard missile body from its large plume |
| Rocket Motors | Developed tiny divert rocket motors using new high-temperature material | Enables a 30 percent reduction in the weight of interceptors |
| Optical Computer | Built the first general purpose optical computer | Prototype for space computers with unprecedented data processing rates |
| Infrared Sensor | Developed new type of detector using electron tunneling | Infrared detection of rocket plumes but no cooling required |
| Software Management | Developed new compiler 100 times faster | Quick shift of software between computers |
| Electronics | Developed speed-of-light data transfer in electronics | Light emitting silicon means optoelectronics directly on silicon base |
| Laser Reliability | Developed electrodeless flash lamps for solid state lasers | Ten times the efficiency at one-thousandth the cost |
| Infrared Detection | Developed new infrared material with 100 times detectivity at a third the cost | Cheaper, more sensitive detectors of missile plume |
| Optics | Developed graded refraction waveguide | Fast interconnects between computer modules |
| Telescopes | Developed telescope one-fourth lighter at a tenth the cost | Lighter, cheaper telescopes for interceptors |

miniaturized projectiles. Advanced technology programs are developing endo- and exoatmospheric interceptors capable of high-speed flyout and autonomous discrimination for advanced threats. Interceptor component technology programs address SDIO needs for sensitive miniature seekers; efficient propulsion; miniature, high-speed processors; lightweight navigation systems; and advanced algorithms. The Lightweight Exoatmospheric Projectile ATD program is proceeding with rigorous ground and flight tests.

- **Sensors.** SDIO continues its efforts to develop effective passive sensor arrays at reduced weight and cost. Ongoing efforts are reducing the cost of sensor pixels by about a factor of two every year. In the area of weight reduction, now available are: a wide-field-of-view star-tracker camera which weighs less than half a pound, an ultra violet/visible light camera weighing less than a pound, both short-wave and long-wave infrared cameras weighing about three pounds each, a laser detector and ranging device weighing less than three pounds, and a number of other similar light-weight systems. It is likely these types of devices will find wide application throughout the Defense Department and in the commercial sensor market.
- **Radar.** SDIO continues efforts to improve radar technology to discriminate between reentry vehicles and decoys during the midcourse phase of a ballistic missile trajectory and to improve the capability of the TMD radar.
- **Phenomenology.** We continue to collect data in space, in the air, and from the ground about radiation and particles that make up the target backgrounds in which our systems must operate. During the last year, the countermeasures demonstration experiment evaluated the performance of various sensor systems against penetration aids such as infrared and radar chaff, and exoatmospheric and endoatmospheric flares.
- **Directed Energy.** SDIO continues to pursue research into directed energy systems, including chemical lasers, neutral particle beams, and free electron lasers. SDIO has completed hardware fabrication and tests confirming the ability to build the megawatt-class laser and large pointing mirror that would be required to destroy ballistic missiles. The

technology for pointing laser beams with exceptional stability has been demonstrated in space tests. In the neutral particle beam program, key system components have been built and tested with technologies capable of being scaled to weapon levels. Although these technologies are being developed specifically for ballistic missile defense applications, there is potential for application to a broader spectrum of military needs.

- **Innovative Science and Technology (IS&T).** SDIO's innovative S&T programs make a unique contribution to ballistic missile defense by pursuing speculative, high-risk technologies that may enable a quantum leap in capability over that available from conventional approaches. The IS&T strategy is twofold: conduct a basic research program that provides seed funding to promising technologies and transition those technologies that emerge into ATDs. The IS&T program sponsors work in six broad areas: advanced information processing, space materials and structures, sensing and discrimination, space power and conditioning, advanced propellants and propulsion, and directed/kinetic energy concepts. Breakthroughs in S&T are frequent in IS&T projects. Table 20 lists several IS&T accomplishments and advanced demonstrations that were initiated in 1992. These technologies will be rapidly advanced through engineering development, and many will be exploited for missile defense.

Framework for Defense Test and Evaluation (T&E)

T&E is integral to the acquisition process. It supports technology and weapon system development through the weapon's life cycle and verifies the achievement of specified performance and operational thresholds. T&E capability must be responsive to the combined needs of many communities: science and technology, research and development, acquisition, training, product improvement, contractors involved in DoD acquisition, and the users of the finished product. Part of this requires that DoD improve the correlation between weapon system requirements and test objectives: a close linkage with operational requirements will minimize risks while optimizing the balance between cost and operational effectiveness.

The Department's T&E strategy is to take a proactive approach to increasing productivity, improving quality, and reducing costs. To achieve the goal of maintaining the U.S. technological edge, the DoD test and evaluation community must overcome the constraint of declining defense resources while continuing to provide senior managers reliable data upon which to base critical acquisition decisions.

Improving the Test and Evaluation (T&E) Process

The Department has identified a number of objectives that must be met in order to improve the T&E process. Principal among these are:

- Consistency and commonality in test methodologies among diverse T&E activities;
- Interoperability and interconnectivity of testing capabilities and systems; and
- Commonality in threat and capability definitions.

Other T&E goals include such things as improving overall test efficiency, ensuring prudent application of modeling and simulation when using actual equipment or components is not appropriate, ensuring there are no harmful effects on the environment from T&E activity, and increasing cooperative efforts with the T&E communities of friendly and allied countries.

Achieving these objectives will improve T&E performance in overcoming the challenge of reduced resources. At the same time we extend and improve our knowledge of new and emerging technologies, though, we must work to ensure that the increasing complexity of new weapon systems does not itself become an obstacle to further progress. The increasing sophistication of modern systems, characterized by increasingly large-scale integration of microcomponents, increasingly capable "smart" — even "brilliant" — control systems, increasing integration of low-observable technologies, etc., is itself a challenge to T&E.

Sound Investment Strategies

The Department also has objectives that must be

met to ensure we have the required T&E infrastructure to achieve our mission. We must improve management of our resources to ensure optimum return on investment. The principal improvement will be to ensure investment planning is conducted in close coordination with the S&T community and program managers. By coordinating investment strategies across Service and agency lines, the S&T and T&E communities will move forward in a unified effort.

Centralized oversight of test facilities is an imperative. This will apply to the management of DoD test resources at all DoD activities, contractor plants, and other government facilities. The Department's Reliance Program continues to promote multi-Service use of, and investment in, test facilities. A joint, centralized management structure has been established in several key areas to review DoD T&E facility investments. This program provides for the efficient elimination of underused, redundant facilities as the Department downsizes — while ensuring the preservation and improvement of necessary test capabilities. Sound investments and improved business practices are allowing the T&E community to support strengthened RDT&E activities.

Conclusion

The S&T and T&E communities, in recognition of today's world environment and tomorrow's requirements, have established objectives and processes that will be responsive to those needs. While the goal is to provide the capabilities necessary to deter and, if necessary, defeat aggressors we are likely to encounter into the next century, S&T and T&E are at the forefront of our efforts to ensure we do so at the least expenditure. The Department's S&T community is committed to maintaining the U.S. edge in critical technology areas, and the T&E community will provide decisionmakers the data to make the critical acquisition decisions. Both scientists and users are committed to working together to achieve this goal. Success is equally dependent upon the support of Congress in authorizing and appropriating the funds required to develop, demonstrate, and assess the technologies needed to preserve our military superiority.

Part IV

Statutory Reports

REPORT OF THE SECRETARY OF THE ARMY

America's Army: A Strategic Force for the 21st Century

Today, the United States Army is unquestionably the premier land combat force in the world, having most recently played a key role in momentous and decisive victories in the Cold War and the Persian Gulf. As a result of these successes, the international security environment has changed dramatically, prompting major revisions to our national security strategy. In response to these new challenges, America's Army has changed significantly already and will continue its transformation over the next few years.

As we move through this period of dynamic change, our Army has a clear vision of its priorities for the future. Through continued introspection, sound planning, and hard work, we are reshaping the Army for the 21st century. At the same time, America's Army continues to meet the challenges of serving the Nation at home and abroad, and most importantly, remains trained and ready to fight and win our Nation's wars.

Reshaping Our Army

Fiscal Year (FY) 1992 was a year of rapid transition. The Army pursued a well-considered plan to reduce and reorganize while making substantial efforts to minimize the resulting turbulence within the force. We are well along the road toward transforming an Army structured for the threats of the Cold War into a power projection Army capable of confronting varied contingencies resulting from the instabilities and divisions now evident in many areas of the world. Our Army is rapidly becoming the type of force envisioned by the Chairman, Joint Chiefs of Staff's Base Force concept: a primarily continental United States (CONUS)-based, regionally-focused Army that can, when called, deploy quickly to protect American interests and achieve decisive victory.

While many may not be fully aware of the extent to which the Army is changing, the impact of these changes is being profoundly felt throughout the force.

During this past year, about 186,000 active duty soldiers left the Army. Most were not replaced by accessions, as FY 1992 end strength dropped to 610,000. This represents a substantial reduction from an end strength of 770,000 in September 1989, and moves us more than halfway toward our 1996 Base Force active component strength of 520,000. The Army National Guard (ARNG) and U.S. Army Reserve (USAR) experienced modest end strength reductions of 28,200 in 1992; more significant reductions must occur in the near term to reach the Base Force target of 567,400 in 1995. Army civilians employed in military functions were reduced from 403,000 in December 1989, to 333,640 at the end of FY 1992, and the total will drop below 295,000 by 1995.

The pace of change has been most dramatic in the Army in Europe, where we inactivated a corps consisting of two divisions and supporting units, and restructured or returned to CONUS a number of other smaller units. Worldwide, approximately 40 percent of our active soldier population moved this year, including 66,000 soldiers returning from Europe along with 63,000 family members. We moved an average of about 500 people from Europe every working day last year. Of the 433 overseas installations announced for closure, 294 were closed or returned to host nations, the majority of which were in Europe. We still face a sizable logistical challenge to remove 524,000 tons of ammunition, 37,000 vehicles, and 34,000 tons of repair parts from Europe. However, we have already achieved a significant milestone by removing all of our tactical nuclear weapons from Europe; in fact, the Army today is no longer in the nuclear delivery business.

As we have implemented these changes, a top priority has been to minimize the impact of the draw-down on the people involved. While reductions-in-force and Selective Early Retirement Boards have been necessary, the great majority of the reductions have been voluntary. The Voluntary Early Transition Program, Voluntary Separation Incentive, and Selective Separation Benefits were attractive programs; by the end of FY 1992, over 60,000 soldiers had decided

to leave the Army early. Meanwhile, over 175,000 soldiers, Army civilians, and family members had used the 62 Transition Assistance Offices and 55 Job Assistance Centers available worldwide through the Army Career and Alumni program. In one particularly important area, approximately 1,000 Army alumni have entered teacher training programs or began teaching this past year.

Trained and Ready to Serve the Nation

Despite the turbulence resulting from personnel reductions, installation closures, and unit inactivations, the Army has not neglected its primary mission. We continue to focus on training and remain ready to deploy worldwide to serve our Nation's interests. While the Army's budget has been reduced in real terms by one-third since FY 1986, we continue to allocate the resources required to sustain the operations tempo necessary to remain trained and ready. At our highly successful Combat Training Centers, Army units completed 76 battalion-level and 13 corps/division-level rotations in the last year. The Army also participated in approximately 50 joint exercises worldwide. In response to lessons learned in Operation DESERT STORM for the reserve components, the Readiness Enhancement Action Plan (Bold Shift) is proving to be an effective training program. In addition, 1,223 active component soldiers were assigned in FY 1992 to full-time support of reserve component training.

Total Army readiness supports our objective of decisive victory in war and also serves the Nation other ways, both at home and abroad. Perhaps most important is the ability of deployable, lethal Army forces to deter actions by potential adversaries contrary to U.S. interests. In addition, as we have done for four decades in South Korea, the forward presence of credible land power can be used to send an unambiguous signal of U.S. commitment and resolve. Most recently, the early deployment of Army units to Kuwait for an exercise called INTRINSIC ACTION reinforced the U.S. commitment to ensure Iraqi compliance with U.N. resolutions.

America's Army remains trained and ready to serve the Nation at home as well. The capacity of the Total Army to provide humanitarian relief was clearly evident to Americans this past year. Major relief opera-

tions in the wake of hurricanes in Florida, Louisiana, Hawaii, and Guam provided essential aid to many thousands of Americans whose communities were devastated by these natural disasters. The ARNG led the Army response, which ultimately involved 17,591 active personnel, 794 reservists, 5,991 National Guardsmen, and 919 Department of the Army civilians. Army mobile kitchen trailers served more than 27,500 meals daily and medical units treated over 48,000 patients. Army engineer units removed 1.3 million cubic yards of debris before turning over operations to the Army Corps of Engineers, which also provided a wide variety of recovery support activities ranging from technical engineering assistance to expedient contracting for school repairs, debris removal, and life-sustaining equipment and services.

In another dimension of our service to the Nation at home, the Army continues to expand counterdrug operations as a part of DoD's execution of the National Drug Control Strategy. Our roles are many and varied as Army support, mainly in the form of soldiers and equipment, is provided to 5 unified and specified commands, over 40 federal law enforcement agencies (LEAs), and over 2,000 local LEAs throughout the United States.

Army forces are striking at the drug sources by providing training, intelligence, and planning assistance to host-nation counternarcotics forces in source and transit countries in Latin America. Counternarcotics operations along the southwest border increased over 50 percent from the previous year. In addition to our efforts to curtail the supply of drugs, the Army Recruiting Command is focusing a major education effort on high school students through its "Stay in School, Stay off Drugs" campaign.

The war on drugs involves the Total Army. Active forces conduct actual counterdrug operations as well as a variety of training for LEAs, while the Army Reserve provides engineer, linguist, intelligence analysis, and aviation support missions. Over 3,000 Army National Guard personnel provide daily counternarcotics support to local, state, and federal agencies in all 50 states, the District of Columbia, and several U.S. territories.

The Army has requested from DoD \$417 million in counternarcotics funding for FY 1994. This is approx-

imately one-third of the total DoD counternarcotics funding request. These dollars will fund drug testing, education, and rehabilitation; operations and support; pay and allowances for reserve soldiers; and additional detection and monitoring projects. In addition, there is approximately \$80 million of Army equipment on loan/lease to civilian LEAs.

Army Special Operations Forces (ARSOF) support of regional counternarcotics operations has increased throughout the Americas and surrounding waters. In addition, ARSOF units have participated in numerous humanitarian assistance operations, such as Operation PROVIDE COMFORT for the Kurds in northern Iraq, and Operation PROVIDE RELIEF for Somalia. Numerous other smaller operations, mostly involving engineer and medical units, have provided much appreciated assistance to various nations in need of the Army's expertise.

Disaster relief and support of the President's counter-drug effort are just two of the areas where America's Army has served the Nation at home. Our Army continues to make other important contributions in areas as diverse as space exploration, medicine, transportation, and technology development. Today, the Corps of Engineers plays an essential role in operating and maintaining our inland waterways, civil works flood control and hydropower projects, and enforcement of our Nation's environmental laws.

Stewardship of Our Resources

The Army is a full participant in the Nation's environmental programs, with a clearly articulated vision and strategy: to be a national leader in environmental and natural resource stewardship for present and future generations as an integral part of our mission. A new organization provides for a general officer as the first Director of Environment in the Office of the Assistant Chief of Engineers in the Pentagon. The Army Environmental Center has also been established to consolidate field functions.

We are working hard to keep pace with new environmental regulatory requirements; we are striving to prevent pollution at its source; and along with restoring the environment, we are conserving and preserving our institutional and natural heritage. We spent over \$700 million to help our installations achieve and

maintain environmental requirements and another \$685 million for environmental restoration activities at Army installations. As a result of special legislation, the Army also turned over 7,600 acres of Fort Meade, Maryland, to the Fish and Wildlife Service for the Patuxent Wildlife Research Center. Originally, this land was to have been sold for an anticipated base closure revenue of \$477 million.

Sixty-three of our installations are home to at least one federally listed threatened or endangered species. Last year we spent \$4.5 million to protect these species. In April 1992, the Army established a headquarters-level, multidisciplinary team to develop new policies and procedures for more effective endangered species management within the Army. The team is drafting a comprehensive endangered species regulation which should greatly reduce conflict between conservation and mission requirements. Fort Bragg's program to protect the red-cockaded woodpecker has already been commended by the Director of the Fish and Wildlife Service.

In addition to environmental concerns, sound stewardship also requires that we continually strive to find more efficient ways to use defense resources. Over the last several years, the Army has quietly and effectively made both change and concern for efficiency a part of our institutional culture. The Army took the lead in implementing the Goldwater-Nichols Defense Reorganization Act as it became law in 1986. Many of the staff changes made in response to that legislation represented good business practices then and continue to make sense today. We are implementing change in a decentralized fashion as we reduce, consolidate, and improve management practices in order to save money and make the Army a more efficient organization. Let me cite some examples of our new ways of doing business.

We are modernizing automated data processing at every level and consolidating 58 of our data processing sites into 9 regional centers. We are also consolidating 42 research laboratories and centers into 22 restructured organizations resulting in savings and greater efficiencies. With the cuts in accessions, we have reduced our Recruiting Command by a brigade and eliminated more than 380 recruiting stations. We will close another 50 stations this year. Our recruiting budget has

been reduced by more than 40 percent since 1990, even though advertising costs are increasing at about 7 percent annually, and further budget decreases of almost 20 percent will occur over the next five years.

We continue to reduce our headquarters staff. A hiring freeze and a cap on the number of high grade positions have been imposed on the departmental headquarters and its staff support and on its field operating agencies, with the latter programmed for reductions of up to 32 percent. Currently, we are in the process of designing a smaller, more efficient departmental headquarters which we expect to yield a 20 percent reduction by FY 1997.

In addition to these changes at the departmental level, we are pursuing other initiatives that will result in leaner, more efficient organizations within our major commands. The Army Materiel Command (AMC), for example, is undergoing a major restructuring, consolidating a number of its commands. From a personnel strength of 105,000 in 1990, AMC will reach 80,000 by the end of 1995. These reductions are only the most visible aspect of significant internal changes within AMC. Similarly, the Army Corps of Engineers has developed a reorganization plan that will better structure the Corps to meet future mission requirements. Under this plan the headquarters of the Corps of Engineers will be reorganized while 11 division offices will be consolidated into 6 divisions. Altogether, the plan will result in estimated annual savings of \$115 million and the reduction of approximately 2,600 positions in Corps offices across the country by 1995.

We are also pursuing realignments, consolidations, and collocations throughout our training base, both within the Army as well as with the other Services. Examples include consolidation of all Army signal training at Fort Gordon and intelligence training at Fort Huachuca; reductions in the number of basic training sites; and the training of Marine tankers at Fort Knox, military police at Fort McClellan, artillerymen at Fort Sill, and all Services' language students at the Army's Defense Language Institute. In fact, the Army trained over 17,000 students from the other Services in FY 1992.

As the executive agent for 139 different functions, the Army continues to perform a wide variety

of additional tasks for the Department of Defense. On behalf of all the Services, for example, the Army provides ammunition support, foreign nation construction, DoD hazardous waste site cleanup, and military postal services. Additionally, the Army serves as the DoD executive agent for U.N. peacekeeping operations in Egypt, Israel, Syria, Jordan, Western Sahara, Iraq, Kuwait, Cambodia, and Mozambique. As such, the Army selects, trains, equips, and supports the approximately 140 U.S. military observers who are assigned to various U.N. peacekeeping missions. The Army also serves as the executive agent for — and provides the bulk of the forces (987) supporting — the Multinational Force and Observers, an international peacekeeping organization independent of the U.N. that was formed as a result of the Camp David Accords.

We also participate in more than 70 defense management initiatives, over 40 of which were developed by the Army over the last three years. In these initiatives, we are emphasizing information management, acquisition, administration, and logistics. Through FY 1997, the implementation of these will save some \$21 billion and will reduce over 21,000 civilian and 10,000 military spaces.

Modernizing the Force

As we plan for the future, it is imperative that we continue to modernize the force despite steadily decreasing resources. On the whole, the equipment that performed so well in the Gulf War remains the best in the world. However, as our equipment ages, and as technology continues to advance, today's dominant weapons may well become vulnerable to tomorrow's new systems. While the demise of the Soviet war machine means that we do not need all the new weapons in the quantities set out in our previous plans, we cannot afford to abandon equipment modernization altogether. Employing our revised models of potential adversaries, we must continue to upgrade our existing equipment, pursue essential new and follow-on systems, and maintain a sufficient level of research to preserve our technological advantages.

The Army intends to achieve its modernization objectives by focusing scarce resources to improve existing capabilities with cost-effective modifications, inserting technology to leverage current and future

combat capabilities, and acquiring new equipment only when it ensures high pay-off capabilities or fills a specific shortcoming. Specific examples of this approach are upgrades to combat-proven systems such as the Abrams tank and the Apache helicopter, and procurement of new generation systems such as the Comanche helicopter and the Javelin antitank system. The Comanche, the Army's highest priority new system, is the next generation rotor craft. It will allow us, with fewer total helicopters, to better perform missions currently accomplished by three types of helicopters, with increased survivability, and greater operational and support efficiency. Using Total Quality Management techniques, the Comanche management team is demonstrating the Army's commitment to procurement improvements in a manner that will allow a shorter fielding time at reduced costs.

Our future capabilities to fight and win are dependent on wise decisions today concerning research, development, and acquisition of improved systems. Many of our most successful systems were developed in the 1970s, produced in the 1980s, and won victories in the late 1980s and early 1990s. Throughout the 1980s, however, the ratio of procurement to research and development (R&D) was 3 or 4 to 1. Throughout the 1990s, as funds for R&D decline, the drastic reduction in procurement money will move us toward a 1 to 1 procurement-to-R&D ratio. We are making a great effort to plan wisely for the 21st century, taking into account shrinking resources, but we must sustain our austere strategy. As an example of our internal analysis, AMC monitors the capability of the industrial sector to support the Army's modernization strategy in order to help shape the industrial base.

Another important procurement concern is strategic mobility. To accomplish our national military strategy, the Army must be able to deploy one light and two heavy divisions worldwide in 30 days, and a five division contingency corps with full support in 75 days. The congressionally-mandated *Mobility Requirements Study* provides the analytical basis for equipment requirements and procurement plans for the FY 1992-99 period. This study validated the ongoing C-17 acquisition program, recommended enhancement of the Ready Reserve Force, and called for 20 additional large roll-on/roll-off ships. Funding for sealift appropriated through FY 1993 may be enough to build 10 ships. Concurrently, the Army has

programmed funding to ensure timely movement of Army forces to ports to meet ships. The Army Strategic Mobility Program was funded for \$59 million in FY 1992 and \$189 million the following year. Continuing increases for strategic mobility funding are projected to total \$1.9 billion in future years. To leverage the strategic lift programs, we are consolidating our logistical stockpiles; war reserve stocks, for example, are being reduced from 16 to 5.

Focusing Change

I have highlighted many of our accomplishments, plans, and programs as we transform the Cold War Army to a leaner, more efficient, but still effective force capable of winning our Nation's wars and serving the Nation in peace. Our Army has changed significantly since the end of the Cold War, and we have sound plans to complete the reshaping process in the next several years. One of our most important vehicles for testing, evaluating, and modifying our plans will be our upcoming Louisiana Maneuvers (LAM), a concept based on the series of exercises of the same name orchestrated by Generals Marshall and McNair as they prepared the Army for World War II. LAM is a process to guide the evolution of our Army into the 21st century by focusing our energies on the most important aspects of our mission.

Our concept is for LAM to employ advanced distributed simulation technology and exercises to enable us to experience our mission of power projection. Every level of warfighting and departmental functions will be open for examination as issues are identified by the Army senior leadership. Exercises, unit training, combat developments, and leader development will be linked in synergistic ways. LAM will enable us to evaluate new concepts and ideas in real time and shortcut more traditional decision methodologies. LAM will harness the energy of the changing Army and focus that energy on the standard of decisive victory.

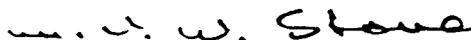
Last year we began research on the appropriate training, simulation, and data collection technologies for LAM. We also began review of the pertinent policy issues and used several exercises as proof of concept. LAM will mature in 1993 with the examination of a major regional contingency in the full operational range from crisis and mobilization through conflict

termination and redeployment. In 1994, we will track multiple exercises at different points to isolate, assess, and decide policy issues and feed those decisions into the force integration process.

Clearly, America's Army faces some challenging years that will be both difficult and invigorating. We must do everything possible to maintain the trust and morale of the Total Army — active and reserve soldiers, civilians, and family members. To do this, we will continue our emphasis on people programs, both for those quality men and women we need to attract and retain as well as for those leaving the Army. We

remain committed to providing the opportunity for all to excel, just as we demand excellence in all that we do.

Most importantly, we must not destroy the essence of the best Army in the world. While it may be easy to realize short-term savings by further reductions in our Army's resources, the longer-term effects could undermine our Nation's ability to protect its interests in the future. America's Army, so painstakingly forged over many years — an Army that has delivered decisive victory in war and has served the Nation well at home — cannot be easily or quickly rebuilt if it is allowed to decline.



Michael P. W. Stone
Secretary of the Army

REPORT OF THE SECRETARY OF THE NAVY

...FROM THE SEA

In 1992, the Department of the Navy responded proactively to significant global strategic changes. The naval service boldly shifted its focus from global confrontation to a littoral, regional strategy. A new combined vision for the Navy and Marine Corps, *...From the Sea: Preparing the Naval Service for the 21st Century*, outlines the shift away from open-ocean warfighting toward joint operations conducted in littoral areas of the world. Its new direction is for the naval service to provide the Nation with

Naval expeditionary forces that are shaped for joint operations, that operate forward from the sea and are tailored for national needs.

...From the Sea is inextricably a concept of joint operations. While it is predicated on the traditional expeditionary capabilities of the Marine Corps and continued command of the seas by the Navy, it also recognizes the long-standing importance of naval presence and diplomacy, pivotal components of international cooperation and coalitions. Most importantly, its emphasis on littoral warfare focuses flexible Navy and Marine Corps capabilities to enable the joint combat power of the U.S. armed forces to be brought to bear where and when it is needed most.

Preparing the Naval Service for the 21st Century

Major force reductions and initiatives that shape the post-Cold War naval service were taken in 1992. Actions were taken with a clear vision of national needs, our role in regional crises and littoral conflicts, and our special responsibility to encourage naval cooperation within treaty alliances and with other partners who share U.S. interests. Our reshaping supports joint warfare requirements by providing uniquely sea-based and flexible naval forces for national needs and interests. It involves modernization and replacement of key capabilities, not reduction to a miniaturized Marine Corps and Navy of Cold War vintage.

OUR QUALITY PEOPLE

The sailors and Marines that are the foundations of our successful naval service continue to be our top priority. As we restructure to lower force levels, we must keep in mind that manpower is not just a matter of numbers of people, but it is people given quality training, given the tools they need to do their job, and given a quality environment where they can live and work efficiently. Through Quality of Life initiatives, we will take care of our people and their families.

As we restructure our force, reductions in personnel are particularly difficult in light of the high quality of our sailors and Marines. To make voluntary transitions to civilian life easier, we have successfully used Voluntary Separation Incentive and Special Separation Benefit programs. Importantly, no career personnel without retirement eligibility have been involuntarily separated from the naval service to meet end-strength requirements.

The Navy and Marine Corps reservists are a crucial part of our total force when response is required to a major regional contingency. Certain reserve units are designated for crisis response, while others provide peacetime support to their designated active commands. As we restructure our total force naval service, the Navy and Marine Corps Reserves are assuming more active missions and peacetime commitments.

In 1992, the naval service vigorously reemphasized a commitment to ensure that women and men from all backgrounds, races, and creeds are able to work in an environment where all have equal opportunity to succeed. Examples include the core values program, alcohol and drug abuse prevention, sexual harassment prevention, and strong support for programs that promote command and personal excellence.

ORGANIZATIONAL EFFECTIVENESS

In the fall of 1992, the Chief of Naval Operations realigned his staff to parallel the Joint Staff for better

interaction and efficiency. Also, the Commandant of the Marine Corps initiated planning for a similar realignment of the Marine Corps headquarters staff. These moves, along with appointment of a two-star Marine Corps general to the Navy staff as Director of Expeditionary Operations (N85), will facilitate integrated Navy and Marine Corps planning and programming, enhance joint interoperability and better support the unified commanders in chief (CINC) and naval component commanders. Also, by placing the Navy's warfare specialties under one Deputy Chief of Naval Operations (Resources, Warfare Requirements and Assessment), the Chief of Naval Operations will develop a more coherent, integrated, mission-oriented force structure program to support warfighting requirements.

FORCE REDUCTIONS

In FY 1992, overall battle force levels decreased from 526 to 465 ships. Included in this overall reduction were 2 aircraft carriers, 42 surface combatants, and 9 submarines. Twenty-six of these ships were Knox-class antisubmarine warfare frigates that were placed "in out of commission, in reserve status" as an element of the Navy's global force reconstitution capability. An additional eight ships of this class were placed in the active Naval Reserve Force as training ships, a significant commitment to the naval reserves and our total force policy.

Other ships decommissioned in FY 1992 included USS Missouri, the Navy's last active battleship, and USS Lexington, the last active carrier to have served during the Second World War. Additionally, another aircraft carrier, USS Midway, was decommissioned, and USS Forrestal became the training carrier at the Navy Flight School. The nine submarines inactivated included five fast attack and four Poseidon fleet ballistic missile submarines. Five amphibious ships were decommissioned and placed in mothballs as new construction replacements were commissioned to support the naval service's goal to be able to transport at least 2.5 Marine expeditionary brigades. The remaining ship reductions included six 1940s era fleet replenishment oilers operated by the Military Sealift Command; eight 1950s vintage mine sweepers; four rescue, towing, and salvage ships; and four Tagos ocean surveillance vessels. In all, 74 ships were inactivated in FY 1992.

Marine Corps force reductions were accomplished within the guidance of the Marine Corps 2001 Force Structure Plan. Marine expeditionary brigade command elements were consolidated within the command structure of the Marine expeditionary force commands. Several artillery battalions and one tank battalion were deactivated. Significant reductions occurred within Marine air wings with four air squadrons being deactivated.

MODERNIZATION AND REPLACEMENT

The Department continued to modernize the Navy in 1992 with seven new surface ships and four new submarines joining the active fleet. The surface combatants included the sixth Nimitz-class nuclear powered aircraft carrier, USS George Washington, two Ticonderoga-class Aegis cruisers, two Avenger-class mine countermeasures ships, and the eighth and final Whidby Island-class amphibious dock ship. Submarines included the 13th Ohio-class Trident missile submarine, USS Maryland, and three vertical-launch Tomahawk equipped Los Angeles-class fast attack submarines.

Twelve new ships were authorized under the FY 1992 Defense Authorization Act. Most notable among these are 5 Arleigh Burke-class Aegis guided missile destroyers, bringing the total number under contract to 22. The last of these ships will initiate the first evolutionary upgrade of the class (DDG-51, Flight II). Along with 27 Ticonderoga-class Aegis cruisers, the 41 Aegis destroyers currently programmed will form the backbone of the surface combatant fleet into the 21st century. Also included in the FY 1992 authorization were three new Osprey-class mine hunter ships, a Supply-class fleet replenishment ship, a Tagos ocean surveillance ship, and the final two Agor/Tags ocean surveillance ships.

In addition to acquisitions and deliveries, several important new ship design initiatives were undertaken in 1992. In keeping with the naval service's emphasis on littoral warfare, the Department reviewed the capabilities of the Arleigh Burke-class and made adjustments to meet the challenges of the 21st century. The main result was the decision to build a helicopter capable Arleigh Burke derivative designated DDG-51, Flight IIA. The first of these ships is planned for construction beginning in FY 1994. Other initiatives in

1992 included the commencement of a detailed concept design effort for the next generation amphibious assault ship, a long-range study to identify technologies and capabilities for an affordable destroyer in the early years of the next century, and concept definition studies for a new attack submarine capability. Consistent with platform modernization and replacement plans, the naval service continues to procure advanced precision-guided munitions such as Tomahawk cruise missiles, ADCAP torpedoes, and the improved Hawk missile system.

Looking ahead to the 21st century, a war game was played in September 1992 at the Naval War College to test programmed future forces against *Defense Planning Guidance* scenarios. Using the broad guidelines of the national security strategy and the national military strategy, Navy and Marine Corps headquarters staffs evaluated the littoral warfare concepts in ...*From the Sea* against the budget. The game results ensured that the budget accurately reflected the strategy. It also validated future acquisition strategies oriented toward littoral warfare and joint interoperability technologies: e.g., joint communications, information and surveillance systems, night fighting, mine countermeasures, and naval surface fire support.

Naval Aviation

During the past year, reductions in naval aviation continued toward the Base Force level of 12 deployable aircraft carriers. As reductions occurred, the Department took the first steps toward partial integration of Navy and Marine Corps tactical air. Specifically, a plan was initiated to replace four Navy carrier air squadrons with one Marine EA-6B and three Marine F/A-18 squadrons. Looking ahead, we will explore options to resolve the Marines' Medium Lift Requirement after review of both rotary and tilt-rotor alternatives. In other future plans, congressional approval of advance procurement funding for CVN-76 will enable the Navy to continue toward a capable, all-nuclear carrier force over the next 20 to 25 years. This modern force depends on efficient procurement of new tactical aircraft. Our naval aviation procurement priorities, the F/A-18E/F and A/FX programs, are structured to provide timely and effective resolutions to joint strike requirements into the 21st century.

Sealift is Vital

Forward land-based U.S. air and ground forces in parts of Europe and the Western Pacific enhance our ability to respond quickly to crises there. However, many areas of the world exist where regional contingencies may require equally urgent responses that can best be accomplished from the sea. Responding to regional crises is one of the key elements of the national military strategy. Key to our response from the sea is strategic mobility which depends on prepositioning, airlift, and sealift.

In Operation DESERT SHIELD/STORM, sealift carried over three million tons of American equipment and six million tons of petroleum products to the theater. However, the conflict highlighted deficiencies in Ready Reserve Force shipping and the crucial impact of strategic sealift on rapid deployability. On July 14, 1992, the Deputy Secretary of Defense designated the Secretary of the Navy as the Department of Defense executive agent for acquisition of sealift, responsible for establishing a sealift program consistent with the priorities established in the *Mobility Requirements Study* and by the CINC, U.S. Transportation Command. To meet these priorities, the Department has taken the initiative with a ship design and shipbuilding/conversion program for approximately 20 large roll-on/roll-off strategic sealift ships. Conversion and new construction contracts should be awarded in FY 1993.

Infrastructure Strategy

The drawdown of the naval service's infrastructure commensurate with force structure reductions is clearly one of our greatest challenges. Consequently, the Department is reducing excess capacity through the achievement of management economies and efficiencies including Defense Management Review initiatives; through rigorous implementation of previously approved closures and consolidations; and through careful planning for future consolidations and realignments as part of the next round of Base Realignment and Closure Commission proceedings in FY 1993. To ensure that a credible and comprehensive review of naval military installations is conducted in accordance with the Defense Base Closure and Realignment Act, we established a Department of the Navy Base Structure Evaluation Committee supported by a Base

Structure Analysis Team. They will develop a data base; ensure all data is valid; perform capacity analyses; identify any excess capabilities; and recommend closure and realignment strategies, options, and alternatives. The Secretary of the Navy will review the final list of base closures and realignments and submit them to the President's Base Closure Commission via the Secretary of Defense.

The Naval Service and the Environment

The naval service is committed to being a good steward of the natural resources found on its installations and to fostering a Service-wide environmental ethos. We are cleaning up hazardous waste sites on Navy and Marine Corps installations with efficient use of the Defense Environmental Restoration Account. Wherever possible, restoration is being accelerated within fiscal constraints and with priority on the most critical sites. At sea, the Navy's rigorous shipboard pollution control program — recovering oil from bilges, installing trash compactors, pulping and recycling ship plastic waste, and seeking alternatives to ozone layer-damaging chemicals such as chlorofluorocarbons (CFCs) and halon — is a positive example of American leadership in global environmental protection.

Operations of the Naval Service

Naval forces, tailored to national needs, are uniquely suited to project the will of the American people and promote the interests of the United States in a world in transition. With worldwide reductions in U.S. military forces and the closure of many overseas bases, the relative importance of forward-deployed naval forces has increased. Of great value are Maritime Prepositioned Ships (MPS), proven in Operation DESERT SHIELD to reduce crisis response time from weeks to days. To support the rapid deployment of Marine expeditionary forces, an MPS squadron prepositions equipment and supplies for a combat force of 16,500 Marines aboard specially designed, strategically positioned ships.

In war and in regional contingencies, the naval service is critical to the projection of the full spectrum of American combat power. In peacetime, it promotes American interests through time-proven international naval cooperation. The United States has formal

defense agreements with 47 countries and close defense ties with 22 others. Forward-deployed naval forces, in operations and exercises with allies, friends, and potential new partners, establish the important interoperability of combat power and the foundations for multilateral cooperation in a regional crisis. The best way to visualize this concept of global naval operations, prepositioning, and international cooperation is the chart of forces presented at daily Department briefings. The figure depicting the first day of FY 1993, was typical (see page 133).

NATIONAL SECURITY WITH INTERNATIONAL ENGAGEMENT

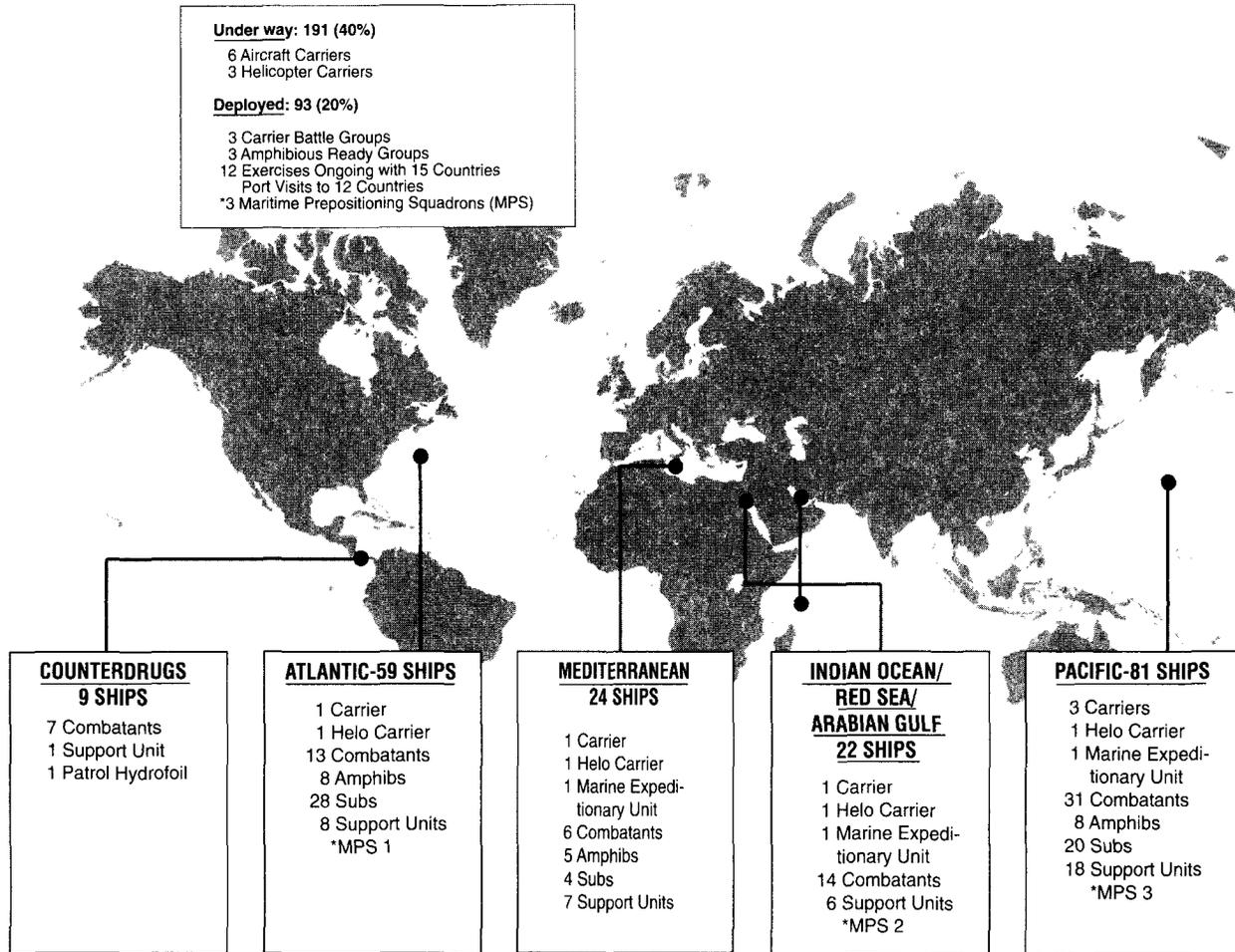
Throughout 1992, U.S. naval forces tailored to national needs promoted American interests through forward presence and naval expeditionary operations around the world. The national security strategy states that forward presence is the essential glue that permits the United States to demonstrate positive influence and engage friends and allies to promote American interests throughout the world. The national military strategy states that forward-deployed naval forces are critical to stability in densely travelled and potentially volatile littoral areas. It further asserts that in crisis response, naval forces are required to establish and maintain control of open oceans and littoral areas, to deliver joint forces by sea, to land Marine expeditionary forces, and to support the land forces of all Military Services with carrier air and cruise missiles.

Forward presence and international engagement by U.S. naval forces continued in 1992 with scores of naval operations, including the longest interdiction operation undertaken by the United States, MARITIME INTERCEPTION FORCE OPERATIONS — the maritime embargo of Iraq in concert with British and French naval forces. As of October 1992, over 15,000 ships had been challenged, over 5,600 were boarded, and 600 with improperly laden cargo bound for Iraq were diverted. Another significant joint operation in Southwest Asia was Operation SOUTHERN WATCH where naval aviation operated from the sea to enforce the U.N. no-fly zone in southern Iraq. The naval service also participated in Operation MARITIME MONITOR in cooperation with Western European Union navies to enforce U.N. sanctions against the former Yugoslavia.

The Navy/Marine Corps

Chart 13

(As of October 1, 1992)



Humanitarian Relief

The naval service was prominent in humanitarian assistance in 1992. Our unique sea-based flexibility allows the Navy-Marine Corps team to respond whenever and wherever needed for relief, evacuation, and humanitarian assistance. In Operation PROVIDE RELIEF, an amphibious ready group with an embarked Marine expeditionary unit stood by in international waters to stabilize the Somalia diplomatic situation and enable relief agencies to combat famine. Several months later these forward-deployed forces served as the vanguard of Operation RESTORE HOPE. Operating and sustained from the

sea, a naval expeditionary force which included an amphibious task unit, a Marine expeditionary unit, and carrier air support landed Marines and sailors in Somalia to ensure security of relief supply delivery and to bring stability and hope to a ravaged nation.

In Southwest Asia, sailors and Marines participated in joint humanitarian assistance to Kurdish refugees. In Italy, they worked to slow and divert the advance of volcanic lava on a Sicilian village. In Honduras, they prevented a grounded merchant tanker from causing a major oil spill. Here, at home, our sailors and Marines brought relief to hurricane survivors in Florida, Louisiana, Guam, and Hawaii.

Counterdrug Operations

Throughout 1992, five to eight Navy ships were continuously on station in the Caribbean for detection and monitoring missions in support of Joint Task Force Four counterdrug operations. A minimum of eight maritime surveillance aircraft from Panama; Key West, Florida; and Puerto Rico routinely supported these operations. Additionally, three to five ships conducted counterdrug operations on a continuous basis in the eastern Pacific. These ships and aircraft logged over 4,700 steaming days and 34,000 flight hours. Navy and Marine Corps training teams also routinely deployed to host countries. Within the United States, they provided reconnaissance, intelligence, and support to over 60 joint missions with U.S. drug law enforcement agencies. The Department's counterdrug priority is to continue to support the unified CINCs jointly with other defense agencies and assist the CINCs in developing programs and methods that increase the efficiency and effectiveness of counterdrug operations. Additionally, the Department has put renewed emphasis on assisting naval service members, their families, and local communities through a Drug Demand Reduction Task Force.

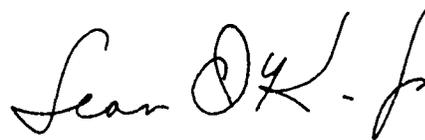
Conclusion: Global and Regional Stability

The reduction in nuclear tensions and the turn away from global confrontation have had a profound effect on the naval service. In 1992, the last Poseidon mis-

siles were off-loaded from one of the "41 for Freedom" fleet ballistic missile submarines that helped win the Cold War. Likewise in 1992, the President's September 1991 initiative to reduce nuclear arsenals was fulfilled when the last tactical nuclear weapons were removed from U.S. Navy ships and submarines. Still, the threat of nuclear proliferation and a worldwide inventory of thousands of strategic nuclear warheads demand readiness; Trident missile submarines will continue to provide the prominent sea leg of U.S. strategic nuclear deterrence.

With the end of global confrontation, regional stability becomes an immediate and pressing requirement. The Navy and Marine Corps team stands ready around the globe to stabilize a hot spot so diplomacy can go to work and, should diplomacy fail, to enable the joint combat power of all the Military Services of the United States to be brought to bear. Readiness for combat brings readiness to assist in humanitarian missions at home and abroad, a capability reaffirmed in 1992 as it has been again and again since our Nation's founding.

The strengths of the U.S. naval service in modern ships, aircraft, and equipment, in the quality and training of its people, and in the readiness inherent in peacetime operations ensure that it will remain a valuable tool of peace and diplomacy, a deterrent to war, and an essential element of joint combat effectiveness.



Sean O'Keefe
Secretary of the Navy

REPORT OF THE SECRETARY OF THE AIR FORCE

Air forces combined with space forces are pivotal contributors to our national military strategy in deterrence, forward presence, and crisis response. The June 1990 white paper *Global Reach-Global Power* was the first comprehensive statement of the Air Force role in national security since 1947. It laid out a vision of aerospace power that looked beyond the Cold War and formulated a strategic planning framework for the Air Force, building on the unique characteristics of aerospace forces — speed, range, flexibility, precision, and lethality.

Global Reach-Global Power encapsulates these abilities and serves as the framework for corporate strategic planning in the Air Force. Five key missions define *Global Reach-Global Power*: sustaining nuclear deterrence, power projection, global mobility, controlling the high ground of space, and building U.S. influence around the world. The Air Force budget process is built around these categories, and all Air Force programs and operations are judged by how they contribute to these missions. More than any other single event, the decisive role of airpower in the Gulf War validated the concept of *Global Reach-Global Power*, and confirmed the increasing role of air and space forces in national security. Beyond this, the Air Force provides America with unique strengths for building influence and extending a helping hand around the globe.

The mission of the Air Force is: "To defend the United States through control and exploitation of air and space." Air and space power are what the Air Force and its people bring to the Nation's defense. Airpower takes diverse forms: the helping hand of relief flights or the clenched fist that struck decisively against Iraq. Space power is a prerequisite to success in modern combat. Future threats will be uncertain, but with careful planning and budgeting, our ability to carry out our mission will be more sure-handed than ever before.

Over the past year, the Air Force launched firmly into a new era where air and space power's contribution to national security is diversifying and increasing.

Air Force people and programs are also in the process of reshaping as a smaller, yet more capable force, ready to meet increasingly unpredictable challenges and threats. Providing crisis response and peacetime presence anywhere on the globe has replaced planning for global war, and our budget priorities reflect the change.

Transition to a New Security Environment

In 1992 the Air Force passed a number of milestones in its transition to a new security environment. Two presidential nuclear arms reduction initiatives, the Washington Summit, and the ratification of START have redefined the role of nuclear strategy for the Air Force. The new United States Strategic Command (STRATCOM) assumed responsibility for joint Air Force and Navy nuclear planning. Even with smaller force numbers, a rock-solid nuclear deterrent remains a cornerstone of our security.

At the same time, changing nuclear requirements have freed some forces for primary conventional roles, playing to and enhancing the inherent strengths of airpower. In June, we presented the Bomber Roadmap and testified to Congress on our plans for conventional enhancements to the bomber force. Over the next several years, precision munitions like Joint Direct Attack Munition and Tri-Service Standoff Attack Missile and a series of planned upgrades will integrate the B-52Hs, B-1s, and B-2s into a versatile force with revolutionary long-range effectiveness. Conventional power from far and near will be at the core of our Nation's ability to deter credibly and fight effectively.

A brisk tempo of military-to-military contacts is helping us constructively shape the new security environment. Russians hosted American bombers, tankers and fighters this year, and visited Barksdale AFB, Louisiana, and Langley AFB, Virginia. As one USAF B-52 pilot said when his crew met their Russian hosts, "I planned to visit your country but never expected you to play the 'Star Spangled Banner' when I got here!"

As the Air Force moves beyond the legacy of the Cold War, we face two challenges: preserving the

forces to deal with near-term threats while building — steadily and affordably — the systems of the next century. The Air Force focuses on contributing to the core capabilities for our Nation. These include the ability to maintain global situation awareness, inflict strategic and operational paralysis on any adversary by striking key warmaking nodes, and hold emerging capabilities for mass destruction at risk — while backing it up with missile defense. All this requires that we be able to deploy sufficient, quality forces worldwide to deter or defend in any region. In addition, we must provide forces to assist international efforts for missions such as humanitarian relief, peacekeeping, and drug interdiction. Sustaining a research and industrial base to guarantee a technology edge is critical for maintaining these core capabilities.

Reshaping for the Future

Airpower — to include space — is a seamless whole that delivers a remarkable set of tools. Many of these tools — such as precision and stealth — were for the first time used *together* on a large scale in the Gulf. Others — such as real-time processing and dissemination of information to combat forces — are tools that we are improving at a rapid pace. Some, particularly in the area of space, will reach their full potential after the turn of the century. Qualitative improvements in each area add up to a major evolution in aerospace power as a *whole*.

To stay abreast of these evolutions in the basic attributes of airpower, we have implemented several major changes in our organization. One of the most dramatic examples is the shift away from a primary emphasis on strategic nuclear roles for long-range bombers. B-1 crews that once spent most of their training time in the nuclear role now fly more than two-thirds of their training sorties practicing a variety of demanding conventional missions. This is part of a broader process of eliminating outdated distinctions between *strategic* and *tactical* — for airframes and for major commands.

Over the past year, the Air Force implemented the most significant reorganization since we became a separate service in 1947. The Air Force reshaped to apply global reach and power in circumstances where theater warfare — not a global Soviet threat — is the emphasis. Strategic Air Command, Tactical Air Com-

mand, and Military Airlift Command created specializations that served us well, but the experience of Operation DESERT STORM was the final impetus that led us to reexamine and change some old practices to better structure the Air Force for a new era. In 1992 the three merged into the new Air Combat Command and Air Mobility Command.

Similarly, melding Systems Command and Logistics Command into the new Air Force Materiel Command (AFMC) reflects these organizational changes and helps infuse modern management principles into every aspect of the business of the Air Force. AFMC's job is to turn global power and reach concepts into capabilities — to design, develop, and support the world's best air and space weapon systems. AFMC has laid its cornerstone in the Integrated Weapon System Management concept, giving us cradle-to-grave management of our systems. In the restructured Air Force Intelligence Command, one commander now has responsibility for functions once scattered across the Air Force.

Measured in resources and personnel, the restructuring of major Air Force commands dwarfed any of the mergers and acquisitions that took place among private sector companies over the preceding decade. More important, extensive reshaping positioned the Air Force to decentralize, and to take down the walls that divided airmen and the functions of airpower into limiting categories. As General Merrill A. McPeak explained: "The real test of an institution is how it handles success. Everyone recognizes the need for change after failure. What should make us proud is that . . . we are way ahead in crafting an Air Force that fits the needs of the next century." All of our wings are in the new objective configuration. From 1992 on we will tally Air Force strength by wings — coming down to 150 wings total, active and reserve, down from more than 250 just a few years ago.

Reorganizing includes closing bases. Nineteen bases are slated to close, beginning with four shut-downs in 1992 and another seven in 1993, and more will be recommended for closure when the Base Realignment and Closure Commission convenes in 1993. Overseas, we are withdrawing from 10 bases, and at the end of FY 1993 we will have 30 bases left in 12 countries. Continued investment in environmental programs, including base cleanup, will ease the

transition for facilities that close and improve conditions where needed at our remaining operational bases. While we are downsizing our physical plant, we must maintain and, where needed, enhance the quality of our remaining installations, performing necessary construction, maintenance, and repairs.

Our goal is to create a smaller, more capable Air Force, and that makes people the number one priority. We are getting smaller and striving to do it the right way. Our goal is to let those who want to leave do so, while retaining quality people to meet future needs. Budget realities led us to implement an officer reduction-in-force for the first time in 18 years, and to conduct an officer selective early retirement board. Air Force members who remain can count on working in a highly professional environment, rich in the career opportunities that sustain pride and performance. Along with the other Services, we have reaffirmed our commitment to *zero tolerance* of sexual harassment, or any form of discrimination. Equality is an essential foundation for total quality in the Air Force.

Many challenges lie ahead as we organize, train, and equip for a demanding future. Air and space forces should train as they plan to fight; we designated 1992 as the Year of Training and reexamined our education processes. Establishing goals to streamline the training structure and developing quality improvement initiatives will raise standards for training and enhance procedures throughout the force.

Air and Space Power Mature

In 1992 the Air Force continued to consolidate and build on the new potential of air and space power. Publication of the new Air Force Doctrine Manual 1-1 in April 1992 distilled and updated thinking on the application of aerospace power. No theater commander can respond to an unfolding crisis without drawing on the attributes of global reach and power. No joint or combined force can sustain a campaign without the right forces to control and exploit air and space. Evolution in technology and doctrine gives today's Air Force the inherent flexibility — and the enhanced lethality — to apply force with precision and achieve unprecedented effectiveness.

Forces deployed overseas permanently or tempo-

rarily provide a flexible tool, ready to watch and monitor, or to form the tip of the spear for response if a crisis occurs. Even with reduced force structure and overseas bases, long-term presence in Europe and the Asia-Pacific region is central to our regional defense strategy. Global reach and power also means maintaining the ability to deploy forward from the United States. The composite wings in Idaho and North Carolina are structured to deploy within hours.

Forces based in and operating from the continental United States also have a widening role in projecting power and presence forward as needed. Long-range bombers on the ramp in Missouri or the Dakotas can deliver precise firepower anywhere in the world, within hours.

Key modernization programs will maintain our ability to achieve national goals by controlling and exploiting air and space. To project power from anywhere on the globe, the B-2 will deliver precision conventional firepower. B-2 stealth works: in 1992, the B-2 completed hundreds of hours of flight testing, demonstrating a solution for a signature anomaly identified in one earlier test. Fighter forces paired with ready airlift are a formidable combination that can deploy worldwide and sustain high in-theater sortie rates. Just 19 C-5 loads could deliver *all* the precision-guided munitions dropped by the F-117s during Operation DESERT STORM. New systems such as the F-22 will be able to operate with even less support — a truly leaner, meaner force. Day to day the Air Force also provides America with unique strengths for building influence and extending a helping hand around the globe. For future global mobility, the C-17 will combine range, payload, and short-field capability, allowing quicker force package deployments to deter and succeed in conflict — or to join in multinational operations.

Space is a critical mission area today and will prove pivotal in the next century, as we extend our reach beyond the atmosphere to control and exploit the high ground of space. Space superiority — built on assured access to space — is joining air superiority as a *sine qua non* of global reach and power. The Air Force Global Positioning System is advancing satellite navigation. Global weather information is processed and disseminated to our

forces on a routine basis. Survivable, secure communications, available on a global scale to our forces, is becoming a reality with Milstar communication satellites. Air Force space programs extend our ability to control and exploit the high ground of space. That includes deterring the hostile use of space and providing strategic and theater defenses against ballistic missile attack.

Air Force Guard and Reserve forces delivered an excellent standard of performance in Southwest Asia, and continue to form a crucial part of our operations. Consequently, Guard and reserve forces are taking on new missions and expanding their roles in traditional tasks. Active duty manpower levels have been reduced by more than a quarter since the mid-1980s, but Guard and reserve personnel strengths will maintain their current levels. Air reserve component (ARC) units will grow from one-third to over 42 percent of the total fighter force by 1995. If we include the air defense interceptors of our National Guard, fully 48 percent of Air Force fighter cockpits will be filled by reservists and Guardsmen. Similarly, nearly half of all our airlift aircraft are in the Guard and reserve, as are 56 percent of all our airlift flight crews. The restructuring of our bomber forces will also allow us to transfer some B-52s and B-1s to Guard and reserve units.

Extending Global Reach

Effective military instruments need not always be used for war. For conflicts short of war, special operations forces stand ready with tailored capabilities from combat search and rescue, to infiltration and exfiltration. The Air Force routinely employs surveillance assets and other forces throughout the Americas to help stem the flow of narcotics. Another aspect of global reach and power is employing air and space forces to accomplish national security objectives by building influence abroad. Air Force professionals provide tools — from training to airlift to air occupation — that offer great flexibility no other nation can match.

Part of global power is the means to extend a helping hand, and to use airpower for diplomatic and humanitarian purposes, or in support of international objectives. In one particular week during the autumn of 1992, the Air Force supported firefighting opera-

tions in California and Idaho, humanitarian relief efforts in Somalia and the former Yugoslavia, and peacekeeping forces in Angola. Air Force tankers built the air bridges to keep airlift flowing at a steady rate. Airlifting relief supplies to Russia in the winter of 1992 put global reach to work to produce a different sort of effect. Operation PROVIDE COMFORT offers another example: the same forces that participated in the Gulf War shifted to providing relief supplies to Kurdish refugees in northern Iraq. As always, Air Force planes are on hand in the United States — disaster relief to Florida's victims of Hurricane Andrew was just one example.

Air and space power are also reaching into new arenas. Peacekeeping represents one area where global reach — backed up by access to global power — is making a growing contribution. Operation OLIVE BRANCH dedicated U-2s to collect information to implement U.N. Security Council Resolution 687 provisions for destroying nuclear capabilities and missile weaponry in Iraq. Air forces can conduct a form of air occupation. Watchful airpower enables us to back up the small teams conducting inspections and control the behavior of Iraqi forces. In Operation SOUTHERN WATCH, Air Force and Navy aircraft enforced a no-fly zone over southern Iraq. Peacekeeping operations demand tailored responses — to monitor, inspect, and enforce diplomatic solutions. Airlift, surveillance, and ready, tailored combat power to deter or defend are among the contributions air and space forces can bring to international peacekeeping efforts.

A new era demands that we sharpen our ability to shape the international environment. Five and 10 years from now, the Air Force will be smaller than it was in 1991, but it will also be more lethal, and hence more capable. Signs of the response to that challenge are visible in the major procurement programs, the new Air Force doctrine manual, the command organization, and the commitment to quality in personnel and training.

The *Global Reach-Global Power* planning framework ensures that the Air Force of the 1990s is smaller in numbers, yet more capable of sustaining core capabilities and countering a wide variety of challenges to our Nation's security and our interests abroad. Air and space forces must be prepared to shoulder increased

responsibility for bringing decisive capabilities to bear in a range of combat operations and in military operations short of war.

Air and space power have become central to the way that our Nation uses its military forces. Global power assures our friends that they are not alone. With the Air Force's global reach, potential adversaries understand

that distance does not mean disinterest. In all of its forms *Global Reach-Global Power* is a formula for American engagement. Our aerospace forces and technology are a national treasure and a competitive edge, militarily and commercially. Now, more than ever, we have the opportunity to mature the abilities of Air Force air and space forces and make them even more useful tools for meeting our national security objectives.



Donald B. Rice
Secretary of the Air Force

REPORT OF THE CHAIRMAN OF THE RESERVE FORCES POLICY BOARD

I am pleased to have this opportunity to present a brief summary of the Reserve Forces Policy Board's (Board) observations and recommendations of the past year. The Annual Report of the Board will provide a comprehensive review of all aspects of reserve component programs and include a summary of the Board's positions and recommendations on specific issues.

The Board, acting through the Assistant Secretary of Defense for Reserve Affairs, is "the principal policy advisor to the Secretary of Defense on matters relating to the reserve components" (10 USC 175(c)). Representatives of each of the seven reserve components (Army and the Air National Guard, and the Army, Navy, Marine Corps, Air Force, and Coast Guard Reserve) serve as members of the Board as prescribed by law. As an advisory board, the Board offers independent advice, as well as reports on reserve strengths and readiness, and the other critical issues relating to the reserve components.

FY 1992 has been a year of transition. The traditional threat of global war no longer dominates our plans. Instead, we are exposed to regional challenges ranging from violent military conflicts to humanitarian missions to disaster relief operations. And these challenges arise unpredictably both at home and abroad. Traditionally, we have structured our forces to meet the predicted threat, but the threat is no longer predictable. To ensure military preparedness to support the emerging national and military strategies, we must build sufficient capabilities into our reserve and active components to fit a variety of missions. Units from this capability-based force can then be appropriately mixed and matched to meet any challenge. The resulting force mix will be crucial to the reserve components; it will determine both their capabilities and limitations into the next century.

We have a tendency to model our reserve forces and structure after the active forces. This creates reserve components of mirror-image units which, while familiar to the active leadership, are not always what is needed for national security. A smaller but more capa-

ble active component will require a more flexible and innovative reserve structure. Many senior positions not needed for a low-intensity environment will be eliminated. But high-intensity conflict is still possible, and we must be ready. Individual reservists, carefully integrated into the active structure, can provide the necessary depth of experience to maintain this readiness. New concepts and flexible training opportunities must be developed to attract those individuals with critical skills to the reserve components.

The drawdown of active component end strength provides opportunities to retain trained manpower through transition of former active component personnel into the reserve components. Consequently, there is a need to maintain sufficient reserve component force structure in order to provide adequate capacity to support the transition of former active component members into the reserve components. This is a national asset that should not be lost. Not only would this increase the active duty experience level of the reserve components, but it would also preserve the training investment in former active component members. The Board believes that an effective transition program can retain the Nation's investment in trained and experienced active duty personnel and concurrently improve reserve component readiness.

The Military Services have made great strides in preparing for mobilization. Over the last 10 years, significant effort has been spent planning for and exercising various mobilization situations. The acid test was Operation DESERT SHIELD/STORM, and the total force policy proved its worth. One of the lessons learned from that operation is that we need to do deliberate planning for demobilization before the onset of hostilities. Operation DESERT STORM showed us that major military operations can be swift and decisive, but may not require an occupation force beyond the end of the war. In this environment, sufficient time is not available to plan for demobilization during or after the conflict. Demobilization must be planned for and exercised in advance.

The Board is closely monitoring medical personnel

strengths to permit early identification of recruiting or retention problems, if any, resulting from Operation DESERT SHIELD/STORM. To date, it appears that retention has remained constant, with a slight decline in recruiting.

There are continuing shortages in some selected reserve health care specialties. These shortages have persisted for years, and additional incentives may be required to alleviate them. Continuing efforts are also needed to increase the percentage of personnel who are fully qualified in their current duty positions.

Replacing selected reservists who depart prior to completion of their term of service is costly and time consuming. Retention of trained personnel should continue to receive a high priority.

Full-time support (FTS) personnel are one of the pillars of readiness, yet there continues to be a critical shortage, especially in the Army's reserve components. Adequate numbers of FTS personnel are essential to accomplish reserve component administrative requirements, to ensure adequate maintenance of equipment, and to improve training and mobilization readiness. This is particularly important as our units have to be able to respond on short notice to a variety of missions.

Family support together with employer support were perhaps the two most important programs for members of the reserve components who were mobilized. Family support activities should be adequately funded. Family and employer support programs should continue to be enhanced; they are essential to the success of an all-volunteer force.

Operations JUST CAUSE, DESERT SHIELD/STORM, and PROVIDE COMFORT have demonstrated the important contributions women are making as members of the armed forces. In its interim report to Congress on the conduct of the Persian Gulf conflict, the Department of Defense reported that women were

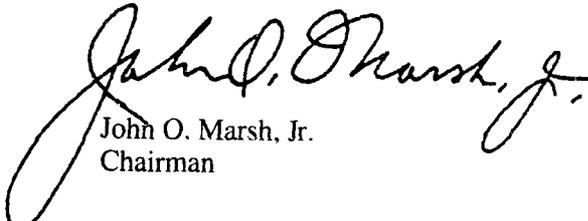
fully integrated into their assigned units, deployed successfully, and performed admirably in vital roles under stress, enduring all of the same hardships under the same harsh conditions as male counterparts. The Board supports the expansion and enhancement of appropriate career opportunities for women and minorities in the reserve components.

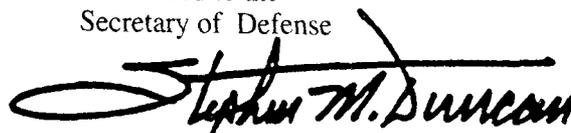
Traditionally, care for the environment was not a major consideration in training for and conducting military operations. In fact, practices which were acceptable, or even recommended, in the past have recently been determined to be hazardous. The Board commends the efforts of the Department of Defense to improve our stewardship of the environment. However, there is continuing concern about the potential liability (civil and criminal) of reserve component commanders. This is an area that the Board has placed emphasis on in the past and will continue those efforts in the future.

It is clear that the United States is moving toward a smaller military establishment. Reductions in the active force will necessitate heavier reliance on the reserve components. The Board believes that the reserve components are both cost-effective and capable. The reserve components stand ready to accept additional responsibilities. However, added missions and force structure must be adequately resourced.

This year, the Reserve Forces Policy Board celebrated its 40th anniversary. The Board was established by law in 1952 to serve as "the principal policy adviser to the Secretary of Defense on matters relating to the reserve components." The Board has operated ever since as a part of the Secretary of Defense's team, and provides an important source of advice to the Secretary of Defense on reserve component policy issues.

The Board's annual report entitled *Reserve Component Programs FY 1992* is scheduled for publication in March 1993. It will provide more detailed information regarding reserve component programs and issues.


John O. Marsh, Jr.
Chairman

Forwarded to the
Secretary of Defense

Stephen M. Duncan
Assistant Secretary of Defense
for Reserve Affairs

Appendices

BUDGET TABLES

Department of Defense — Budget Authority by Appropriation^a
(Dollars in Millions)

Table A-1

| | FY 1986 ^b | FY 1987 | FY 1988 | FY 1989 | FY 1990 | FY 1991 ^c | FY 1992 ^c | FY 1993 |
|---|----------------------|----------------|----------------|----------------|----------------|----------------------|----------------------|----------------|
| Current Dollars | | | | | | | | |
| Military Personnel | 67,794 | 74,010 | 76,584 | 78,477 | 78,876 | 84,213 | 81,221 | 76,417 |
| Operations & Maintenance (O&M) | 74,888 | 79,607 | 81,629 | 86,221 | 88,309 | 117,234 | 93,791 | 85,785 |
| Procurement | 92,506 | 80,234 | 80,053 | 79,390 | 81,376 | 71,740 | 62,952 | 53,837 |
| Research, Development, Test, and Evaluation (RDT&E) | 33,609 | 35,644 | 36,521 | 37,530 | 36,459 | 36,193 | 36,623 | 38,222 |
| Military Construction | 5,281 | 5,093 | 5,349 | 5,738 | 5,130 | 5,188 | 5,254 | 4,547 |
| Family Housing | 2,803 | 3,075 | 3,199 | 3,276 | 3,143 | 3,296 | 3,738 | 3,941 |
| Special Foreign Currency Program | 2 | 4 | | | | | | |
| Defense-wide Contingency Revolving & Management Funds | 5,235 | 2,612 | 1,246 | 897 | 566 | 2,701 | 4,587 | -1,984 |
| Trust & Receipts | -707 | -781 | -801 | -668 | -832 | -44,329 | -5,733 | -691 |
| Deduct, Intragovt Receipt | -22 | -28 | -26 | -25 | -27 | -29 | -550 | -1,022 |
| Total, Current \$ | 281,390 | 279,469 | 283,755 | 290,837 | 292,999 | 276,208 | 281,883 | 259,052 |
| Constant FY 1993 Dollars | | | | | | | | |
| Military Personnel | 85,086 | 90,581 | 90,179 | 89,474 | 88,631 | 90,633 | 84,846 | 76,417 |
| O&M | 97,259 | 99,977 | 99,290 | 100,079 | 99,033 | 122,784 | 97,108 | 85,785 |
| Procurement | 117,686 | 98,551 | 94,681 | 90,515 | 89,651 | 76,498 | 65,010 | 53,837 |
| RDT&E | 43,025 | 44,233 | 43,688 | 43,093 | 40,287 | 35,578 | 37,841 | 38,222 |
| Military Construction | 6,802 | 6,333 | 6,381 | 6,572 | 5,661 | 5,540 | 5,428 | 4,547 |
| Family Housing | 3,550 | 3,790 | 3,821 | 3,761 | 3,477 | 3,497 | 3,862 | 3,941 |
| Special Foreign Currency Program | 3 | 4 | | | | | | |
| Defense-wide Contingency Revolving & Management Funds | 6,647 | 3,229 | 1,495 | 1,033 | 626 | 2,877 | 4,741 | -1,984 |
| Trust & Receipts | -898 | -966 | -961 | -769 | -921 | -47,211 | -5,922 | -691 |
| Deduct, Intragovt Receipt | -27 | -35 | -31 | -29 | -30 | -31 | -568 | -1,022 |
| Total, Constant \$ | 359,132 | 345,699 | 338,543 | 333,728 | 326,415 | 293,164 | 292,344 | 259,052 |
| % Real Growth | | | | | | | | |
| Military Personnel | -3.4 | 6.5 | -0.5 | -0.8 | -1.0 | 2.3 | -6.4 | -9.9 |
| O&M | -4.7 | 2.8 | -0.7 | 0.8 | -1.1 | 24.0 | -20.9 | -11.7 |
| Procurement | -7.5 | -16.3 | -3.9 | -4.4 | -1.0 | -14.7 | -15.0 | -17.2 |
| RDT&E | 4.5 | 2.8 | -1.2 | -1.4 | -6.5 | -4.3 | -1.9 | 1.0 |
| Military Construction | -6.9 | -6.9 | 0.8 | 3.0 | -13.9 | -2.1 | -2.0 | -16.2 |
| Family Housing | -5.3 | 6.8 | 0.8 | -1.6 | -7.6 | 0.6 | 10.4 | 2.1 |
| Total | -4.4 | -3.8 | -2.1 | -1.4 | -2.2 | -10.2 | -3 | -11.4 |

^aNumbers may not add to totals due to rounding.

^bLower Budget Authority in the Military Personnel Accounts in FY 1986 reflects the congressional direction to finance \$4.5 billion for the military pay raise and retirement accrual costs by transfers from prior year unobligated balances.

^cIn FY 1991-92, abrupt increases in budget authority, especially O&M, were due to the incremental costs of Operation DESERT SHIELD/STORM. The FY 1991-92 sharp rise in receipts reflects offsetting allied contributions.

Department of Defense — Budget Authority by Component^a
(Dollars in Millions)

Table A-2

| | FY 1986 ^b | FY 1987 | FY 1988 | FY 1989 | FY 1990 ^c | FY 1991 ^c | FY 1992 ^{c,d} | FY 1993 ^d |
|---------------------------------|----------------------|----------------|----------------|----------------|----------------------|----------------------|------------------------|----------------------|
| Current Dollars | | | | | | | | |
| Army | 73,128 | 73,984 | 75,813 | 78,079 | 78,479 | 91,825 | 73,636 | 63,569 |
| Navy | 96,113 | 93,500 | 100,281 | 97,675 | 99,977 | 103,470 | 90,311 | 82,582 |
| Air Force | 94,870 | 91,624 | 88,324 | 94,685 | 92,890 | 91,257 | 82,340 | 78,685 |
| Defense Agencies/ OSD/JCS | 15,520 | 19,195 | 17,021 | 18,154 | 18,663 | 21,134 | 29,151 | 21,327 |
| Defense-wide | 1,759 | 1,168 | 2,315 | 2,245 | 2,989 | -31,477 | 6,445 | 12,889 |
| Total, Current \$ | 281,390 | 279,469 | 283,755 | 290,837 | 292,999 | 276,208 | 281,883 | 259,052 |
| Constant FY 1993 Dollars | | | | | | | | |
| Army | 93,727 | 91,956 | 90,506 | 89,588 | 87,525 | 98,179 | 76,532 | 63,569 |
| Navy | 122,678 | 115,518 | 119,490 | 112,040 | 111,331 | 109,816 | 93,660 | 82,582 |
| Air Force | 120,222 | 112,677 | 105,217 | 108,561 | 103,557 | 96,082 | 85,357 | 78,685 |
| Defense Agencies/ OSD/JCS | 20,269 | 24,112 | 20,582 | 20,974 | 20,705 | 22,605 | 30,137 | 21,327 |
| Defense-wide | 2,237 | 1,436 | 2,748 | 2,565 | 3,297 | -33,518 | 6,659 | 12,889 |
| Total, Constant \$ | 359,132 | 345,699 | 338,543 | 333,728 | 326,415 | 293,164 | 292,344 | 259,052 |
| % Real Growth | | | | | | | | |
| Army | -4.3 | -1.9 | -1.6 | -1.0 | -2.3 | 12.2 | -22.1 | -16.9 |
| Navy | -5.4 | -5.8 | 3.4 | -6.2 | -0.6 | -1.4 | -14.7 | -11.8 |
| Air Force | -6.9 | -6.3 | -6.6 | 3.2 | -4.6 | -7.2 | -11.2 | -7.8 |
| Defense Agencies/ OSD/JCS | 14.9 | 19.0 | -14.7 | 1.9 | -1.3 | 9.2 | 33.3 | -29.2 |
| Defense-wide | 75.9 | -35.8 | 91.3 | -6.7 | 28.5 | -1,116.7 | -119.9 | 93.6 |
| Total | -4.4 | -3.8 | -2.1 | -1.4 | -2.2 | -10.2 | -3 | -11.4 |

^a Numbers may not add to totals due to rounding. Entries for the three military departments include Retired Pay accrual.

^b Lower Budget Authority in the Military Personnel Accounts in FY 1986 reflects the congressional direction to finance \$4.5 billion for the military pay raise and retirement accrual costs by transfers from prior year unobligated balances.

^c FY 1990-93 data for the three departments and defense agencies includes Gulf War incremental costs. FY 1991-93 defense-wide entries include appropriations that made available allied cash contributions to offset these incremental costs.

^d In FY 1992, \$9.1 billion was shifted from the Military Services to defense agencies/OSD for the new Defense Health Program (DHP). In FY 1993, the DHP is in the defense-wide line, and totals \$9.3 billion.

Federal Budget Trends
(Dollars in Millions)

Table A-3

| Fiscal Year | Federal Outlays as a % of GDP | DoD Outlays as a % of Federal Outlays | DoD Outlays as a % of GDP | Non-DoD Outlays as a % of Federal Outlays | Non-DoD Outlays as a % of GDP | DoD Outlays as a % of Net Public Spending ^a |
|-------------------|-------------------------------|---------------------------------------|---------------------------|---|-------------------------------|--|
| 1950 | 16.0 | 27.5 | 4.4 | 72.5 | 11.6 | 18.5 |
| 1955 | 17.8 | 51.5 | 9.2 | 48.5 | 8.6 | 35.6 |
| 1960 | 18.2 | 45.0 | 8.2 | 55.0 | 10.0 | 30.3 |
| 1965 | 17.6 | 38.8 | 6.8 | 61.2 | 10.8 | 25.2 |
| 1970 | 19.8 | 39.4 | 7.8 | 60.6 | 12.0 | 25.5 |
| 1971 | 20.0 | 35.4 | 7.1 | 64.6 | 12.9 | 22.4 |
| 1972 | 20.1 | 32.6 | 6.5 | 67.4 | 13.6 | 20.6 |
| 1973 | 19.3 | 29.8 | 5.7 | 70.2 | 13.5 | 19.0 |
| 1974 | 19.2 | 28.8 | 5.5 | 71.2 | 13.7 | 18.3 |
| 1975 | 22.0 | 25.5 | 5.6 | 74.5 | 16.4 | 16.5 |
| 1976 | 22.1 | 23.6 | 5.2 | 76.4 | 16.9 | 15.4 |
| 1977 | 21.3 | 23.4 | 5.0 | 76.6 | 16.4 | 15.5 |
| 1978 | 21.3 | 22.5 | 4.8 | 77.5 | 16.5 | 15.2 |
| 1979 | 20.7 | 22.8 | 4.7 | 77.2 | 16.0 | 15.4 |
| 1980 | 22.3 | 22.5 | 5.0 | 77.5 | 17.3 | 15.3 |
| 1981 | 22.9 | 23.0 | 5.3 | 77.0 | 17.6 | 15.8 |
| 1982 | 23.9 | 24.5 | 5.9 | 75.5 | 18.0 | 16.7 |
| 1983 | 24.4 | 25.4 | 6.2 | 74.6 | 18.2 | 17.3 |
| 1984 | 23.1 | 25.9 | 6.0 | 74.1 | 17.1 | 17.5 |
| 1985 | 23.9 | 25.9 | 6.2 | 74.1 | 17.7 | 17.6 |
| 1986 | 23.5 | 26.8 | 6.3 | 73.2 | 17.2 | 17.9 |
| 1987 | 22.6 | 27.3 | 6.2 | 72.7 | 16.4 | 17.7 |
| 1988 | 22.1 | 26.5 | 5.9 | 73.5 | 16.3 | 17.6 |
| 1989 | 22.1 | 25.8 | 5.7 | 74.2 | 16.4 | 17.1 |
| 1990 ^b | 22.9 | 23.1 | 5.3 | 76.9 | 17.6 | 15.6 |
| 1991 ^b | 24.0 | 21.2 | 5.1 | 78.8 | 18.8 | 14.4 |
| 1992 ^b | 23.3 | 20.0 | 4.7 | 80.0 | 18.7 | 13.2 |
| 1993 ^b | 23.8 | 18.3 | 4.3 | 81.7 | 19.5 | 12.1 |

^aFederal, state, and local net spending excluding government enterprises (such as the postal service and public utilities) except for any support these activities receive from tax funds.

^bExcludes Operation DESERT SHIELD/STORM.

Defense Shares of Economic Aggregates

Table A-4

| Fiscal Year | DoD as a Percentage ^a of Public Employment | | DoD as a Percentage ^a of National Labor Force | | Gross Domestic Product (GDP) ^c Percentage of Total Purchases | | |
|-------------|---|---------------------------|--|--------------------|---|---------------|-----------------|
| | Federal | Federal, State, and Local | Direct Hire (DoD) | Including Industry | National Defense ^b | Total Federal | State and Local |
| 1965 | 69.8 | 28.2 | 4.8 | 7.6 | 7.4 | 10.0 | 9.4 |
| 1966 | 71.1 | 29.6 | 5.4 | 8.8 | 7.5 | 10.1 | 9.6 |
| 1967 | 71.9 | 30.5 | 5.8 | 9.8 | 8.7 | 11.1 | 10.0 |
| 1968 | 72.0 | 30.3 | 6.0 | 9.9 | 9.0 | 11.3 | 10.3 |
| 1969 | 72.0 | 29.5 | 5.7 | 9.3 | 8.5 | 10.8 | 10.5 |
| 1970 | 69.5 | 26.5 | 5.0 | 7.9 | 8.0 | 10.3 | 10.8 |
| 1971 | 67.1 | 23.7 | 4.6 | 6.9 | 7.2 | 9.5 | 11.3 |
| 1972 | 64.5 | 20.9 | 3.8 | 6.1 | 6.6 | 9.0 | 11.3 |
| 1973 | 63.6 | 19.8 | 3.6 | 5.6 | 6.0 | 8.4 | 11.1 |
| 1974 | 62.4 | 18.9 | 3.4 | 5.4 | 5.6 | 7.9 | 11.3 |
| 1975 | 61.6 | 18.1 | 3.3 | 5.2 | 5.7 | 8.2 | 12.0 |
| 1976 | 60.8 | 17.6 | 3.2 | 4.9 | 5.4 | 7.8 | 11.9 |
| 1977 | 60.2 | 17.0 | 3.1 | 4.9 | 5.2 | 7.6 | 11.2 |
| 1978 | 59.6 | 16.6 | 3.0 | 4.7 | 4.8 | 7.3 | 10.9 |
| 1979 | 59.6 | 16.1 | 2.9 | 4.7 | 4.8 | 7.1 | 10.8 |
| 1980 | 59.8 | 16.1 | 2.8 | 4.6 | 5.2 | 7.6 | 11.0 |
| 1981 | 60.8 | 16.6 | 2.8 | 4.7 | 5.4 | 7.8 | 10.6 |
| 1982 | 61.6 | 16.9 | 2.8 | 4.8 | 6.0 | 8.3 | 10.7 |
| 1983 | 61.9 | 17.2 | 2.8 | 5.0 | 6.3 | 8.7 | 10.7 |
| 1984 | 62.0 | 17.1 | 2.8 | 5.2 | 6.2 | 8.2 | 10.3 |
| 1985 | 61.2 | 17.0 | 2.8 | 5.4 | 6.3 | 8.4 | 10.5 |
| 1986 | 61.6 | 16.8 | 2.7 | 5.5 | 6.5 | 8.6 | 10.8 |
| 1987 | 61.3 | 16.6 | 2.7 | 5.5 | 6.5 | 8.6 | 11.0 |
| 1988 | 60.1 | 16.0 | 2.6 | 5.3 | 6.1 | 8.0 | 10.9 |
| 1989 | 60.4 | 15.8 | 2.6 | 5.2 | 5.8 | 7.7 | 10.8 |
| 1990 | 59.1 | 15.0 | 2.5 | 5.0 | 5.7 | 7.7 | 11.1 |
| 1991 | 58.4 | 14.7 | 2.4 | 4.9 | 5.8 | 7.9 | 11.4 |
| 1992 | 58.0 | 14.0 | 2.3 | 4.7 | 5.5 | 7.6 | 11.5 |

^aDoD civilian employment data excludes foreign nationals.^bIncludes Department of Defense — military, atomic energy defense activities, and other defense-related activities, such as emergency management and maintenance of strategic stockpiles and the Selective Service System.^cData reflects the federal government's recent shift to GDP for measuring total purchases of goods and services.

PERSONNEL TABLES

Military and Civilian Personnel Strength^{a,b}
(End Fiscal Year — In Thousands)

Table B-1

| | FY 83 | FY 84 | FY 85 | FY 86 | FY 87 | FY 88 | FY 89 | FY 90 | FY 91 | FY 92 | FY 93 | FY 94 ^f |
|--|---------------|---------------|---------------|---------------|---------------|---------------|---------------|---------------------------|---------------------------|---------------|---------------|--------------------|
| Active Component Military | | | | | | | | | | | | |
| Army | 780.0 | 780.0 | 781.0 | 781.0 | 781.0 | 772.0 | 770.0 | 750.6 | 725.4 | 611.3 | 588.3 | 558.4 |
| Navy | 558.0 | 656.0 | 571.0 | 581.0 | 587.0 | 593.0 | 593.0 | 582.9 | 571.3 | 541.9 | 526.4 | 501.7 |
| Marine Corps | 194.0 | 196.0 | 198.0 | 199.0 | 200.0 | 197.0 | 197.0 | 196.7 | 195.0 | 184.6 | 181.9 | 176.2 |
| Air Force | 592.0 | 597.0 | 602.0 | 608.0 | 607.0 | 576.0 | 571.0 | 539.3 | 510.9 | 470.3 | 449.9 | 427.0 |
| Total | 2124.0 | 2229.0 | 2152.0 | 2169.0 | 2175.0 | 2138.0 | 2131.0 | 2069.5 | 2002.6 | 1808.1 | 1746.5 | 1663.3 |
| Reserve Component Military (Selected Reserve) | | | | | | | | | | | | |
| ARNG | 417.2 | 434.3 | 440.0 | 446.2 | 451.9 | 455.2 | 457.0 | 437.0 | 441.3 | 426.5 | 422.7 | 344.5 |
| Army Reserve | 266.2 | 275.1 | 292.1 | 309.7 | 313.6 | 312.8 | 319.2 | 299.1 | 299.9 | 302.0 | 279.6 | 230.2 |
| Naval Reserve | 109.1 | 120.6 | 129.8 | 141.5 | 148.1 | 149.5 | 151.5 | 149.4 | 150.5 | 142.3 | 133.7 | 117.2 |
| MC Reserve | 42.7 | 40.6 | 41.6 | 41.6 | 42.3 | 43.6 | 43.6 | 44.5 | 44.0 | 42.2 | 42.3 | 36.9 |
| ANG | 102.2 | 105.0 | 109.4 | 112.6 | 114.6 | 115.2 | 116.1 | 117.0 | 117.6 | 119.1 | 119.2 | 118.9 |
| Air Force | | | | | | | | | | | | |
| Reserve | 67.2 | 70.3 | 75.2 | 78.5 | 80.4 | 82.1 | 83.2 | 80.6 | 84.3 | 81.9 | 82.4 | 81.9 |
| Total | 1004.6 | 1045.9 | 1088.1 | 1130.1 | 1153.9 | 1158.4 | 1170.6 | 1127.6^c | 1137.6^d | 1114.0 | 1079.9 | 929.6 |
| Civilian^e | | | | | | | | | | | | |
| Army | 390.9 | 403.0 | 420.0 | 413.0 | 417.9 | 392.9 | 402.9 | 380.4 | 365.5 | 333.6 | 308.3 | 297.7 |
| Navy | 339.1 | 342.1 | 352.9 | 342.1 | 353.1 | 347.8 | 354.0 | 341.0 | 328.9 | 309.0 | 282.0 | 271.6 |
| Air Force | 251.2 | 252.7 | 263.9 | 263.2 | 264.3 | 253.2 | 260.6 | 248.9 | 232.7 | 214.4 | 206.5 | 199.7 |
| Defense Agencies | 83.4 | 87.3 | 92.4 | 94.0 | 97.8 | 96.3 | 99.3 | 102.5 | 117.4 | 149.1 | 167.4 | 162.3 |
| Total | 1064.5 | 1085.1 | 1129.2 | 1112.3 | 1133.1 | 1090.2 | 1116.8 | 1072.8 | 1044.5 | 1006.1 | 964.2 | 931.3 |

^aAs of January 8, 1993

^bNumbers may not add to totals due to rounding.

^cDoes not include 25,600 members of the Selected Reserve who were activated for Operation DESERT SHIELD, displayed in the FY 1990 active strength total and paid for from the Active Military Personnel Appropriations account.

^dDoes not include 17,059 members of the Selected Reserve who were activated for Operation DESERT SHIELD/STORM, displayed in the FY 1991 active strength total and paid for from the Active Military Personnel Appropriations account.

^eIncludes direct and indirect hire civilians.

^fPlanned

**U.S. Military Personnel in Foreign Areas
(End Fiscal Year — In Thousands)**

Table B-2

| | FY 81 | FY 82 | FY 83 | FY 84 | FY 85 | FY 86 | FY 87 | FY 88 | FY 89 | FY 90 | FY 91 | FY 92 ^b |
|--|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------------|------------|--------------------|
| Germany | 248 | 256 | 254 | 254 | 247 | 250 | 251 | 249 | 249 | 228 | 203 | 168 |
| Other Europe | 64 | 67 | 70 | 73 | 75 | 75 | 73 | 74 | 71 | 64 | 62 | 58 |
| Europe, Afloat | 25 | 33 | 18 | 25 | 36 | 33 | 31 | 33 | 21 | 18 | 20 | 17 |
| South Korea | 38 | 39 | 39 | 41 | 42 | 43 | 45 | 46 | 44 | 41 | 40 | 39 |
| Japan | 46 | 51 | 49 | 46 | 47 | 48 | 50 | 50 | 50 | 47 | 45 | 47 |
| Other Pacific | 16 | 15 | 15 | 16 | 16 | 17 | 18 | 17 | 16 | 15 | 9 | 8 |
| Pacific Afloat (Including Southeast Asia) | 25 | 33 | 34 | 18 | 20 | 20 | 17 | 28 | 25 | 16 | 11 | 16 |
| Latin America/ Caribbean | 12 | 11 | 14 | 13 | 12 | 13 | 13 | 15 | 21 | 20 | 19 | 20 |
| Miscellaneous | 27 | 23 | 27 | 25 | 20 | 26 | 27 | 29 | 13 | 160 ^a | 39 | 20 |
| Total^c | 502 | 528 | 520 | 511 | 515 | 525 | 524 | 541 | 510 | 609 | 448 | 393 |

^aIncludes 118,000 shore-based and 39,000 afloat in support of Operation DESERT STORM.^bAs of March 31, 1992^cNumbers may not add to totals due to rounding.

FORCE STRUCTURE TABLES

Strategic Defense Interceptors (PAA/Squadrons)^b
Strategic Forces Highlights

Table C-1

| | FY 86 | FY 88 | FY 89 | FY 90 | FY 91 | FY 92 | FY 93 | FY 94 | FY 95 |
|---|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| Strategic Offense | | | | | | | | | |
| Land-Based ICBMs^a | | | | | | | | | |
| Titan | 7 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Minuteman | 998 | 954 | 950 | 950 | 950 | 880 | 802 | 617 | 500 |
| Peacekeeper | 2 | 46 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Strategic Bombers (PAA)^b | | | | | | | | | |
| B-52G/H | 241 | 234 | 173 | 154 | 138 | 125 | 84 | 84 | 84 |
| B-1B | 18 | 90 | 90 | 90 | 90 | 84 | 84 | 84 | 84 |
| B-2 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 4 | 8 |
| Fleet Ballistic Missile Launchers (SLBMs)^a | | | | | | | | | |
| Poseidon (C-3 and C-4) | 320 | 336 | 384 | 368 | 352 | 176 | 96 | 48 | 0 |
| Trident (C-4 and D-5) | 144 | 192 | 192 | 216 | 264 | 288 | 312 | 336 | 360 |
| Strategic Defense Interceptors (PAA/Squadrons)^b | | | | | | | | | |
| Active Aircraft | 76 | 36 | 36 | 18 | 18 | 0 | 0 | 0 | 0 |
| Squadrons | 4 | 2 | 2 | 1 | 1 | 0 | 0 | 0 | 0 |
| Air National Guard | 198 | 216 | 216 | 216 | 216 | 216 | 216 | 180 | 180 |
| Squadrons | 11 | 12 | 12 | 12 | 12 | 12 | 12 | 10 | 10 |

^aNumber on-line — Operational/not in maintenance or overhaul status.

^bPrimary aircraft authorized — Total inventory (including aircraft in depot maintenance, test aircraft, etc.) will be higher. Does not include conventionally roled heavy bombers.

**Department of Defense
General Purpose Forces Highlights**

Table C-2

| | FY 86 | FY 88 | FY 90 | FY 91 | FY 92 | FY 93 | FY 94 | FY 95 |
|---|------------|------------|------------|------------|------------|------------|----------------|----------------|
| Land Forces | | | | | | | | |
| Army Divisions | | | | | | | | |
| Active | 18 | 18 | 18 | 16 | 14 | 14 | 14 | 12 |
| Reserve | 10 | 10 | 10 | 10 | 10 | 8 | 8 | 8 |
| Marine Corps Divisions | | | | | | | | |
| Active | 3 | 3 | 3 | 3 | 3 | 3 | 3 ^a | 3 ^a |
| Reserve | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Army Separate Brigades^b | | | | | | | | |
| Active | 7 | 8 | 8 | 8 | 7 | 7 | 7 | 6 |
| Reserve | 20 | 20 | 20 | 19 | 18 | 15 | 10 | 6 |
| Army Special Forces Groups | | | | | | | | |
| Active | 4 | 4 | 5 | 5 | 5 | 5 | 5 | 5 |
| Reserve | 4 | 4 | 4 | 4 | 4 | 4 | 2 | 2 |
| Army Ranger Regiment | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Tactical Air Forces (PAA/Squadrons)^c | | | | | | | | |
| Air Force Attack and Fighter Aircraft | | | | | | | | |
| Active | 1,764/78 | 1,868/79 | 1,722/76 | 1,560/71 | 1,212/57 | 1,158/56 | 1,098/53 | 1,098/53 |
| Reserve | 876/43 | 909/43 | 873/43 | 861/43 | 873/43 | 831/41 | 822/41 | 798/41 |
| Conventional Bombers | | | | | | | | |
| B-52G | 0 | 0 | 33 | 33 | 33 | 33 | 19 | 0 |
| Navy Attack and Fighter Aircraft | | | | | | | | |
| Active | 746/65 | 706/67 | 622/57 | 654/59 | 678/61 | 610/56 | 622/56 | 616/56 |
| Reserve | 113/10 | 110/10 | 97/9 | 116/10 | 116/10 | 116/10 | 120/10 | 120/10 |
| Marine Corps Attack and Fighter Aircraft | | | | | | | | |
| Active | 358/25 | 354/25 | 368/24 | 368/26 | 326/23 | 328/23 | 328/23 | 306/22 |
| Reserve | 94/8 | 96/8 | 84/8 | 84/8 | 84/8 | 72/6 | 72/6 | 72/6 |
| Naval Forces | | | | | | | | |
| Strategic Forces Ships | 45 | 43 | 39 | 40 | 34 | 24 | 18 | 16 |
| Battle Forces Ships ^d | 438 | 438 | 412 | 393 | 355 | 356 | 353 | 354 |
| Support Forces Ships | 55 | 60 | 65 | 62 | 57 | 50 | 48 | 44 |
| Reserve Forces Ships | 18 | 25 | 31 | 32 | 19 | 18 | 16 | 16 |
| Total Ship Battle Forces | 556 | 566 | 547 | 527 | 465 | 448 | 435 | 430 |
| Mobilization Category B: Surface Combatants/ Mine Warfare Ships | | | | | | | | |
| | 21 | 21 | 19 | 16 | 16 | 14 | 11 | 14 |
| Local Defense Mine Warfare Ships and Coastal Defense Craft | | | | | | | | |
| | 0 | 0 | 0 | 0 | 0 | 5 | 13 | 15 |
| Total Other Forces^e | 21 | 21 | 19 | 16 | 16 | 19 | 24 | 29 |

^aIncludes two cadre divisions.

^bIndicates official inactivations, activations, and conversions as of January 1, 1993. Does not include roundout brigades; does include the Eskimo Scout Group and the armored cavalry regiments.

^cPrimary aircraft authorized

^dTraining carrier included in Battle Forces Ships.

^eExcludes auxiliaries and sealift forces.

**Department of Defense
Airlift and Sealift Forces Highlights**

Table C-3

| | FY 88 | FY 90 | FY 92 ^e | FY 93 ^e | FY 94 | FY 95 |
|---|-------|-------|--------------------|--------------------|-------|-------|
| Intertheater Airlift (PAA)^a | | | | | | |
| C-5 | 98 | 109 | 109 | 109 | 109 | 109 |
| C-141 | 234 | 234 | 234 | 214 | 214 | 214 |
| KC-10 | 57 | 57 | 57 | 57 | 57 | 57 |
| C-17 | 0 | 0 | 0 | 6 | 12 | 16 |
| Intratheater Airlift (PAA)^a | | | | | | |
| C-130 | 521 | 460 | 433 | 416 | 406 | 407 |
| Sealift Ships, Active^b | | | | | | |
| Tankers | 20 | 28 | 20 | 20 | 20 | 20 |
| Cargo | 41 | 40 | 40 | 40 | 40 | 40 |
| Sealift Ships, Reserve | | | | | | |
| RRF ^c | 91 | 96 | 97 | 103 | 110 | 116 |
| NDRF ^d | 129 | 121 | 122 | 122 | 122 | 122 |

^aPAA — Primary aircraft authorized — includes active and reserve component

^bActive — Includes Fast Sealift Ships, Afloat Prepositioned Ships, and Common User (Charter) Ships

^cRRF — Ready Reserve Force (assigned to 4-, 5-, 10-, or 20-day reactivation readiness groups)

^dNDRF — National Defense Reserve Fleet

^eDifferences from previous year's defense report are due to changes in retirement schedules (C-141), force structure (C-130), and procurement plans (RRF) derived from the *Mobility Requirements Study*.

GOLDWATER-NICHOLS ACT IMPLEMENTATION REPORT

This appendix contains the Department's Joint Officer Management Annual Report for FY 1992. Acronyms used in report: JSO — Joint Specialty Officer; JDA — Joint Duty Assignment; COS — Critical Occupational Specialty; and JPME — Joint Professional Military Education. (Except for Tables D-2, D-5, reasons in D-9, D-11, and promotion objectives, the Joint Duty Assignment Management Information System (JDAMIS) was used to produce this report.)

**SUMMARY OF JOINT SPECIALTY OFFICER
 AND JOINT SPECIALTY OFFICER
 NOMINEE DESIGNATIONS FOR FY 1992**

Table D-1

| Category | ARMY | NAVY | USAF | USMC | TOTAL |
|---|------|------|------|------|-------|
| Number of officers designated as JSOs* | 0 | 0 | 24 | 0 | 24 |
| Number of officers designated as JSO nominees | 509 | 476 | 567 | 108 | 1,660 |
| Number of JSO nominees designated under COS provision | 282 | 315 | 243 | 75 | 915 |

*NOTE: Few officers were designated as JSOs in FY 1992 due to large number of JSOs designated under the transition provisions and the length of time required to complete the JSO prerequisites.

CRITICAL OCCUPATIONAL SPECIALTIES

Table D-2

The following military specialties, listed by Service, are designated as critical occupational specialties. In every case, the specialties so designated are each Services' "combat arms" specialties.

| ARMY | NAVY | USAF | USMC |
|-----------------------|---------------------|----------------------|----------------------------------|
| Infantry | Surface | Pilot | Infantry |
| Armor | *Submariner | Navigator | Tanks/AAV |
| Artillery | Aviation | Air Weapons Director | *Artillery |
| Air Defense Artillery | SEALS | Missile Operations | *Air Control/Air Support/Antiair |
| Aviation | *Special Operations | *Space Operations | Aviation |
| Special Operations | | *Operations Mgmt | Engineers |
| Combat Engineers | | | |

*Specialties which have a severe shortage of officers.

**SUMMARY OF OFFICERS ON ACTIVE DUTY WITH A CRITICAL
OCCUPATIONAL SPECIALTY (AS OF SEPTEMBER 30, 1992)**

Table D-3

| CATEGORY | ARMY | NAVY | USAF | USMC | TOTAL |
|---|-------|-------|-------|------|-------|
| COS officers who have completed JPME | 1,440 | 1,128 | 1,510 | 479 | 4,557 |
| COS officers designated as JSOs | 1,701 | 1,378 | 1,646 | 646 | 5,371 |
| COS officers designated as JSO nominees | 1,562 | 1,412 | 1,779 | 374 | 5,127 |
| COS officers designated as JSO nominees who have not completed JPME | 1,177 | 1,070 | 1,262 | 250 | 3,759 |
| COS JSO nominees currently serving in a JDA | 642 | 795 | 722 | 189 | 2,348 |
| COS JSO nominees who completed a JDA and are currently attending JPME | 5 | 2 | 14 | 1 | 22 |

**SUMMARY OF JSOs WITH CRITICAL OCCUPATIONAL SPECIALTIES
WHO ARE SERVING OR HAVE SERVED IN A SECOND JOINT ASSIGNMENT
(AS OF SEPTEMBER 30, 1992)**

Table D-4

| | Army | | Navy | | USAF | | USMC | | Total | |
|---------------------|------|------|------|------|------|------|------|-----|-------|------|
| Field Grade | | | | | | | | | | |
| Have served* | 62 | (9) | 13 | (5) | 97 | (31) | 0 | (0) | 172 | (45) |
| Are serving* | 111 | (23) | 55 | (20) | 140 | (51) | 16 | (5) | 322 | (99) |
| General/Flag | | | | | | | | | | |
| Have served* | 5 | (4) | 5 | (2) | 8 | (6) | 0 | (0) | 18 | (12) |
| Are serving* | 9 | (8) | 5 | (1) | 17 | (9) | 1 | (1) | 32 | (19) |

*Number in parenthesis indicates number of second joint assignments which were to a critical joint position.

**ANALYSIS OF THE ASSIGNMENT
 OFFICERS WERE REASSIGNED (IN FY 1992) ON THEIR FIRST
 ASSIGNMENT FOLLOWING DESIGNATION AS A JOINT SPECIALTY OFFICER**

Table D-5

| ASSIGNMENT CATEGORY | ARMY | NAVY | USAF | USMC | TOTAL |
|----------------------|------|------|------|------|-------|
| Command | 0 | 55 | 67 | 6 | 128 |
| Service HQ | 4 | 16 | 15 | 6 | 41 |
| Joint Staff critical | 0 | 1 | 4 | 0 | 5 |
| Joint Staff other | 1 | 0 | 6 | 0 | 7 |
| Other JDA critical | 10 | 10 | 29 | 5 | 54 |
| Other JDA | 38 | 12 | 52 | 2 | 104 |
| PME | 17 | 2 | 28 | 8 | 55 |
| Other Operations | 74 | 49 | 39 | 41* | 203 |
| Other Staff | 73 | 27 | 80 | 22* | 202 |
| Other Shore | — | 26 | — | — | 26 |

*For the Marine Corps: Other Operations = Fleet Marine Force; Other Staff = Non-Fleet Marine Corps

**AVERAGE LENGTH OF TOURS OF DUTY
 IN JOINT DUTY ASSIGNMENTS (FY 1992)
 (IN MONTHS)**

Table D-6

| GENERAL/FLAG OFFICERS | | | |
|-----------------------|-------------|-------------|-------------|
| | JOINT STAFF | OTHER JOINT | JOINT TOTAL |
| ARMY | 15 | 32 | 30 |
| NAVY | 22 | 27 | 26 |
| USAF | 20 | 30 | 28 |
| USMC | — | 24 | 24 |
| DoD | 19 | 30 | 28 |
| FIELD GRADE OFFICERS | | | |
| | JOINT STAFF | OTHER JOINT | TOTAL |
| ARMY | 36 | 40 | 39 |
| NAVY | 34 | 39 | 38 |
| USAF | 37 | 41 | 41 |
| USMC | 35 | 39 | 39 |
| DoD | 36 | 40 | 40 |

SUMMARY OF TOUR LENGTH EXCLUSIONS FOR FY 1992

Table D-7

| CATEGORY | ARMY | NAVY | USAF | USMC | TOTAL |
|-----------------------------|-------------|-------------|-------------|-------------|--------------|
| Retirement | 315 | 91 | 213 | 16 | 635 |
| Separation | 0 | 10 | 29 | 1 | 40 |
| Suspension From Duty | 4 | 3 | 7 | 0 | 14 |
| Compassionate/Medical | 8 | 3 | 15 | 0 | 26 |
| Other Joint After Promotion | 9 | 4 | 2 | 1 | 16 |
| Reorganization | 2 | 29 | 6 | 0 | 37 |
| Joint Overseas-Short Tours | 237 | 40 | 154 | 16 | 447 |
| Joint Accumulation | 2 | 2 | 4 | 1 | 9 |
| COS Reassignment | 75 | 113 | 87 | 5 | 280 |
| TOTAL | 652 | 295 | 517 | 40 | 1,504 |

**JOINT DUTY POSITION DISTRIBUTION BY SERVICE
(AS OF SEPTEMBER 30, 1992)**

Table D-8

| | JOINT STAFF | OTHER JOINT DUTY | TOTAL JOINT DUTY | DoD TOTAL* |
|------|------------------------|-----------------------------|-----------------------------|-----------------------|
| ARMY | 285 | 2,897 | 3,182 (34.6%) | 34.7% |
| NAVY | 226 | 1,717 | 1,943 (21.2%) | 25.3% |
| USMC | 64 | 454 | 518 (5.6%) | 7.0% |
| USAF | 292 | 3,251 | 3,543 (38.6%) | 33.0% |
| DoD | 867 | 8,319 | 9,186 | |

*Based on total officer strength figures

CRITICAL POSITIONS SUMMARY (AS OF SEPTEMBER 30, 1992)

Table D-9

| Category | Army | Navy | USAF | USMC | Total |
|--|-----------|-----------|-----------|----------|-----------|
| Total Critical Positions | 397 | 189 | 382 | 62 | 1,030 |
| Number of Vacant Positions | 76 | 16 | 51 | 10 | 153 |
| Number of Critical Positions Filled by JSOs and % of Filled Positions | 266 (81%) | 139 (92%) | 275 (87%) | 42 (84%) | 722 (85%) |
| Number of Critical Positions Not Filled by JSOs | 55 | 34 | 56 | 10 | 155 |
| Percent Critical Positions Filled by JSOs (Since January 1, 1990) | 83% | 80% | 83% | 81% | 82% |

Reasons for filling critical positions with officers who are not JSOs are listed below:

| | |
|--|------------|
| Position filled by incumbent prior to being a joint position: | 4 |
| Position being converted to a noncritical position or being deleted: | 16 |
| Joint specialist officer not yet available: | 45 |
| Best qualified officer not joint specialist: | 52 |
| Position filled by incumbent prior to being a critical position: | 37 |
| Other: | 1 |
| TOTAL | 155 |

THE FOLLOWING ORGANIZATIONS HAVE JOINT DUTY CRITICAL POSITIONS WHICH ARE FILLED BY OFFICERS WHO DO NOT POSSESS THE JOINT SPECIALTY:

| | |
|--|------------|
| US Atlantic Command (USLANTCOM) | 4 |
| US Central Command (USCENTCOM) | 10 |
| North American Aerospace Command (NORAD) | 3 |
| Office of the Secretary of Defense (OSD) | 2 |
| US European Command (USEUCOM) | 10 |
| Armed Forces Information Services (AFIS) | 1 |
| National Defense University (NDU) | 5 |
| US Space Command (USSPACECOM) | 2 |
| Defense Nuclear Agency (DNA) | 3 |
| Defense Mapping Agency (DMA) | 1 |
| Defense Logistics Agency (DLA) | 8 |
| Defense Information Systems Agency (DISA) | 4 |
| Defense Intelligence Agency (DIA) | 7 |
| National Security Agency (NSA) | 3 |
| Defense Attache | 2 |
| Office of Emergency Operations (OEO) | 3 |
| On-Site Inspection Agency (OSIA) | 4 |
| Joint Staff | 13 |
| US Military Entrance Processing Command (USMEPCOM) | 2 |
| US Strategic Command (USSTRATCOM) | 5 |
| US Pacific Command (USPACOM) | 16 |
| US Special Operations Command (USSOCOM) | 7 |
| US Southern Command (USSOUTHCOM) | 8 |
| US Transportation Command (USTRANSCOM) | 4 |
| NATO Military Committee | 1 |
| Allied Command Europe (ACE) | 12 |
| Allied Command Atlantic (ACLANT) | 1 |
| Non-Joint Staff (G/FO) | 14 |
| TOTAL | 155 |

COMPARISON OF WAIVER USAGE (FY 1992)

Table D-10

| CATEGORY | Army | Navy | USAF | USMC | Total |
|--|-------|------|-------|------|-------|
| JSO Designations | 0 | 0 | 24 | 0 | 24 |
| JSO Sequence Waivers | 0 | 0 | 1 | 0 | 1 |
| JSO Two-tour Waivers | 0 | 0 | 0 | 0 | 0 |
| JSOs Graduating from JPME | 4 | 9 | 19 | 4 | 36* |
| JDA Assignment Waivers Granted | 0 | 3 | 1 | 1 | 5 |
| Field Grade Officers who departed JDAs | 1,319 | 634 | 1,247 | 174 | 3,374 |
| Field Grade JDA tour length waivers | 48 | 29 | 35 | 5 | 117 |
| General/Flag Officer Section | | | | | |
| General/Flag Officers who departed JDAs | 44 | 28 | 40 | 6 | 118 |
| General/Flag Officer JDA tour length waivers | 13 | 5 | 11 | 0 | 29 |
| Attended CAPSTONE | 41 | 32 | 36 | 10 | 119 |
| CAPSTONE Waivers | 0 | 3 | 8 | 0 | 11 |
| Selected for Promotion to O-7 | 38 | 37 | 36 | 7 | 118 |
| Good of the Service Waivers | 7 | 5 | 4 | 2 | 18 |
| Other Waivers | 28 | 26 | 20 | 6 | 80 |

*Includes AFSC 91-4A Graduates (November 8, 1991), also counted in FY 1991 report: Army (3), Navy (2), USAF (0), USMC (0), Total (5).

**JOINT PROFESSIONAL MILITARY EDUCATION (PME)
PHASE II SUMMARY (FY 1992)**

Table D-11

| Category | Army | Navy | USAF | USMC | Total |
|--|-------|--------|--------|-------|--------|
| Students attending Armed Forces Staff College Program in FY 1992 | 281 | 172 | 341 | 50 | 844* |
| Students who had not completed resident PME (percent of total) | 1(0%) | 10(6%) | 22(6%) | 0(0%) | 33(4%) |
| Students who had completed non-resident PME (percent of total) | 1(0%) | 2(1%) | 20(6%) | 0(0%) | 23(3%) |
| Students who had not completed resident or nonresident PME (percent of total) | 0(0%) | 8(5%) | 2(1%) | 0(0%) | 10(1%) |
| REASONS FOR STUDENTS NOT COMPLETING RESIDENT PROFESSIONAL MILITARY EDUCATION (PME) PRIOR TO ATTENDING PHASE II* | | | | | |
| Officer completed Phase I equivalent program | | | | | 5 |
| Officer scheduled to attend a resident PME immediately following Phase II | | | | | 0 |
| Officer career path did not allow attendance at a resident PME program | | | | | 7 |
| Other | | | | | 3 |

*Includes AFSC 91-4A Graduates (November 8, 1991), also counted in FY 1991 report: Army (83), Navy (45), USAF (86), USMC (12), Total (226).

PROMOTION OBJECTIVE SUMMARY FOR FY 1992

Table D-12

The DoD Reorganization Act of 1986 requires the Department to report the promotion rates for field grade and general/flag officers (O-7 and O-8) with the intent of measuring the qualifications of officers assigned to joint duty assignments. See "Notes" at the end of this table for consolidation of brief explanations where the required promotion objectives were not met for the "in zone currently serving" categories. In this table, a dash (-) indicates there were no eligible officers in that category and a "N/A" means that no such category exists for that grade.

AIR FORCE PROMOTION RATES (LINE)

| GRADE | JOINT CATEGORIES | ARE SERVING IN | | | HAVE SERVED IN | | | REMARKS |
|---------------------|------------------|----------------|------------|------------|----------------|------------|------------|-------------|
| | | IN ZONE | BELOW ZONE | ABOVE ZONE | IN ZONE | BELOW ZONE | ABOVE ZONE | |
| O-8 | Joint Staff | 33% | N/A | N/A | 25% | N/A | N/A | |
| | Joint Specialty | 27% | N/A | N/A | 27% | N/A | N/A | |
| | Service HQS | 27% | N/A | N/A | 23% | N/A | N/A | |
| | Other Joint | - | N/A | N/A | - | N/A | N/A | |
| | Board Average | 26% | N/A | N/A | 26% | N/A | N/A | |
| O-7 | Joint Staff | 9% | N/A | N/A | - | N/A | N/A | See Note #4 |
| | Joint Specialty | 2% | N/A | N/A | 2% | N/A | N/A | |
| | Service HQS | 3% | N/A | N/A | 1% | N/A | N/A | |
| | Other Joint | 3% | N/A | N/A | - | N/A | N/A | |
| | Board Average | 1% | N/A | N/A | 1% | N/A | N/A | |
| O-6 First Board | Joint Staff | 59% | 2% | 14% | 71% | 6% | 7% | See Note #2 |
| | Joint Specialty | 61% | 4% | 6% | 61% | 4% | 6% | |
| | Service HQS | 64% | 7% | 10% | 67% | 9% | 2% | |
| | Other Joint | 49% | 2% | 3% | 46% | 2% | 1% | |
| | Board Average | 45% | 3% | 2% | 45% | 3% | 2% | |
| O-6 Second Board | Joint Staff | 74% | 9% | - | 44% | 7% | - | |
| | Joint Specialty | 54% | 7% | 2% | 54% | 7% | 2% | |
| | Service HQS | 48% | 5% | - | 74% | 9% | 3% | |
| | Other Joint | 55% | 1% | 4% | 33% | 1% | - | |
| | Board Average | 42% | 3% | 1% | 42% | 3% | 1% | |
| O-5 | Joint Staff | 88% | 7% | 100% | 67% | 10% | - | See Note #2 |
| | Joint Specialty | 76% | 2% | 7% | 76% | 2% | 7% | |
| | Service HQS | 92% | 6% | 13% | 78% | 8% | 6% | |
| | Other Joint | 70% | 4% | 7% | 75% | 1% | 4% | |
| | Board Average | 67% | 2% | 2% | 67% | 2% | 2% | |
| O-4 | Joint Staff | | | | | | | |
| | Joint Specialty | | | | | | | |
| | Service HQS | | | | | | | |
| | Other Joint | | | | | | | |
| | Board Average | | | | | | | |

SELECTION RESULTS RELEASED FY 1993

ARMY PROMOTION RATES (ARMY COMPETITIVE CATEGORY)

| | | | | | | | | |
|-----|-----------------|-----|-----|-----|-----|-----|-----|-------------|
| O-8 | Joint Staff | 50% | N/A | N/A | 67% | N/A | N/A | See Note #3 |
| | Joint Specialty | 43% | N/A | N/A | 43% | N/A | N/A | |
| | Service HQS | 36% | N/A | N/A | 50% | N/A | N/A | |
| | Other Joint | 25% | N/A | N/A | 33% | N/A | N/A | |
| | Board Average | 33% | N/A | N/A | 33% | N/A | N/A | |

| GRADE | JOINT CATEGORIES | ARE SERVING IN | | | HAVE SERVED IN | | | REMARKS |
|--|---|------------------------------------|------------|------------|----------------|------------|------------|-------------|
| | | IN ZONE | BELOW ZONE | ABOVE ZONE | IN ZONE | BELOW ZONE | ABOVE ZONE | |
| 0-7 First Board | Joint Staff | 11% | N/A | N/A | 2% | N/A | N/A | See Note #4 |
| | Joint Specialty | 2% | N/A | N/A | 2% | N/A | N/A | |
| | Service HQS | 3% | N/A | N/A | 2% | N/A | N/A | |
| | Other Joint | 4% | N/A | N/A | 2% | N/A | N/A | |
| | Board Average | 2% | N/A | N/A | 2% | N/A | N/A | |
| 0-7 Second Board | Joint Staff | 3% | N/A | N/A | – | N/A | N/A | See Note #4 |
| | Joint Specialty | 1% | N/A | N/A | 1% | N/A | N/A | |
| | Service HQS | 3% | N/A | N/A | – | N/A | N/A | |
| | Other Joint | 2% | N/A | N/A | 3% | N/A | N/A | |
| | Board Average | 2% | N/A | N/A | 2% | N/A | N/A | |
| 0-6 | Joint Staff Joint Specialty Service HQS Other Joint Board Average | SELECTION RESULTS RELEASED FY 1993 | | | | | | |
| 0-5 | Joint Staff | 100% | 13% | 0% | 100% | 100% | 0% | |
| | Joint Specialty | 83% | 4% | 0% | 78% | 13% | 2% | |
| | Service HQS | 77% | 8% | 0% | 81% | 11% | 0% | |
| | Other Joint | 70% | 2% | 6% | 52% | 6% | 0% | |
| | Board Average | 63% | 5% | 0% | 63% | 5% | 2% | |
| 0-4 | Joint Staff | – | – | – | – | – | – | |
| | Joint Specialty | – | – | – | – | – | – | |
| | Service HQS | 93% | 31% | – | 100% | 50% | – | |
| | Other Joint | 93% | – | 100% | 86% | – | – | |
| | Board Average | 62% | 7% | 7% | 94% | 7% | 7% | |
| MARINE CORPS PROMOTION RATES (UNRESTRICTED) | | | | | | | | |
| 0-8 | Joint Staff | – | N/A | N/A | 50% | N/A | N/A | |
| | Joint Specialty | 38% | N/A | N/A | 38% | N/A | N/A | |
| | Service HQS | 29% | N/A | N/A | 50% | N/A | N/A | |
| | Other Joint | – | N/A | N/A | 50% | N/A | N/A | |
| | Board Average | 32% | N/A | N/A | 32% | N/A | N/A | |
| 0-7 | Joint Staff | 40% | N/A | N/A | 5% | N/A | N/A | |
| | Joint Specialty | 2% | N/A | N/A | 2% | N/A | N/A | |
| | Service HQS | – | N/A | N/A | 4% | N/A | N/A | |
| | Other Joint | 10% | N/A | N/A | 0% | N/A | N/A | |
| | Board Average | 3% | N/A | N/A | 3% | N/A | N/A | |
| 0-6 | Joint Staff | 67% | 0% | – | 50% | 17% | – | See Note #2 |
| | Joint Specialty | 45% | 3% | 6% | 45% | 3% | 6% | |
| | Service HQS | 58% | 5% | – | 51% | 4% | 6% | |
| | Other Joint | 65% | – | – | 38% | 0% | – | See Note #4 |
| | Board Average | 44% | 2% | 4% | 44% | 2% | 4% | |
| 0-5 | Joint Staff | 67% | – | 33% | 100% | – | – | |
| | Joint Specialty | 78% | – | 14% | 78% | – | 14% | |
| | Service HQS | 56% | – | 14% | 56% | – | 4% | |
| | Other Joint | 58% | 3% | 15% | 56% | – | 5% | |
| | Board Average | 56% | 1% | 5% | 56% | 56% | 5% | |

| GRADE | JOINT CATEGORIES | ARE SERVING IN | | | HAVE SERVED IN | | | REMARKS |
|-------|------------------|----------------|------------|------------|----------------|------------|------------|---------|
| | | IN ZONE | BELOW ZONE | ABOVE ZONE | IN ZONE | BELOW ZONE | ABOVE ZONE | |
| 0-4 | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | 72% | - | 20% | 71% | - | 25% | |
| | Other Joint | - | - | - | 57% | 6% | - | |
| | Board Average | 66% | 1% | 9% | 66% | 1% | 9% | |

NAVY PROMOTION RATES

| | | | | | | | | |
|--|-----------------|-----|-----|-----|------|-----|-----|--|
| 0-8 Unrestricted Line | Joint Staff | - | N/A | N/A | 80% | N/A | N/A | |
| | Joint Specialty | 41% | N/A | N/A | 41% | N/A | N/A | |
| | Service HQS | 20% | N/A | N/A | 43% | N/A | N/A | |
| | Other Joint | - | N/A | N/A | - | N/A | N/A | |
| | Board Average | 45% | N/A | N/A | 45% | N/A | N/A | |
| Supply Staff | Joint Staff | - | N/A | N/A | - | N/A | N/A | |
| | Joint Specialty | - | N/A | N/A | - | N/A | N/A | |
| | Service HQS | - | N/A | N/A | - | N/A | N/A | |
| | Other Joint | - | N/A | N/A | 100% | N/A | N/A | |
| | Board Average | 66% | N/A | N/A | 66% | N/A | N/A | |
| 0-7 Unrestricted Line | Joint Staff | 10% | N/A | N/A | 6% | N/A | N/A | |
| | Joint Specialty | 2% | N/A | N/A | 2% | N/A | N/A | |
| | Service HQS | 3% | N/A | N/A | 1% | N/A | N/A | |
| | Other Joint | 2% | N/A | N/A | - | N/A | N/A | |
| | Board Average | 2% | N/A | N/A | 2% | N/A | N/A | |
| Staff Civil Engineer | Joint Staff | - | N/A | N/A | - | N/A | N/A | |
| | Joint Specialty | - | N/A | N/A | - | N/A | N/A | |
| | Service HQS | - | N/A | N/A | - | N/A | N/A | |
| | Other Joint | - | N/A | N/A | - | N/A | N/A | |
| | Board Average | 3% | N/A | N/A | 3% | N/A | N/A | |
| Staff Supply | Joint Staff | - | N/A | N/A | - | N/A | N/A | |
| | Joint Specialty | - | N/A | N/A | - | N/A | N/A | |
| | Service HQS | - | N/A | N/A | - | N/A | N/A | |
| | Other Joint | - | N/A | N/A | - | N/A | N/A | |
| | Board Average | 2% | N/A | N/A | 2% | N/A | N/A | |
| Restricted Aerospace Engineer Duty | Joint Staff | - | N/A | N/A | - | N/A | N/A | |
| | Joint Specialty | - | N/A | N/A | - | N/A | N/A | |
| | Service HQS | - | N/A | N/A | - | N/A | N/A | |
| | Other Joint | - | N/A | N/A | - | N/A | N/A | |
| | Board Average | 3% | N/A | N/A | 3% | N/A | N/A | |
| Restricted Engineer Duty | Joint Staff | - | N/A | N/A | - | N/A | N/A | |
| | Joint Specialty | 25% | N/A | N/A | 25% | N/A | N/A | |
| | Service HQS | - | N/A | N/A | - | N/A | N/A | |
| | Other Joint | - | N/A | N/A | - | N/A | N/A | |
| | Board Average | 2% | N/A | N/A | 2% | N/A | N/A | |
| Restricted Public Affairs | Joint Staff | - | N/A | N/A | - | N/A | N/A | |
| | Joint Specialty | 13% | N/A | N/A | 13% | N/A | N/A | |
| | Service HQS | - | N/A | N/A | - | N/A | N/A | |
| | Other Joint | - | N/A | N/A | - | N/A | N/A | |
| | Board Average | 11% | N/A | N/A | 11% | N/A | N/A | |

| GRADE | JOINT CATEGORIES | ARE SERVING IN | | | HAVE SERVED IN | | | REMARKS |
|-------------------------------|------------------|----------------|------------|------------|----------------|------------|------------|-------------|
| | | IN ZONE | BELOW ZONE | ABOVE ZONE | IN ZONE | BELOW ZONE | ABOVE ZONE | |
| 0-6 Unrestricted Line | Joint Staff | 81% | 3% | - | 39% | 0% | 0% | See Note #4 |
| | Joint Specialty | 65% | 1% | 3% | 65% | 1% | 3% | |
| | Service HQS | 62% | 2% | - | 61% | 1% | 0% | |
| | Other Joint | 43% | - | 2% | 17% | 1% | 0% | |
| | Board Average | 52% | 1% | 1% | 52% | 1% | 1% | |
| Civil Engineer | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | 100% | - | - | - | - | 100% | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 45% | 1% | 13% | 45% | 1% | 13% | |
| Aeronautic Engineer | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 33% | - | - | 33% | - | - | |
| | Service HQS | - | - | - | 100% | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 50% | - | - | 50% | - | - | |
| Aeronautic Engineer Maint. | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | 100% | - | - | 100% | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 53% | - | - | 53% | - | - | |
| Cryptology | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 83% | - | 17% | 83% | - | 17% | |
| | Service HQS | - | - | - | 25% | - | 100% | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 38% | - | 14% | 38% | - | 14% | |
| Intelligence | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 40% | 4% | 10% | 40% | 4% | 10% | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | 100% | - | - | - | - | - | |
| | Board Average | 52% | 2% | 7% | 52% | 2% | 7% | |
| Public Affairs | Joint Staff | - | - | - | - | - | - | See Note #1 |
| | Joint Specialty | 100% | - | - | 100% | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | 33% | - | - | - | - | - | |
| | Board Average | 38% | - | 13% | 38% | - | 13% | |
| Oceanography | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | 33% | - | - | 33% | |
| | Service HQS | 50% | - | - | 50% | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 33% | 7% | 8% | 33% | 7% | 8% | |
| Limited Duty | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 25% | - | 5% | 25% | - | 5% | |
| Staff Civil Engineer | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 80% | - | - | 80% | - | - | |
| | Service HQS | 67% | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 47% | - | 9% | 47% | - | 9% | |

| GRADE | JOINT CATEGORIES | ARE SERVING IN | | | HAVE SERVED IN | | | REMARKS |
|-------------------------------|------------------|----------------|------------|------------|----------------|------------|------------|-------------|
| | | IN ZONE | BELOW ZONE | ABOVE ZONE | IN ZONE | BELOW ZONE | ABOVE ZONE | |
| Supply | Joint Staff | - | - | - | 100% | - | - | |
| | Joint Specialty | 33% | - | - | 33% | - | - | |
| | Service HQS | - | - | - | 67% | 20% | - | |
| | Other Joint | 50% | - | - | 50% | - | - | |
| | Board Average | 44% | 1% | 3% | 44% | 1% | 3% | |
| 0-5 Unrestricted Line | Joint Staff | 78% | - | - | 100% | - | - | |
| | Joint Specialty | 84% | - | - | 84% | - | - | |
| | Service HQS | 80% | - | - | 84% | - | - | |
| | Other Joint | 65% | - | - | 63% | - | - | See Note #4 |
| | Board Average | 69% | - | - | 69% | - | - | |
| Engineer Duty | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 100% | - | - | 100% | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | 100% | - | - | |
| | Board Average | 67% | 1% | 1% | 67% | 1% | 1% | |
| Aeronautic Engineer | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 73% | - | 3% | 73% | - | 3% | |
| Aeronautic Engineer Maint. | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 67% | 3% | - | 67% | 3% | - | |
| Aviation Duty | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 44% | 10% | 3% | 44% | 10% | 3% | |
| Cryptology | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 100% | - | - | 100% | - | - | |
| | Service HQS | 100% | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 65% | 3% | - | 65% | 3% | - | |
| Intelligence | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 63% | - | - | 63% | - | - | |
| | Service HQS | - | - | 50% | 100% | - | - | |
| | Other Joint | 80% | - | - | - | - | - | |
| | Board Average | 65% | - | 4% | 65% | 3% | 4% | |
| Oceanography | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 100% | 33% | - | 100% | 33% | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | 100% | - | - | 50% | - | - | See Note #1 |
| | Board Average | 63% | 3% | 6% | 63% | 3% | 6% | |
| Public Affairs | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 100% | - | - | 100% | - | - | |
| | Service HQS | 100% | - | - | 100% | - | - | |
| | Other Joint | - | - | - | 100% | - | - | |
| | Board Average | 63% | - | 5% | 63% | - | 5% | |

| GRADE | JOINT CATEGORIES | ARE SERVING IN | | | HAVE SERVED IN | | | REMARKS |
|---------------------------|------------------|----------------|------------|------------|----------------|------------|------------|---------|
| | | IN ZONE | BELOW ZONE | ABOVE ZONE | IN ZONE | BELOW ZONE | ABOVE ZONE | |
| Staff Supply | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 71% | - | - | 71% | - | - | |
| | Service HQS | 100% | - | - | 100% | - | 100% | |
| | Other Joint | 33% | - | - | 50% | - | - | |
| | Board Average | 65% | 1% | 3% | 65% | 1% | 3% | |
| Civil Engineer | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | 100% | - | - | 100% | - | - | |
| | Service HQS | - | - | - | 100% | - | - | |
| | Other Joint | - | - | 50% | 50% | - | - | |
| | Board Average | 66% | - | 3% | 66% | - | 3% | |
| Staff Limited Duty | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 57% | - | - | 57% | - | - | |
| Limited Duty | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | 100% | - | - | - | - | - | |
| | Other Joint | 100% | - | - | - | - | - | |
| | Board Average | 60% | - | - | 60% | - | - | |
| 0-4 Unrestricted | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | 85% | - | 50% | 100% | - | - | |
| | Other Joint | 67% | - | - | 70% | - | - | |
| | Board Average | 74% | 1% | 9% | 74% | 1% | 9% | |
| Engineer | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 87% | 3% | 50% | 87% | 3% | 50% | |
| Aerospace Engineer | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 100% | - | - | 100% | - | - | |
| Aerospace Engineer Maint. | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 71% | - | 30% | 71% | - | 30% | |
| Aviation Duty | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 67% | - | 25% | 67% | - | 25% | |
| Cryptology | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 70% | 4% | 25% | 70% | 4% | 25% | |

| GRADE | JOINT CATEGORIES | ARE SERVING IN | | | HAVE SERVED IN | | | REMARKS |
|----------------|------------------|----------------|------------|------------|----------------|------------|------------|---------|
| | | IN ZONE | BELOW ZONE | ABOVE ZONE | IN ZONE | BELOW ZONE | ABOVE ZONE | |
| Intelligence | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | 100% | - | - | |
| | Other Joint | 88% | - | - | 75% | - | - | |
| | Board Average | 80% | - | - | 80% | - | - | |
| Public Affairs | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | 100% | - | - | 50% | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 65% | - | 25% | 65% | - | 25% | |
| Oceanography | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 76% | 2% | - | 76% | 2% | - | |
| Limited Duty | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 67% | 1% | 3% | 67% | 1% | 3% | |
| Staff | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 68% | - | 5% | 68% | - | 5% | |
| Supply | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | 100% | - | - | 100% | - | - | |
| | Board Average | 68% | - | 4% | 68% | - | 4% | |
| Limited Duty | Joint Staff | - | - | - | - | - | - | |
| | Joint Specialty | - | - | - | - | - | - | |
| | Service HQS | - | - | - | - | - | - | |
| | Other Joint | - | - | - | - | - | - | |
| | Board Average | 56% | 4% | - | 56% | 4% | - | |

Notes:

- 1: Small numbers involved – only one officer with joint experience eligible for promotion in this competitive category.
- 2: Small numbers involved – one additional selection in this promotion category needed to meet promotion objective.
- 3: Small numbers involved – less than 3 1/2% of eligible population; comparison and analysis is inconclusive.
- 4: Within 3% of meeting promotion objective.

DEFENSE ACQUISITION WORK FORCE IMPROVEMENT REPORT

The Department issued policy to implement the Defense Acquisition Work Force Improvement Act (DAWIA) in two directives, two instructions, one manual, and several minor policy issuances during the reporting period. Programs were established under DAWIA provisions to provide scholarships, tuition assistance, internships, cooperative education, management information, education and training, the Defense Acquisition University (DAU), and a senior acquisition course of study. The military departments and other components have initiated policies, programs, and processes to execute departmental policy in compliance with DAWIA. A major undertaking has been the identification of acquisition positions and critical acquisition positions this year in preparation for the broadly-applicable provisions of DAWIA which become effective on October 1, 1993. (The information in Tables E-1 through E-16 reflect acquisition reporting requirements required by DAWIA as of September 30, 1992.)

Acquisition Work Force Identification

The Department has identified approximately 130,000 acquisition positions, of which approximately 14 percent are critical. Civilians account for 87 percent and military officers 13 percent of the total acquisition work force.

Boards of functional experts have been formed to review the education, training, and experience standards for each career field of the acquisition work force. These boards reviewed course offerings and worked closely with the DAU to integrate functional requirements into the overall acquisition education and training program of the Department.

The Acquisition Corps

The military departments are establishing their combined military/civilian acquisition corps. The Department of the Army is nearing completion,

while the other Services are targeting completion later in 1993, as required by the statute.

A civilian acquisition corps for personnel outside the military departments is also being established under the direction of the Director of Acquisition Career Management for the Office of the Secretary of Defense and the defense agencies.

The Defense Acquisition University (DAU)

The Defense Acquisition University has been staffed and is currently led by an executive director until the search for a president is completed. Memoranda of agreement between the DAU and the organizations participating in the consortium are being finalized. These memoranda will serve as the cornerstone to establish relationships and responsibilities for standardizing the competency-based, mandatory acquisition training throughout the Department. DAU is responsible for centrally managing acquisition training resources.

The senior course for acquisition professionals has been launched for the academic year 1992-93 at the Industrial College of the Armed Forces of the National Defense University. The pilot program, offering a concentrated acquisition curriculum for senior level defense managers, includes 37 individuals; 19 are officers and 18 are civilians.

Defense Acquisition Scholarship Program

The Defense Acquisition Scholarship Program was initiated in 1992 with the award of 10 scholarships to outstanding science, engineering, and management students. The scholarships will be used in the pursuit of master's degrees in business administration. Scholarship recipients will be brought into the acquisition work force upon successful completion of the program.

**CRITICAL ACQUISITION POSITIONS HELD
{SECTION 1762 (C) (3)}
ALL COMPONENTS**

Table E-1

| Position Category | | GS/ GM-13 | 0-4 | GS/ GM-14 | 0-5 | GS/ GM-15 | 0-6 | SES | Gen/ Flag Officer | Civilian Total | Military Total | Combined Total |
|--|-------|--------------|------------|--------------|-------------|--------------|-------------|------------|-------------------------|-------------------|-------------------|-------------------|
| Program Mgmt.: | Total | 10 | 191 | 1746 | 1060 | 968 | 649 | 128 | 91 | 2852 | 1991 | 4843 |
| PEOs | | 0 | 0 | 0 | 0 | 0 | 0 | 9 | 15 | 9 | 15 | 24 |
| PMs | | 6 | 36 | 53 | 171 | 23 | 167 | 10 | 10 | 92 | 384 | 476 |
| DPMs | | 0 | 19 | 58 | 51 | 171 | 22 | 11 | 0 | 240 | 92 | 332 |
| Division Heads | | 0 | 0 | 174 | 207 | 165 | 190 | 50 | 20 | 389 | 417 | 806 |
| Proc. and Contracting | Total | 50 | 70 | 1441 | 426 | 465 | 258 | 51 | 18 | 2007 | 772 | 2779 |
| Sr. Contracting Officials | | 1 | 0 | 283 | 3 | 70 | 62 | 32 | 6 | 386 | 71 | 457 |
| Division Heads | | 0 | 0 | 403 | 180 | 115 | 160 | 27 | 4 | 545 | 344 | 889 |
| Business and Fin. Mgmt.: | Total | 14 | 16 | 410 | 70 | 120 | 33 | 4 | 1 | 548 | 120 | 668 |
| Division Heads | | 0 | 0 | 28 | 42 | 24 | 24 | 2 | 1 | 54 | 67 | 121 |
| Auditing: | Total | 0 | 0 | 239 | 0 | 56 | 0 | 15 | 0 | 310 | 0 | 310 |
| Division Heads | | 0 | 0 | 179 | 0 | 54 | 0 | 15 | 0 | 248 | 0 | 248 |
| Production: | Total | 2 | 2 | 519 | 78 | 119 | 85 | 3 | 14 | 643 | 179 | 822 |
| Division Heads | | 0 | 0 | 174 | 12 | 62 | 24 | 1 | 2 | 237 | 38 | 275 |
| Acquisition Logistics: | Total | 8 | 38 | 541 | 145 | 171 | 87 | 13 | 4 | 733 | 274 | 1007 |
| Division Heads | | 0 | 0 | 71 | 64 | 43 | 57 | 8 | 1 | 122 | 122 | 244 |
| Sys. Eng. and Testing: | Total | 62 | 70 | 4319 | 614 | 1675 | 206 | 145 | 19 | 6201 | 909 | 7110 |
| Division Heads | | 0 | 0 | 279 | 176 | 393 | 93 | 48 | 1 | 720 | 270 | 990 |
| Education, Training, and Career Development | Total | 13 | 3 | 14 | 40 | 16 | 12 | 4 | 1 | 47 | 56 | 103 |
| Division Heads | | 0 | 0 | 11 | 9 | 3 | 6 | 1 | 0 | 15 | 15 | 30 |
| Total | | 159 | 390 | 9229 | 2433 | 3590 | 1330 | 363 | 148 | 13341 | 4301 | 17642 |

Source: Component Records

**CRITICAL ACQUISITION POSITIONS HELD
 {SECTION 1762 (C) (3)}
 COMPONENT: ARMY**

Table E-2

| Position Category | | GS/ GM-13 | O-4 | GS/ GM-14 | O-5 | GS/ GM-15 | O-6 | SES | Gen/ Flag Officer | Civilian Total | Military Total | Combined Total |
|---|---------------------------|--------------|----------|--------------|------------|--------------|------------|-----------|-------------------------|-------------------|-------------------|-------------------|
| Program Mgmt.: | Total | 0 | 0 | 784 | 246 | 333 | 128 | 23 | 26 | 1140 | 400 | 1540 |
| | PEOs | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 6 | 4 | 6 | 10 |
| | PMs | 0 | 0 | 24 | 86 | 13 | 65 | 4 | 3 | 41 | 154 | 195 |
| | DPMs | 0 | 0 | 38 | 6 | 81 | 0 | 1 | 0 | 120 | 6 | 126 |
| | Division Heads | 0 | 0 | 96 | 21 | 96 | 23 | 18 | 0 | 210 | 44 | 254 |
| Proc. and Contracting: | Total | 0 | 0 | 504* | 107 | 151* | 50 | 10 | 2 | 665 | 159 | 824 |
| | Sr. Contracting Officials | 0 | 0 | 3 | 3 | 9 | 4 | 9 | 1 | 21 | 8 | 29 |
| | Division Heads | 0 | 0 | 125 | 25 | 65 | 16 | 8 | 0 | 198 | 41 | 239 |
| Business and Fin. Mgmt.: | Total | 0 | 0 | 154 | 0 | 27 | 0 | 0 | 0 | 181 | 0 | 181 |
| | Division Heads | 0 | 0 | 23 | 0 | 17 | 0 | 0 | 0 | 40 | 0 | 40 |
| Auditing: | Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production: | Total | 0 | 0 | 209 | 4 | 59 | 0 | 1 | 1 | 269 | 5 | 274 |
| | Division Heads | 0 | 0 | 37 | 1 | 37 | 0 | 0 | 0 | 74 | 1 | 75 |
| Acquisition Logistics: | Total | 0 | 0 | 187 | 1 | 39 | 1 | 0 | 0 | 226 | 2 | 228 |
| | Division Heads | 0 | 0 | 52 | 0 | 26 | 0 | 0 | 0 | 78 | 0 | 78 |
| Sys. Eng. and Testing: | Total | 0 | 0 | 1963 | 185 | 796 | 54 | 51 | 6 | 2810 | 245 | 3055 |
| | Division Heads | 0 | 0 | 212 | 59 | 363 | 43 | 33 | 0 | 608 | 102 | 710 |
| Education, Training, and Career Development: | Total | 0 | 0 | 5 | 27 | 1 | 4 | 0 | 0 | 6 | 31 | 37 |
| | Division Heads | 0 | 0 | 5 | 2 | 0 | 2 | 0 | 0 | 5 | 4 | 9 |
| Total | | 0 | 0 | 3806 | 570 | 1406 | 237 | 85 | 35 | 5297 | 842 | 6139 |

Source: Component Records

*Includes 75 GS/GM-14 positions and 6 GS/GM-15 positions involving construction contracting.

CRITICAL ACQUISITION POSITIONS HELD
{SECTION 1762 (C) (3)}
COMPONENT: NAVY

Table E-3

| Position Category | | GS/ GM-13 | 0-4 | GS/ GM-14 | 0-5 | GS/ GM-15 | 0-6 | SES | Gen/ Flag Officer | Civilian Total | Military Total | Combined Total |
|---|---------------------------|--------------|----------|--------------|------------|--------------|------------|------------|-------------------------|-------------------|-------------------|-------------------|
| Program Mgmt.: | Total | 0 | 0 | 510 | 62 | 312 | 179 | 60 | 27 | 882 | 268 | 1150 |
| | PEOs | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 4 | 3 | 4 | 7 |
| | PMs | 0 | 0 | 0 | 2 | 4 | 44 | 4 | 2 | 8 | 48 | 56 |
| | DPMs | 0 | 0 | 1 | 2 | 42 | 4 | 10 | 0 | 53 | 6 | 59 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Proc. and Contracting: | Total | 0 | 0 | 285 | 39 | 125 | 54 | 18 | 12 | 428 | 105 | 533 |
| | Sr. Contracting Officials | 0 | 0 | 0 | 0 | 1 | 5 | 9 | 3 | 10 | 8 | 18 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Business and Fin. Mgmt.: | Total | 0 | 0 | 121 | 0 | 41 | 3 | 2 | 0 | 164 | 3 | 167 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Auditing: | Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production: | Total | 0 | 0 | 120 | 20 | 27 | 59 | 1 | 11 | 148 | 90 | 238 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acquisition Logistics: | Total | 0 | 0 | 160 | 6 | 53 | 9 | 3 | 1 | 216 | 16 | 232 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sys. Eng. and Testing: | Total | 0 | 0 | 1132 | 65 | 395 | 58 | 47 | 8 | 1574 | 131 | 1705 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Education, Training, and Career Development: | Total | 0 | 0 | 1 | 0 | 5 | 4 | 2 | 1 | 8 | 5 | 13 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 0 | 0 | 2329 | 192 | 958 | 366 | 133 | 60 | 3420 | 618 | 4038 |

Source: Component Records

**CRITICAL ACQUISITION POSITIONS HELD
 {SECTION 1762 (C) (3)}
 COMPONENT: MARINE CORPS**

Table E-4

| Position Category | | GS/ GM-13 | 0-4 | GS/ GM-14 | 0-5 | GS/ GM-15 | 0-6 | SES | Gen/ Flag Officer | Civilian Total | Military Total | Combined Total |
|---|---------------------------|--------------|----------|--------------|-----------|--------------|-----------|----------|-------------------------|-------------------|-------------------|-------------------|
| Program Mgmt.: | Total | 0 | 0 | 19 | 64 | 9 | 23 | 0 | 1 | 28 | 88 | 116 |
| | PEOs | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | PMs | 0 | 0 | 0 | 0 | 0 | 5 | 0 | 0 | 0 | 5 | 5 |
| | DPMs | 0 | 0 | 0 | 0 | 0 | 2 | 0 | 0 | 0 | 2 | 2 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Proc. and Contracting: | Total | 0 | 0 | 14 | 0 | 3 | 1 | 1 | 0 | 18 | 1 | 19 |
| | Sr. Contracting Officials | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 2 | 0 | 2 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Business and Fin. Mgmt.: | Total | 0 | 0 | 1 | 0 | 1 | 0 | 0 | 0 | 2 | 0 | 2 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Auditing: | Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production: | Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Acquisition Logistics: | Total | 0 | 0 | 7 | 2 | 2 | 1 | 0 | 0 | 9 | 3 | 12 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Sys. Eng. and Testing: | Total | 0 | 0 | 18 | 7 | 4 | 0 | 0 | 0 | 22 | 7 | 29 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Education, Training, and Career Development: | Total | 0 | 0 | 0 | 2 | 1 | 0 | 0 | 0 | 1 | 2 | 3 |
| | Division Heads | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Total | | 0 | 0 | 59 | 75 | 20 | 25 | 1 | 1 | 80 | 101 | 181 |

Source: Component Records

CRITICAL ACQUISITION POSITIONS HELD
{SECTION 1762 (C) (3)}
COMPONENT: AIR FORCE

Table E-5

| Position Category | | GS/ GM-13 | 0-4 | GS/ GM-14 | 0-5 | GS/ GM-15 | 0-6 | SES | Gen/ Flag Officer | Civilian Total | Military Total | Combined Total |
|--|-------|--------------|------------|--------------|-------------|--------------|------------|-----------|-------------------------|-------------------|-------------------|-------------------|
| Program Mgmt.: | Total | 10 | 186 | 241 | 593 | 151 | 278 | 16 | 35 | 418 | 1092 | 1510 |
| PEOs | | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 5 | 1 | 5 | 6 |
| PMs | | 6 | 36 | 29 | 82 | 5 | 52 | 2 | 5 | 42 | 175 | 217 |
| DPMs | | 0 | 19 | 18 | 41 | 48 | 16 | 0 | 0 | 66 | 76 | 142 |
| Division Heads | | 0 | 0 | 10 | 181 | 8 | 149 | 13 | 19 | 31 | 349 | 380 |
| Proc. and Contracting: | Total | 47 | 70 | 273 | 135 | 87 | 57 | 10 | 2 | 417 | 264 | 681 |
| Sr. Contracting Officials | | 0 | 0 | 0 | 0 | 7 | 51 | 10 | 2 | 17 | 53 | 70 |
| Division Heads | | 0 | 0 | 27 | 74 | 8 | 51 | 10 | 2 | 45 | 127 | 172 |
| Business and Fin. Mgmt.: | Total | 14 | 15 | 113 | 60 | 42 | 29 | 2 | 1 | 171 | 105 | 276 |
| Division Heads | | 0 | 0 | 5 | 42 | 1 | 24 | 2 | 1 | 8 | 67 | 75 |
| Auditing: | Total | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Division Heads | | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production: | Total | 2 | 2 | 13 | 26 | 1 | 11 | 0 | 0 | 16 | 39 | 55 |
| Division Heads | | 0 | 0 | 0 | 9 | 0 | 9 | 0 | 0 | 0 | 18 | 18 |
| Acquisition Logistics: | Total | 8 | 37 | 162 | 125 | 58 | 75 | 5 | 3 | 233 | 240 | 473 |
| Division Heads | | 0 | 0 | 11 | 62 | 5 | 57 | 3 | 1 | 19 | 120 | 139 |
| Sys. Eng. and Testing: | Total | 62 | 69 | 1152 | 341 | 464 | 89 | 43 | 5 | 1721 | 504 | 2225 |
| Division Heads | | 0 | 0 | 58 | 117 | 25 | 48 | 15 | 1 | 98 | 166 | 264 |
| Education, Training, and Career Development | Total | 13 | 3 | 8 | 8 | 0 | 1 | 1 | 0 | 22 | 12 | 34 |
| Division Heads | | 0 | 0 | 6 | 7 | 0 | 1 | 1 | 0 | 7 | 8 | 15 |
| Total | | 156 | 382 | 1962 | 1288 | 803 | 540 | 77 | 46 | 2998 | 2256 | 5254 |

Source: Component Records

**CRITICAL ACQUISITION POSITIONS
 {SECTION 1762 (C) (3)}
 COMPONENT: OSD, DoD AGENCIES, AND OTHER COMPONENTS***

Table E-6

| Position Category | | GS/ GM-13 | O-4 | GS/ GM-14 | O-5 | GS/ GM-15 | O-6 | SES | Gen/ Flag Officer | Civilian Total | Military Total | Combined Total |
|---|---------------------------|--------------|----------|--------------|------------|--------------|------------|-----------|-------------------------|-------------------|-------------------|-------------------|
| Program Mgmt.: | Total | 0 | 5 | 192 | 95 | 163 | 41 | 29 | 2 | 384 | 143 | 527 |
| | PEOs | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 0 | 1 | 0 | 1 |
| | PMs | 0 | 0 | 0 | 1 | 1 | 1 | 0 | 0 | 1 | 2 | 3 |
| | DPMs | 0 | 0 | 1 | 2 | 0 | 0 | 0 | 0 | 1 | 2 | 3 |
| | Division Heads | 0 | 0 | 68 | 5 | 61 | 18 | 19 | 1 | 148 | 24 | 172 |
| Proc. and Contracting: | Total | 3 | 0 | 365 | 145 | 99 | 96 | 12 | 2 | 479 | 243 | 722 |
| | Sr. Contracting Officials | 1 | 0 | 280 | 0 | 52 | 2 | 3 | 0 | 336 | 2 | 338 |
| | Division Heads | 0 | 0 | 251 | 81 | 42 | 93 | 9 | 2 | 302 | 176 | 478 |
| Business and Fin. Mgmt.: | Total | 0 | 1 | 21 | 10 | 9 | 1 | 0 | 0 | 30 | 12 | 42 |
| | Division Heads | 0 | 0 | 0 | 0 | 6 | 0 | 0 | 0 | 6 | 0 | 6 |
| Auditing: | Total | 0 | 0 | 239 | 0 | 56 | 0 | 15 | 0 | 310 | 0 | 310 |
| | Division Heads | 0 | 0 | 179 | 0 | 54 | 0 | 15 | 0 | 248 | 0 | 248 |
| Production: | Total | 0 | 0 | 177 | 28 | 32 | 15 | 1 | 2 | 210 | 45 | 255 |
| | Division Heads | 0 | 0 | 137 | 2 | 25 | 15 | 1 | 2 | 163 | 19 | 182 |
| Acquisition Logistics: | Total | 0 | 1 | 25 | 11 | 19 | 1 | 5 | 0 | 49 | 13 | 62 |
| | Division Heads | 0 | 0 | 8 | 2 | 12 | 0 | 5 | 0 | 25 | 2 | 27 |
| Sys. Eng. and Testing: | Total | 0 | 1 | 54 | 16 | 16 | 5 | 4 | 0 | 74 | 22 | 96 |
| | Division Heads | 0 | 0 | 9 | 0 | 5 | 2 | 0 | 0 | 14 | 2 | 16 |
| Education, Training, and Career Development: | Total | 0 | 0 | 0 | 3 | 9 | 3 | 1 | 0 | 10 | 6 | 16 |
| | Division Heads | 0 | 0 | 0 | 0 | 3 | 3 | 0 | 0 | 3 | 3 | 6 |
| Total | | 3 | 8 | 1073 | 308 | 403 | 162 | 67 | 6 | 1546 | 484 | 2030 |

Source: Component Records

* National Security Agency/Central Security Service and Defense Intelligence Agency not included (DoDI 5000.55 Section E.4.)

**ARMY ACQUISITION CORPS MEMBERS*
{SECTION 1762 (C) (2)}**

Table E-7

| Career Field | GS/ GM-13 | 0-4 | GS/ GM-14 | 0-5 | GS/ GM-15 | 0-6 | SES | Gen/Flag Officer | Total |
|--|--------------|------------|--------------|------------|--------------|------------|-----------|---------------------|-------------|
| Program Management | 0 | 0 | 62 | 92 | 94 | 65 | 5 | 3 | 321 |
| Contracting, Industrial Property Management, Manufacturing and Production | 12 | 201 | 169 | 110 | 72 | 68 | 7 | 2 | 641 |
| Quality Assurance | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 1 |
| Business, Cost Estimating, and Financial Management | 42 | 0 | 149 | 0 | 32 | 0 | 0 | 0 | 223 |
| Acquisition Logistics | 47 | 0 | 141 | 0 | 54 | 0 | 0 | 0 | 242 |
| Communications, Computer Systems | 26 | 136 | 65 | 76 | 15 | 15 | 0 | 0 | 333 |
| Systems Planning, Research, Development, and Engineering/Test and Evaluation | 65 | 605 | 492 | 358 | 390 | 149 | 6 | 5 | 2070 |
| Total | 192 | 942 | 1079 | 636 | 657 | 297 | 18 | 10 | 3831 |

Source: Component Records

*Acquisition corps for other components will be established by October 1, 1993.

**ACQUISITION CORPS EXCEPTIONS FROM
EDUCATIONAL REQUIREMENTS {SECTION 1762 (C) (6) AND
1732 (B) (2) (A) AND (B)}**

Table E-8

| Component | 10 Years of Experience Section 1732 (c) (1) | 24 Semester Hour Exam Section 1732 (c) (2) | Total |
|---|--|---|-----------|
| Army | 39 | 0 | 39 |
| Navy | N/A | N/A | N/A |
| Marine Corps | N/A | N/A | N/A |
| Air Force | N/A | N/A | N/A |
| OSD, DoD agencies, and other components | N/A | N/A | N/A |
| Total | 39 | 0 | 39 |

Source: Component Records

PERSONNEL PARTICIPATING IN ACQUISITION INTERN, COOPERATIVE EDUCATION, SCHOLARSHIP, AND TUITION REIMBURSEMENT PROGRAMS DURING FY 1992 {SECTION 1762 (C) (12)}

Table E-9

| Component | Interns {Sec 1742} | Cooperative Education {Sec 1743} | DoD Scholarships {Sec 1744} | Tuition Reimbursement {Sec 1745 (a)} |
|---|--------------------|----------------------------------|-----------------------------|--------------------------------------|
| Army | 0 | 0 | 3 | 12 ^a |
| Navy | 378 | 9 | 3 | 408 ^b |
| Marine Corps | 0 | 0 | 0 | 0 |
| Air Force | 545 | 120 | 3 | 0 |
| OSD, DoD agencies, and other components | 48 | 4 | 1 | 3302 |
| Total | 971 | 133 | 10 | 3722 |

Source: Component Records

^aIncludes only personnel receiving tuition assistance managed by the Army DACM Office.

^bIncludes only personnel receiving tuition assistance managed by the Navy Career Management Center.

PERSONNEL CERTIFIED BY ACQUISITION CAREER PROGRAM BOARDS IN LIEU OF A BACCALAUREATE DEGREE IN FY 1992 {SECTIONS 1762 (C) (7) AND 1732 (B) (2) (A) (II)}

Table E-10

| Component | Military | Civilian |
|---|----------|----------|
| Army | 0 | 0 |
| Navy | N/A | N/A |
| Marine Corps | N/A | N/A |
| Air Force | N/A | N/A |
| OSD, DoD agencies, and other components | N/A | N/A |
| Total | 0 | 0 |

Source: Component Records

**MAJOR DEFENSE ACQUISITION PROGRAM MANAGER REASSIGNMENTS
DURING FY 1992 {SECTION 1762 (C) (8) AND 1734 (B) (1) (A)}**

Table E-11

| Component | PROGRAM MANAGERS FOUR YEAR/MILESTONE | | | | Average Length of Assignments (Months) | | |
|--|--------------------------------------|----------------------------|---------------------|-------------------|--|----------------------------|-------------------|
| | Compliant Reassignments | Noncompliant Reassignments | Total Reassignments | Percent Compliant | Compliant Reassignments | Noncompliant Reassignments | All Reassignments |
| | Army | 8 | 0 | 8 | 100 | 48.3 | N/A |
| Navy | 0 | 7 | 7 | 0 | N/A | 37.7 | 37.7 |
| Marine Corps | 0 | 0 | 0 | N/A | N/A | N/A | N/A |
| Air Force | 5 | 2 | 7 | 71 | 48 | 36 | 44.6 |
| OSD, DoD agencies, and other components | 0 | 0 | 0 | N/A | N/A | N/A | N/A |
| Total | 13 | 9 | 22 | 59 | 48.2 | 37.3 | 43.7 |

Source: Component Records

**MAJOR DEFENSE ACQUISITION DEPUTY PROGRAM MANAGER REASSIGNMENTS
DURING FY 1992 {SECTIONS 1762 (C) (8) AND 1734 (B) (1) (A)}**

Table E-12

| Component | DEPUTY PROGRAM MANAGERS FOUR YEAR/MILESTONE | | | | Average Length of Assignments (Months) | | |
|--|---|----------------------------|---------------------|-------------------|--|----------------------------|-------------------|
| | Compliant Reassignments | Noncompliant Reassignments | Total Reassignments | Percent Compliant | Compliant Reassignments | Noncompliant Reassignments | All Reassignments |
| | Army | 0 | 0 | 0 | N/A | N/A | N/A |
| Navy | 0 | 1 | 1 | 0 | N/A | 27.4 | 27.4 |
| Marine Corps | 0 | 0 | 0 | N/A | N/A | N/A | N/A |
| Air Force | 1 | 2 | 3 | 33 | 46 | 19 | 28 |
| OSD, DoD agencies, and other components | 0 | 0 | 0 | N/A | N/A | N/A | N/A |
| Total | 1 | 3 | 4 | 25 | 46 | 21.8 | 27.9 |

Source: Component Records

**ACQUISITION WORK FORCE WAIVERS/EXCEPTIONS
 GRANTED DURING FY 1992 {SECTION 1762 (C) (10)}**

Table E-13

| Component | WAIVERS | | | | | | EXCEPTIONS | | | Total By Service |
|---|---|----------|--|----------|---|----------|---|--|-----------|------------------------|
| | Contracting Officer/ GS-1102 Qualification Requirements: Section 1724 (d) | | Acquisition Corps Eligibility Criteria: Section 1732 (d) | | Critical Acquisition Positions Assignment Period/ Service Obligations: Section 1734 (d) | | Incumbent Qualification Exceptions: 1736 (c) Critical Positions 10/92, PMs 10/91 | Other Waivers to Acquisition Work Force Provisions | | |
| | Reason Code | Number | Reason Code | Number | Reason Code | Number | Number | Reason Code | Number | |
| Army | | 0 | | 0 | | 0 | 0 | F | 23 | 23 |
| Navy | | 0 | | 0 | B | 3 | 9 | F | 7 | 23 |
| | | | | | C | 3 | | | | |
| | | | | | D | 1 | | | | |
| Marine Corps | | 0 | | 0 | | 0 | 1 | | 0 | 1 |
| Air Force | | 0 | | 0 | | 0 | 0 | | 0 | 0 |
| OSD, DoD agencies, and other components | | 0 | | 0 | | 0 | 0 | | 0 | 0 |
| Total | | 0 | | 0 | | 7 | 10 | | 30 | 47 |

Source: Component Records

- REASON CODE:
- (A) ACPB screened based on demonstration potential
 - (B) Promotion
 - (C) Reassignment in government's interest
 - (D) Humanitarian reassignment/discharge
 - (E) Unusual circumstances (Secretary of Defense or Service Secretary)
 - (F) Service Secretary determination (PEO/PM waivers)

**OFFICER PROMOTION RATE COMPARISONS FY 1992
COMPONENT: ARMY**

Table E-14

| To Grade | Categories | Screened in Zone | Promoted in Zone | Promotion Rates | |
|----------|--|---------------------|---------------------|--------------------|---------------|
| | | | | In Zone | Below Zone |
| 0-8 | Acquisition Corps | 9 | 1 | 11% | N/A |
| | Non-Acquisition Equivalent/Line Officers* | 87 | 28 | 32% | N/A |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | 96 | 29 | 30% | N/A |
| 0-7 | Acquisition Corps | 145 | 3 | 2% | N/A |
| | Non-Acquisition Equivalent/Line Officers* | 1978 | 38 | 2% | N/A |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | 2123 | 41 | 2% | N/A |
| 0-6 | Acquisition Corps | 61 | 34 | 56% | .6% |
| | Non-Acquisition Equivalent/Line Officers* | 903 | 394 | 44% | 2% |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | 964 | 428 | 44% | 2% |
| 0-5 | Acquisition Corps | 124 | 95 | 77% | 2% |
| | Non-Acquisition Equivalent/Line Officers* | 1704 | 1056 | 62% | 5% |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | 1828 | 1151 | 63% | 5% |

Source: Service Selection Board Results

*Army PERSCOM Officer Personnel Management Directorate - Managed Officers

**OFFICER PROMOTION RATE COMPARISONS FY 1992
COMPONENT: NAVY**

Table E-15

| To Grade | Categories | Screened in Zone | Promoted in Zone | Promotion Rates | |
|----------|--|---------------------|---------------------|--------------------|----------------------------|
| | | | | In Zone | Below Zone ^c |
| 0-8 | Acquisition Corps ^a | 10 | 4 | 40% | N/A |
| | Non-Acquisition Equivalent/Line Officers ^b | 39 | 19 | 49% | N/A |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | 49 | 23 | 47% | N/A |
| 0-7 | Acquisition Corps ^a | 260 | 7 | 3% | N/A |
| | Non-Acquisition Equivalent/Line Officers ^b | 1053 | 23 | 2% | N/A |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | 1313 | 30 | 2% | N/A |
| 0-6 | Acquisition Corps ^a | 109 | 59 | 54% | .5% |
| | Non-Acquisition Equivalent/Line Officers ^b | 727 | 371 | 51% | 1% |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | 836 | 430 | 51% | 1% |
| 0-5 | Acquisition Corps ^a | N/A | N/A | N/A | N/A |
| | Non-Acquisition Equivalent/Line Officers ^b | 1265 | 863 | 68% | .5% |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | 1265 | 863 | 68% | .5% |

Source: Service Selection Board Results

^a Materiel professional only

^b Unrestricted line (URL) and restricted line (RL)

^c 06 acquisition below zone promotion rates will be inconsistent from year to year based on the highly variable population of acquisition unrestricted line officers in the below zone category and the small number of those eligible who meet DAWIA experience requirements.

NOTE: Marine Corps acquisition promotion rate comparisons not available for FY 1992.

**OFFICER PROMOTION RATE COMPARISONS FY 1992
COMPONENT: AIR FORCE**

Table E-16

| To Grade | Categories | Screened in Zone | Promoted in Zone | Promotion Rates | |
|------------------|--|---------------------|---------------------|--------------------|----------------------------|
| | | | | In Zone | Below Zone ^c |
| 0-8 ^a | Acquisition Corps | N/A | N/A | N/A | N/A |
| | Non-Acquisition Equivalent/Line Officers ^b | N/A | N/A | N/A | N/A |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | N/A | N/A | N/A | N/A |
| 0-7 | Acquisition Corps | 235 | 3 | 1% | N/A |
| | Non-Acquisition Equivalent/Line Officers ^b | 2663 | 36 | 1% | N/A |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | 2898 | 39 | 1% | N/A |
| 0-6 ^c | Acquisition Corps | N/A | N/A | N/A | N/A |
| | Non-Acquisition Equivalent/Line Officers ^b | N/A | N/A | N/A | N/A |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | N/A | N/A | N/A | N/A |
| 0-5 ^c | Acquisition Corps | N/A | N/A | N/A | N/A |
| | Non-Acquisition Equivalent/Line Officers ^b | N/A | N/A | N/A | N/A |
| | TOTAL: Acquisition and Non-Acquisition Equivalent/Line Officers | N/A | N/A | N/A | N/A |

Source: Service Selection Board Results

^a Results of the FY 1992 0-8 selection board not yet released^b All officers with the exception of the following professional specialties: Medical Services Corps, Nurse Corps, Medical Corps, Dental Corps, Biomedical Sciences Corps, Chaplain Corps, and Judge Advocate General Corps^c 0-5 and 0-6 promotion rate comparisons not available. Acquisition personnel had not been identified prior to the convening of the selection boards in FY 1992.

Other Defense Acquisition Work Force Improvement Act (DAWIA) Reports

Section 1762(c)(5) — Number of employees who qualified to be Contracting Officers or enter the GS-1102 series by passing an exam in lieu of meeting the required education standards:

None. The examination alternative was defined in FY 1992 by a set of preexisting collegiate business course examinations administered under the Defense Activity for Non-Traditional Education Support (DANTES). DoD began providing both civilian and military acquisition personnel examination opportunities on October 1, 1992. We have centrally resourced this series of exams for all defense components. Acquisition work force personnel are expected to begin participating in FY 1993.

Section 1762(c)(9) — Personnel in critical acquisition positions who were reassigned during FY 1992 after three years or longer in that critical acquisition position:

Critical acquisition positions were identified dur-

ing FY 1992; therefore, data on reassignments will become available in the future.

Section 1762(c)(11) — Personnel in critical acquisition positions who were reviewed for reassignment after five years in that critical acquisition position:

The FY 1993 Authorization Act mandated the start date for five year reviews under Section 1734(e)(2) as October 1, 1995. Therefore, review data will be available in FY 1996.

Section 1762(c)(13) — Number of personnel paid a bonus under section 317, 37 U.S. Code:

The Service Secretaries reviewed the potential need for a retention bonus program in FY 1992. Based on this review, it was determined that a monetary bonus to retain officers in critical acquisition positions was not needed in FY 1992. Therefore, the Service Secretaries did not request approval from the Secretary of Defense to exercise this authority.